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**DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF AN OVERSEAS  
PROGRAM ON ENVIRONMENTAL EDUCATION FOR TEACHERS**

**By**

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## **ABSTRACT**

In 2002, a survey was given to 200 teachers who were enrolled in or who had completed the Extended Master of Science in Natural Resources/Environmental Education for Elementary and Secondary Teachers Program at the University of Wisconsin-Stevens Point (UW-SP). In the survey, it was found that teachers were interested in an optional overseas component to this graduate degree program. As a result, a cooperative agreement between the Global Environmental Management (GEM) Program and Wisconsin Center for Environmental Education (WCEE) at UW-SP was formed and an overseas program in Puerto Rico was designed.

This study documents the development, implementation, and evaluation for an overseas study program on environmental education for teachers. Research indicates that “when study abroad programs employ experiences that are carefully matched with participants’ needs, goals, and expectations, the results can be life-changing” (Citron & Kline, 2001). Using experience overseas and the power of the internet, a hybrid course model was designed for the delivery of a three-credit graduate course in environmental education for teachers. This involved 11 participants who completed a one-month online course prior to a travel component in Puerto Rico. Eight teachers from Puerto Rico joined the Wisconsin teachers for the two-week study tour on island ecology and environmental education. A ten-month comprehensive evaluation using qualitative and quantitative research methods reveals the changes Wisconsin participants underwent during the experience. This study researches and outlines the appropriate steps for designing a successful travel program for educators. Not only does it have implications to other environmental or international educators but it will be used as a foundation for future travel courses developed through GEM and the WCEE.



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*“To leave this world a bit better, whether by a healthy child, a garden patch, a redeemed social condition, to know even one life has breathed easier because you have lived—this is to have succeeded.”*

*--Ralph Waldo Emerson*



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## CHAPTER 1: INTRODUCTION

### *Development, Implementation, and Evaluation of an Overseas Program on Environmental Education for Teachers*

#### **Importance of the Study**

*“When we try to pick out anything by itself, we find it hitched to everything else in the Universe.”*

This quote was written in 1911 by John Muir in his book My First Summer in Sierra.

Environmental education lessons often illustrate the complexities that underlie this quote. For example, when learning about food webs, students discover that everything is connected; but somewhere beyond community boundaries a disassociation occurs along with a loss of connection. Without understanding or experiencing environments outside our own region, state, or nation, associating with the ideas and concepts concerning global environmental issues becomes more challenging. This leads to detachment for understanding that everything in the universe is linked. Years ago Muir recognized the connection everything has in the environment, yet today people still struggle with the understanding of global interactions.

The United States has become more globally connected in the last few decades. We now import over half of our crude oil supply in order to meet our national energy demands. The top suppliers include Canada, Mexico, Saudi Arabia, Venezuela, and Nigeria (EIA – US DOE, 2005). This interdependence with other countries increasingly affects global issues that impact the environment, economy, and society. Studying global environmental issues builds a better understanding for these international connections. As a result there is a need in K-12 education for more international education. Offering study opportunities overseas is one way to provide a more accurate and comprehensive worldview for teachers to share with their students.

In addition to understanding worldviews, research has found that field-based experience in multicultural communities can have a significant effect on pre-service teachers' attitudes about culturally diverse student populations (Cruz, 1997). By participating in international experiences, individuals become more familiar, appreciative, and understanding of diverse cultures. Their understanding of the world broadens beyond the "backyard." Their ability to work with students of various backgrounds and customs potentially strengthens. Currently there are over 35,000 children in Wisconsin schools who have limited English proficiency and their numbers are increasing (WI-DPI, 2004). Typically these students are from foreign countries and carry with them diverse and sometimes unique customs. By offering experiences internationally, teachers are likely to recognize and understand cultural differences and become more comfortable addressing possible cultural issues in an appropriate manner. Such experiences (internationally) have the potential to arm beginning US educators with new teaching ideas, skills, strategies, knowledge, and world perspectives that conventional student teaching programs are less likely to provide (Mahan and Stachowski, 1994).

Environmental Education and International Education contain numerous parallels. According to Planning Curriculum in International Education published by the Wisconsin Department of Public Instruction (Uraneck, 2002), there are 21 environmental education standards that can be addressed using international education. For example, EE standard B.12.6 states, "Predict population response to changes in environmental conditions." To address this standard, a teacher could examine the environmental issues China faces due to a large increase in population and how the law passed in the 1980's allowing only one child per family affects the environment.



This is just one example of how global environmental issues can be used in the classroom to meet Academic Standards.

The Wisconsin Center for Environmental Education (WCEE) has 15 years of experience delivering professional development opportunities for educators through the College of Natural Resources (CNR) at the University of Wisconsin-Stevens Point (UW-SP). The idea of an environmental education, overseas program for teachers was initiated in 2003 following a survey the WCEE conducted with over 200 teachers currently enrolled or who had completed the Extended Master of Science in Natural Resources/Environmental Education for Elementary and Secondary Teachers Program to determine how to improve the graduate program. A significant number of teachers indicated that they would like to have an overseas course option, so the WCEE responded.

The WCEE had contacts in Puerto Rico who were interested in a joint educational program. A Memorandum of Understanding (MOU) was established in spring 2004 between InterAmerican University of Puerto Rico (IAUPR), Reverence for Life and Beauty Incorporated (REVIBE), and the Global Environmental Management (GEM) Education Center located in the CNR at UW-SP. REVIBE is a non-governmental organization in Puerto Rico dealing with conservation and environmental education. The GEM Program aims to pioneer and apply practical learning methods and technology to solve natural resource problems by linking faculty, students, and citizens worldwide. Working through GEM, the WCEE designed the first program to fulfill statements of agreement within this MOU. This agreement provided the perfect foundation for a

successful overseas course for educators using a blend of online delivery methods with practical experience abroad.

GEM contributed \$25,000 each year for three years for this exchange program through a grant from the Wisconsin Natural Resources and Conservation Service. The WCEE gave a total of \$15,000 for the three years. The Department of Education in Puerto Rico donated \$9,000 to involve teachers from Puerto Rico in the first year program. The Center for Latin American and Caribbean Studies at the University of Wisconsin-Milwaukee contributed \$2,000 to the program. IAUPR contributed personnel and use of their field station in-kind. An additional \$8,300 was received through a student research program at UW-SP, GEM Student Ambassador Grant Program, to pay for the researcher's work and travel costs and provide assistance for the research project.

Just as Muir would want; this overseas course is designed to help participants understand that everything in the universe is indeed connected and we are part of that web. Developing and implementing an overseas environmental education experience for teachers connects participants to global environmental issues, exposes them to diverse cultures and customs, and provides an experience to explore diverse ecosystems. A comprehensive evaluation of the program advises and lends direction to the continuation of a quality overseas program in order to optimize the professional development opportunity for participants and strengthen the extended masters program for teachers offered through the WCEE. This study can also help others designing experiences abroad for educators by providing insight and documentation on the development, implementation, and evaluation phases of such courses.

**Goal of the Study:** The goal of this project is to develop, implement, and evaluate an overseas program on environmental education for teachers.

### **Objectives**

- 1) Develop a program that provides a professional development opportunity for educators through an overseas study course in Puerto Rico on environmental education using a hybrid course model.
- 2) Implement the hybrid course model developed for teachers.
- 3) Evaluate the program to determine if the hybrid course model created is an effective educational tool for the Wisconsin Center for Environmental Education.

### **Limitations**

- 1) Preference for participation will be given to teachers enrolled in or who graduated from the Extended Master of Science in Natural Resources/Environmental Education for Elementary and Secondary Teachers at UW-SP.
- 2) Only the first year program in Puerto Rico will be evaluated.
- 3) Only participating teachers from Wisconsin will be studied.
- 4) The study will be based on a total of 10 months of data collection taken before, during, and following the course.

### **Assumptions**

- 1) Teachers are interested in overseas experiences in environmental education.
- 2) There is a need to make global connections in environmental education.
- 3) An overseas course will benefit the WCEE's Extended Masters Program for teachers.

## **Definition of Terms**

*Cross-cultural Competency:* The ability to interpret and evaluate inter-cultural encounters with a degree of accuracy and to show cultural empathy.

*Environmental Education:* Education that deals with ecologically-related social issues in the environment and focuses on the development of responsible citizenship behaviors regarding issues (Tbilisi Declaration, UNESCO, 1978).

*Extended Master of Science in Natural Resources/Environmental Education for Elementary and Secondary Teachers:* A graduate program offered to teachers through the WCEE at UW-SP.

*International Education:* Teaching about lives and the natural and social contexts of people living in other countries and cultures, actively promoting immersion experiences in other cultures (Uraneck, 2002).

*Pre-service Teachers:* Students who are studying at post-secondary institutions to be teachers.

*Worldview:* Understanding of concepts regarding issues that involve and affect people, places, and things throughout the world.

## **Abbreviations**

DOE-PR Department of Education-Puerto Rico

WI-DPI Wisconsin Department of Public Instruction

EIA-US DOE Energy Information Administration – United States Department of Energy

GEM Global Environmental Management

GET Global Environmental Teachings

IAUPR InterAmerican University of Puerto Rico

REVIBE Reverence of Life and Beauty Incorporated  
UW-SP University of Wisconsin–Stevens Point  
WCEE Wisconsin Center for Environmental Education



## **CHAPTER 2: REVIEW OF THE RELATED LITERATURE**

This chapter synthesizes relevant literature and necessary background content to properly set the course of this study. There are three components to this study; (1) to develop a study abroad experience on environmental education; (2) to implement the program; and (3) to evaluate how this experience influences participants' integration of lessons on global and environmental education in their curricula.

The literature review will address the following topics:

### **I. Environmental Education**

- History of Environmental Education
- Definition of Environmental Education

### **II. International Education**

- History of International Education
- Need for International Education
- Definition of International Education

### **III. Teacher Programs Abroad**

- Benefits of Teacher Programs Abroad
- Possible Barriers to Programs Abroad

### **IV. Natural Resources in Puerto Rico**

- Environment in Puerto Rico
- History of Environmental Education in Puerto Rico

### **V. Summary**

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## **I. Environmental Education**

There is some discrepancy between views on the history of environmental education. This was explicitly noted by Carlton in 1997, "Whenever one investigates the history of a movement, one is likely to encounter a variety of opinions regarding the circumstances and details that gave rise to the entity as it exists today (Carlton, 1997)." It can be said that

environmental education dates back over a hundred years in one form or another, but it wasn't until the 1970's that measures were taken to formalize the subject area.

During the 1960's awareness of environmental issues greatly increased. Rachel Carson's book, Silent Spring (1962), caught the attention of millions of people throughout the world. Its claim that man was destroying the earth through the use of chemicals such as DDT was shocking to most people. This gave rise to the urgency for citizens to become more aware of the health risks posed by the destruction or alteration of the environment. This book contributed to the forming of Earth Day. Originally proposed by Senator Gaylord Nelson, the first Earth Day took place April 22, 1970. This is the first major national event that focused on the health and protection of the environment. In 1972 the United Nations held a conference in Stockholm, Sweden titled *Human Environment*. It focused on the environment and how humans are a part of it and have the responsibility to protect it. But perhaps the most profound effect on the development of environmental education took place in 1977 at the first Intergovernmental Conference on Environmental Education in Tbilisi, USSR. The Tbilisi Declaration was formed at this conference and outlined the aim for environmental education worldwide. It defined environmental education as:

*A process aimed at developing a world population that is aware of, and concerned about, the total environment and its associated problems, and which has the knowledge, attitudes, skills, motivation, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.*

(UNESCO, 1978)

The Tbilisi Declaration also provided the framework for both formal and non-formal environmental education at all levels—local, national, regional, and international—and for all age groups. Consistent with the Tbilisi Declaration's categories of environmental



education objectives, a list of five subgoals of environmental education was adapted by the Wisconsin Department of Public Instruction (Engleson & Yockers, 1994):

1. *Perceptual Awareness*: To help students develop the ability to perceive and discriminate among stimuli; to process, refine, and extend those perceptions; and to concurrently acquire an aesthetic sensitivity to both natural and built environments.
2. *Knowledge*: To help students acquire a basic understanding of how the natural environment functions, how its functioning is affected by human activity, and how harmony between human activity and the natural environment may be achieved.
3. *Environmental Ethic*: To help students develop a universal ethic on which they may act to defend, improve, and sustain the quality of the environment.
4. *Citizen Action Skills*: To help students develop the skills needed to identify, investigate, and take action toward the prevention and resolution of environmental issues.
5. *Citizen Action Experience*: To help students gain experience in applying acquired perceptual awareness, knowledge, environmental ethic, and citizen action skills in working toward the prevention and resolution of environmental issues at all levels, local through universal.

These subgoals provided the necessary framework for formal or non-formal educators, school administrators, and curriculum specialists to assist with the development of environmental education curricula. The above definition and five subgoals provide the basis of environmental education for the purpose of this study.

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## **II. International Education**

Since the twentieth century, global linkages are increasingly visible to the general public through environmental issues, telecommunications networks, and international trade (Haakenson, 1994). Advanced technology in communications, computers, and transportation has greatly increased the opportunities to learn, explore, and gain awareness about places, people, and things throughout the Earth that were never before as easily accessible and connected. Computer technology and the development of the Internet have allowed the capability to create a world information center. Satellites, telephones, and e-mail make communications easier, faster, and affordable. The advancement in vehicles and aircraft and the development of spacecraft has allowed humans to go places unimaginable just 50 years ago. On one hand, this expands global opportunities, but on the other hand it creates challenges related to economics, ecology, society, and politics between countries. “To realize the full possibilities of the new economy, we must reach beyond our own borders, to shape the revolution that is tearing down barriers and building new networks among nations and individuals, economies and cultures: globalization (Clinton, 2000).” The United States’ connection to and understanding of the world and its resources has brought on the need for education reform that includes international education.

“Most students entering teacher education programs are from non-minority backgrounds, possess a narrow cultural worldview, and have had limited exposure to cultural diversity. A growing sense of urgency...characterizes the preparation of this relatively homogeneous group of educators who will be facing increasingly heterogeneous classrooms (Stachowski & Mahan, 1998).” This statement amplifies the need to support and properly prepare teachers as

they meet the challenges of multicultural classrooms. Examples explained in the previous paragraph demonstrate how the world is “getting smaller.” Educating students about global issues that affect all citizens of the world is lagging behind. It is challenging to teach about global issues; but this challenge can be met by providing professional development opportunities for teachers and pre-service educators. Luckily there has been increased attention given to the infusion of a global perspective in teacher preparation programs (Haakenson, 1994; Merryfield, 1992; Tucker and Cistone, 1991). The task of globalizing a curriculum by infusing international education requires some education reform that supports professional development for teachers.

Wisconsin is not exempt from these challenges since the majority of teachers in Wisconsin are from non-minority groups; yet there are increasing numbers of Wisconsin students who originally came from other countries and cultures who are challenged to communicate in English. In Wisconsin schools, approximately 3.4% of students have limited English proficiency (DPI, 2004). There are over 80 languages spoken among these students; yet the majority speaks Hmong or Spanish. Table 1 illustrates the change in number of Hmong and Spanish-speaking students from 1999 to 2004. Wisconsin students with limited English proficiency who speak Spanish increased from 43% to 57% whereas students who speak Hmong decreased 15% from 45% to 30%. This indicates that there is a trend of Spanish-speaking students entering Wisconsin schools.

Table 1. Current Census for Limited-English Proficient Pupils in Wisconsin

Census for Limited-English Proficient Pupils in Wisconsin			
Year	Total (Students)	Hmong	Spanish
1999	25,382	11,466 (45%)	10,908 (43%)
2004	35,602	10,511 (30%)	20,155 (57%)

“Teacher preparation with an emphasis on teaching for a global perspective is becoming a vital and effective means to the advancement of global/international education (Haakenson, 1994).” In order to assist teachers, there is a need for resources and support to prepare them to address global issues. Cross-cultural experiences at home and abroad that are stimulating are a significant part of global and international education (Merryfield, 1995). The Wisconsin WI-DPI suggests that it is time to “increase opportunities for all teachers and students to travel, to explore other cultures, to learn new languages, and to perceive the complexity and interconnections of global issues (Uraneck, 2002).”

International education, like environmental education, is intended to be infused into curricula at every grade level and in all disciplines. It is defined as education that develops the knowledge, skills, and attitudes that are the basis for decision making and participation in a world characterized by cultural pluralism, interconnectedness, and international economic competition (Merryfield, 1995). It is meant to prepare students in becoming responsible citizens who understand and effectively work with diverse cultures, suspend judgment, and promote peace among the global society.

### **III. Teacher Programs Abroad**

International programs provide teachers with opportunities to interact with other cultures, discover other customs, and learn through experience. Effective teachers need international and multicultural experiences as well as content knowledge in their specialty area (Uraneck, 2002). One way for teachers to strengthen their curriculum is by infusing international education and reinforcing lessons by having experiences abroad. Experiential learning is favored by John Dewey, a well-known philosopher on education. His theory of education is to “reconstruct experiences” in order to apply previous experiences in new ways (Dewey, 1938). International programs for teachers provide opportunities to gain global encounters to expand their experiences that, in theory, will ease the task of globalizing their curriculum. One teacher’s personal account noted, “I had to become global myself before I could expect to infuse an international perspective into my work (Osnes-Taylor, 1994).” Overseas experiences provide the catalyst to globalize curricula.

The concept or idea of teacher abroad programs is not new. The Institute of International Education was established in 1919 and began student and teacher exchanges in the 1920’s. The Fulbright Program, a program administered through the U.S. Department of State’s Bureau of Educational and Cultural Affairs (ECA), started in 1946 and has provided over 250,000 people throughout the world with international experience (Fulbright Program, 2003). Americans have taught overseas since President John F. Kennedy in 1961 established the United States Peace Corps Program. Some universities offer pre-service student teaching programs in other countries. Many non-profit organizations are now available offering overseas experiences for teachers and students. The Council on International Education

Exchange, Two Worlds United Educational Foundation, and World Teach are just a few organizations offering international opportunities for educators. Providing teachers with professional development and personal growth opportunities through experiences overseas spreads knowledge and skills to other countries. It promotes an understanding and builds the skills to work together, regardless of race, customs, or culture, to provide a more peaceful global society.

In Wisconsin, there are some organizations and universities that provide these experiences to educators. Global Links is a program at the University of Wisconsin-River Falls that offers teacher exchanges, travel programs, and international professional development opportunities for teachers. Professional teacher organizations such as the Wisconsin Society for Science Teachers, Wisconsin Education Association Council, and Wisconsin Association for Foreign Language Teachers periodically offer study abroad programs for educators. The International Crane Foundation offers a three-week travel program to Russia specifically focusing on the conservation of cranes and environmental education activities with schools.

International experiences should not be executed with haste. Careful planning is necessary to cater to the needs of the participants to ensure the success of the program. “When study abroad programs employ experiences that are carefully matched with participants’ needs, goals, and expectations, the results can be life-changing (Citron & Kline, 2001).” It is important that the experiences match participant’s interests. Goals of the program should be clearly stated at the beginning of the program.

The orientation of teachers to programs abroad is critical for preparing them for their experience to ensure that they are comfortable and prepared. A testimony written about a group of teachers from Arkansas who traveled to India for six weeks offered insight into the importance of careful orientation: “The first problem arose at the airport in London when one teacher who was fearful that she would be left behind insisted that we had not properly prepared them for the experience because we had not told them what to do if they became separated from the group (Roach, 1994).” This scenario offers a good example of a person who experienced anxiety levels beyond comfort zones to cause problems that affected the group. Maximum learning potential is achieved at moderate anxiety levels (Debring, Willis, and Genet, 1995). The problem explained above occurred because a group member experienced a high level of anxiety that caused them to become very uncomfortable which, according to Debring, Willis, and Genet, will not only cause stress but will inhibit learning. Traveling overseas is meant to stimulate a sharing of cultures and provide a firsthand learning experience; if participants are not carefully prepared and comfortable, then learning can be restricted. Careful preparation is critical for the success of the program. Through proper orientation, a study abroad program for teachers can provide a participant with an experience that is rewarding personally and professionally.

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#### **IV. Natural Resources in Puerto Rico**

Puerto Rico is a self-governing Commonwealth to the United States claiming approximately 3,500 square miles of land, about the size of Delaware. Despite its size and population density of over 1,100 people per square mile, there is substantial biological diversity and various biomes that make it an ideal place to explore and learn about the environment.

Through US legislation, six National Wildlife Refuges, a National Forest, and a National Estuarine Research Reserve have been designated for protection. Additional Commonwealth forests, wildlife areas, and natural reserves are protected under Puerto Rican laws.

Despite the numerous protected areas, Puerto Rico experiences environmental problems and degradation. Puerto Rico and the US Virgin Islands are home to 78 species protected by the Endangered Species Act, 29 animal and 49 plant species. There are continued threats to these organisms. According to the Environmental Protection Agency (1998), only one-quarter of the original mangroves remain. Other threats to island ecosystems include untreated, or improperly treated wastewater, as well as agricultural and urban runoff. Development, deforestation, and pollution contribute to the threats of the ecosystem. In addition, natural events such as hurricanes can affect the biological integrity of the islands' ecosystems. Species are disappearing under these conditions; therefore, more environmental education programs have been established by government and independent non-profit organizations.

The Department of Education in Puerto Rico recently produced an Environmental Science curriculum for grades K-9 titled, "Puerto Rico Educa Sabio: Currículo para la celebración del mes del Planeta Tierra (Viches, 2002)." This is the first environmental education curriculum developed by the Department of Education in Puerto Rico. Another active program in Puerto Rico is GLOBE. The GLOBE Program actively involves teachers through workshops and projects throughout the island. A program called Science on Wheels helps support science teachers with their mobile science program. They travel to schools throughout the island to offer scientific demonstrations in classrooms. Summer and weekend workshops through



various universities and agencies like the Sea Grant Program and Caribbean National Forest offer professional development opportunities to teachers.

The Reverence of Life and Beauty Incorporated (REVIBE) is an organization dedicated to the protection of 375 acres in the north central mountains in Puerto Rico. Located near Utuado, their property protects the top of a watershed. They manage the forest for protection of species on two-thirds of the property. The remaining third is used for sustainable agriculture through shade-grown coffee production. REVIBE serves as a prime example of sustainable natural resource management practices.

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## **V. Summary**

Environmental education and international education have several parallels. Both use a holistic approach to educate students. They both aim to develop attitudes, knowledge, and skills. The ultimate goal for both environmental education and international education is to prepare students to make responsible decisions that are best for society on a global scale. Curricula have been developed in both environmental and international education to assist teachers in making it an integral component of their lessons. Environmental education and international education challenges students to critically think and solve problems using real life situations to enhance their education.

Puerto Rico and Wisconsin are ideal locations for a teacher exchange program. Neither passports nor visas are required; therefore reducing the time and paperwork for participants. The biomes in Wisconsin and Puerto Rico are distinctly different. Participants will expand

their environmental knowledge beyond their borders through a firsthand experience. The two areas also vary in language, culture, and history; yet are easily accessible by flight in a relatively short period of time (four and a half hours from Milwaukee) and with minimum jetlag. Examining, comparing, and contrasting the differences and similarities between Puerto Rico and Wisconsin can provide an ideal overseas experience to learn about environmental education.

The overseas program for teachers to Puerto Rico promises to greatly benefit participants. They will build a deeper understanding concerning the world's diverse biosphere through a cultural, educational, and overseas experience. Participants will build leadership skills necessary to work towards the protection and sustainability of the world's biosphere. The program will provide participants with professional development opportunities through an overseas environmental education experience. Students are the ultimate beneficiaries. By infusing information learned into their curriculum, teachers will transfer knowledge to their students.

## CHAPTER 3: METHODOLOGY

This chapter describes the methodology used to accomplish the goal of this study: to develop, implement, and evaluate an overseas program in environmental education for teachers. The study was divided into three subproblems:

- **Subproblem 1:** Develop a program that will provide professional development for educators through an overseas study course in Puerto Rico on environmental education.
- **Subproblem 2:** Implement the study course model developed for teachers.
- **Subproblem 3:** Evaluate the program to determine if the hybrid course model created is an effective educational tool for the Wisconsin Center for Environmental Education.

Each subproblem has several tasks. This chapter will explain the methodology used to accomplish each task of the study. Table 2 below outlines the timeline and tasks according to when they were accomplished.

Table 2. Timeline and task list for developing the teacher exchange in Puerto Rico.

<i>1. Develop a program that will provide professional development for educators through an overseas study course in Puerto Rico on environmental education.</i>	
May-July 2003	Task 1: Establish contacts and partners in Puerto Rico
May-July 2003	Task 2: Develop a project plan
July-September 2003	Task 3: Outline a timeline and itinerary
August 2003-February 2004	Task 4: Secure funding
September 2003-February 2004	Task 5: Recruit participants
September-December 2003	Task 6: Develop an online Island Ecology Course
November 2003	Task 7: Develop selection criteria to choose participants
December 2003-May 2004	Task 8: Gather and organize resources
<i>2. Implement the study course model developed for teachers.</i>	
April-May 2004	Task 1: Online Course on Island Ecology
May 21, 2005	Task 2: Host an orientation
June 2005	Task 3: Direct and supervise the program
<i>3. Evaluate the program to determine if the hybrid course model created is an effective educational tool for the Wisconsin Center for Environmental Education.</i>	
May 2005	Task 1: Determine if the program on environmental education is a valuable and effective educational tool

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## **Subproblem 1**

Develop a program that will provide professional development for educators through an overseas study course in Puerto Rico on environmental education.

### *Task 1: Establish contacts and partners in Puerto Rico*

By partnering with organizations identified through a Memorandum of Understanding (Appendix A), the basic framework for the overseas educational program was discussed. These partners were contacted through phone and e-mail to discuss the program goals. Additional contacts were referred from co-workers, personal contacts, and through an internet search for various environmental programs in Puerto Rico.

A committee within the WCEE was organized to advise the development of the program. They reviewed materials and offered input on the study program. This committee, the WCEE International EE Committee, consisted of the following members: Tim Byers, Ginny Carlton, Deborah Engel-DiMauro, Susan Ermer, Sunshine Kapusta, Jennie Lane, Dr. Dan Sivek, Carol Wake, and Dr. Dennis Yockers.

In June 2003 a planning committee consisting of four individuals from UW-SP (Susan Ermer, Dr. Mai Phillips, Carol Wake, and Dr. Dennis Yockers) traveled to Puerto Rico for a one-week visit to solidify connections with partners in Puerto Rico, identify and secure accommodations, and visit potential sites to include in the overseas experience for teachers. During the visit the committee attended meetings with various agencies (IAUPR,

USF&W, REVIBE, and USFS) and partners to establish counterparts, create networks, and outline the goals for a two-week overseas experience for teachers.

Following the week in Puerto Rico, additional contacts in Wisconsin were solicited. Dr. Yockers and Susan Ermer visited representatives from the Wisconsin Department of Public Instruction, non-governmental organizations in Wisconsin, and the Center for Latin American and Caribbean Studies at the University of Wisconsin-Milwaukee to gather advice and input on other experiences with Latin American countries and the Caribbean islands that involved teachers. Advice and ideas were also gathered at the North American Association of Environmental Education Annual Conference, October 2003.

In January 2004, the researcher traveled to Puerto Rico for an additional week to work with partners in Puerto Rico and finalize plans for the program. She met with representatives of the Department of Education – Puerto Rico, REVIBE, IAUPR, and United States Forest Service.

This process built awareness, developed partnerships, and laid the foundation for the program.

### *Task 2: Develop a Project Plan*

The literature review explores and summarizes the links between environmental education and international education. The aim, goals, and objectives for the program were created based on this information.

Aim: To enhance studies in environmental education and natural resources through an international experience for educators that will be administered through the Wisconsin Center for Environmental Education (WCEE). This program will build on the Memorandum of Understanding established between the Global Environmental Management (GEM) Education Center located in the College of Natural Resources at the University of Wisconsin – Stevens Point (UW-SP), InterAmerican University of Puerto Rico (IAUPR), and Reverence for Life and Beauty Incorporated (REVIBE) to support the educational and cultural experiences as well as the development of basic scientific and applied technological research at the three institutions.

Goals

- Build a deeper understanding among educators concerning the world's diverse biosphere through a **cultural, educational, and overseas exchange**.
- Provide participants with **professional development opportunities** through an overseas environmental education experience.
- Build **leadership skills** among the participants which will develop the knowledge and skills necessary to work towards the protection and sustainability of the world's biosphere.

Objectives: Through a cultural, educational, and environmental program between Wisconsin and Puerto Rico, participants will:

- Identify similarities and differences between the ecosystems in Wisconsin and Puerto Rico and further explore their unique characteristics.
- Participate in environmental research projects to complement studies in natural resources and environmental education at UW-SP and IAUPR.

- Understand the issues and challenges surrounding the protection and sustainability of the ecosystems in each area.
- Participate in workshops to apply their knowledge and skills about the environment to produce a product that will enhance environmental education.
- Collaborate among colleagues during the program to enhance their knowledge, understanding, and skills in natural resources and environmental education.

Using the aim, goals, and objectives, a project plan (Appendix B) was developed by the researcher and reviewed by the WCEE International EE Committee. The plan outlines the aims, goals, and objectives for the program, identifies partnerships, outlines the timeline for the program, and provides a brief budget.

*Task 3: Outline a timeline and itinerary*

A two-week itinerary (Appendix C) was developed and reviewed by counterparts in Puerto Rico, the WCEE International EE Committee, and the graduate committee. The itinerary included detailed travel plans for the two-week travel program while in Puerto Rico. Accommodations, meals, and activities were outlined. The first week was designed to take participants to various areas of Puerto Rico exploring tropical ecology in the Caribbean National Forest, marine ecology and mangrove forests on Vieques Island, and karst topography near Arecibo. The second week was based at REVIBE in Utuado. Teachers participated in a five-day, environmental education workshop. Each day had a different theme.

- Day 1: Watershed Management
- Day 2: Tropical Forestry
- Day 3: Sustainable Agriculture
- Day 4: Puerto Rican Culture and History
- Day 5: The Puerto Rican Parrot

Evaluations were designed for the participants to rate their satisfaction with the program and gather feedback, comments, and suggestions. Evaluations were given after the following four components of the program: Caribbean National Forest, Vieques Island, Mata de Platano-karst region near Arecibo, and REVIBE. The evaluations were compiled by the researcher following the program.

*Task 4: Secure funding*

A budget was established using funds secured by a three-year grant from GEM and the WCEE. (Table 3) Additional funding was received from the Center for Latin American and the Caribbean Studies (CLACS) at the University of Wisconsin–Milwaukee. The researcher wrote an additional research grant to receive funding from GEM for each of the participating Wisconsin teachers (\$200 each), our counterparts in Puerto Rico (two people for \$1,500 each), and a travel allowance for the researcher during the study. The in-state tuition for a three-credit, graduate level course from UWSP was approximately \$900 per person. Travel costs for each participant were estimated at \$1,800 for the flight to Puerto Rico from Chicago, transportation, lodging, and meals for two weeks in Puerto Rico. Therefore the total estimated cost for each participant from Wisconsin enrolled in this travel course was \$2,700. Through the grants received, costs were reduced to \$1,500 per person enrolled in the course.

Table 3. Projected Expenses and Revenue for the Travel Course in Puerto Rico

Description of Expenses	Expenses	Revenue	Description of Revenue
Course Registration Fees (11 participants x 3 credits x \$300/credit)	\$ 9,900	\$16,500	Participants' total cost (11teachers x \$1,500)
Travel Costs (\$1,800 each for 11 teachers + 2 leaders)	\$23,400	\$ 2,200	GEM Research Grant (11teachers x \$200)
		\$11,000	GEM grants to each teacher (11 x \$1,000)
		\$ 2,000	CLACS Contribution
		\$ 1,600	GEM's contribution for leaders
<b>TOTAL</b>	<b>\$33,300</b>	<b>\$33,300</b>	<b>TOTAL</b>



*Task 5: Recruit participants*

This program was developed as an offering for the WCEE Extended Masters Program for teachers. In October 2003, a cover letter (Appendix D) and flyer (Appendix E) announcing the overseas experience were sent to the 200 teachers who were participating in or had graduated from the Extended Masters Program. A follow-up e-mail was sent to these teachers two weeks later and again three weeks prior to the application deadline, January 9, 2004.

Additional promotions were sent through the Wisconsin K-12 Energy Education e-bulletin that reaches over 800 educators in Wisconsin and the International Education listserv reaching 600 Wisconsin educators. A webpage was designed to make program information easily accessible online. This page was linked to the WCEE website.

*Task 6: Develop an online Island Ecology Course*

Dr. Mai Phillips led the development of the online island ecology course in the spring 2004 at UW-SP. This one credit course provided an overview, investigated common problems experienced on islands, explored conservation efforts to preserve biodiversity and endangered species, and presented Puerto Rico as a case study investigation in island ecology. The researcher assisted with the development and evaluation of the course. The evaluations were compiled by the researcher for this study.

*Task 7: Develop selection criteria to choose participants*

A comprehensive application was created and reviewed by the WCEE International EE Committee. (Appendix F) Teachers interested in the program were required to complete the application, submit an essay explaining how this program would benefit them

personally and professionally, and were required to have their district administrator and school principal show their program support by signing the application.

Four members of the WCEE which included Dr. Yockers, Dr. Sivek, Ginny Carlton, and the researcher, reviewed the applicants. Eleven teachers applied for the program and all were accepted.

Ten teachers in Puerto Rico were selected by the Department of Education – Puerto Rico. Eight decided to participate in this program.

*Task 8: Gather and organize resources*

Dr. Yockers, Dr. Mai Phillips, and the researcher gathered resources from the Internet, federal agencies, textbooks on Puerto Rico and island biogeography, environmental organizations, and personal contacts to provide participants with the appropriate information regarding the program. Information was delivered to participants through an online course, orientation, and a resource binder that was created for them. Participants also received environmental education activity guides from World Wildlife Fund and the Center for Latin America and Caribbean Studies at the University of Wisconsin-Milwaukee.

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## **Subproblem 2**

Implement the study course model developed for teachers.

### *Task 1: Online Course on Island Ecology*

This was a one-credit, web-based course offered through UW-SP that provided an overview of island origins and evolution; explored the importance of natural resources and biodiversity of island ecosystems; investigated threats and research issues of islands; discussed Puerto Rico as a case study (specifically its history and culture); and examined its current issues as it related to the island. Course activities included exploration of pertinent websites, online discussions, quizzes, and written curriculum/lesson plans (for teachers). An evaluation was given to participants following the course. Results were compiled by the researcher.

### *Task 2: Host an orientation*

An orientation meeting for teachers prior to their departure to Puerto Rico was planned and organized by Dr. Yockers and the researcher. An agenda (Appendix G) was created to accomplish the following objectives:

- a) Outline logistics and expectations for travel in Puerto Rico
- b) Review safety and health issues traveling in Puerto Rico
- c) Perform cultural awareness activities
- d) Assess the participants

### *Task 3: Direct and supervise the program*

Dr. Yockers and the researcher from Wisconsin and Frances Venegas from Puerto Rico were trip leaders. Their responsibility was to direct and supervise the two-week program in Puerto Rico from June 17 to July 1, 2004. The itinerary for these two weeks included activities with the United States Forest Service, US Fish and Wildlife Service, personnel

from IAUPR, REVIBE, and other organizations. Throughout the program, the trip leaders were responsible for the safety and security of the participants and resolved issues as they arose.

The first week was designed to travel to various areas of Puerto Rico exploring tropical ecology in the Caribbean National Forest, marine ecology and mangrove forests on Vieques, and Mata de Platano-karst region near Arecibo. During the second week teachers were engaged in activities and curriculum sharing to help the teachers brainstorm ideas for classroom infusion. Activities and speakers were arranged for each day. (Appendix H)

Evaluations were designed for the participants to rate their satisfaction for the program and gather feedback, comments, and suggestions. They were compiled by the researcher following the program.

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### **Subproblem 3**

Evaluate the program to determine if the hybrid course model created is an effective educational tool for the Wisconsin Center for Environmental Education.

#### Evaluation Design:

Data were collected through a variety of methods in order to properly and thoroughly evaluate the objectives of this research. Primarily qualitative research methods were used to analyze the data collected with some basic quantitative techniques. The purpose of Subproblem 3 was to

determine the effectiveness of the program as an appropriate environmental education course for the Extended Masters Program at UW-SP. In this case, “effectiveness” means to determine how and to what extent this program affected the participant personally and professionally. The eleven teachers from Wisconsin were analyzed for this study. First the data sources for the study are described followed by two tasks, with a description of methods used to accomplish each task.

#### Data Sources Gathered Prior to the Travel Program

1. *Applications* – In the application (Appendix F) each participant outlined demographic information and previous travel experience.

2. *Essays* – Each participant submitted an essay with their application. In the essay, participants were asked to address the following questions.

- 1) Explain how you feel this educational teacher exchange program will benefit you.
- 2) How do you plan to use this exchange in your profession?
- 3) How do you respond to traveling overseas and encountering different cultures?
- 4) What professional skills and/or knowledge could you offer to this program?
- 5) Discuss how you are a leader in environmental education in school, your community, or in the state.

This provided the researcher with thoughts and feelings participants had concerning travel programs overseas, the leadership skills they have demonstrated in their community, and their general thoughts and experiences in environmental education.

3. *Letter of Recommendations* – Along with the application, each participant was required to submit two letters of recommendations from colleagues or supervisors. This provided the researcher with background on the participants

4. *Assessments During the Orientation* – A pre-trip assessment (Appendix I) previously reviewed by the WCEE International Committee was completed by each Wisconsin participating teacher. In the pre-trip assessment, teachers were asked questions concerning their expectations prior to participating in the program; it gathered information concerning methodology used in the educators' curriculum; and was a source for thoughts and feelings about environmental education and international education.

5. *Assignments During the Online Course* – Throughout the online course participants were required to submit ideas through an online discussion board regarding island ecology. A final assignment for this course was to submit an outline on how the teachers plan to integrate the information learned into their classroom curriculum.

6. *Evaluations of the Online Course* – Following the online course, participants were asked to complete an evaluation. (Appendix J) This evaluation provided basic quantitative data using a Likert scale to gather feedback on the course.

#### Data Sources Gathered During the Travel Program

1. *Journal Entries* – During the two weeks in Puerto Rico, each teacher from Wisconsin was required to maintain a journal as part of the assignments for the course. (Appendix K) In their journals they recorded personal thoughts and feelings they had throughout the program. Following the two weeks, the journals were collected. Any pages the participant did not wish to share in the study were paper clipped together and kept private.

2. *Evaluation of Workshops* – Four written evaluations were designed prior to the travel program. Questions were asked using a Likert scale. Also included in each evaluation were a few open-ended questions for participants to offer feedback, comments, and

suggestions. Quantitative data gathered from the evaluations were used to measure the results of each workshop.

*3. Researcher's observations* – During the two weeks in Puerto Rico, the researcher kept a research journal that recorded thoughts, observations, and ideas concerning the participants, logistics, and the travel program in general.

*4. Video transcriptions* – Transcriptions from a video taken during the travel program offered reflective thoughts from the participants and recorded a verbal group evaluation that provided comments and suggestions for future programming.

#### Data Sources Gathered Following the Travel Program

*1. Assignments* – After returning from Puerto Rico, each Wisconsin participant was required to submit a curriculum assignment. (Appendix L) Teachers were asked to apply the knowledge learned during the online course and travel program in Puerto Rico in their school curriculum plans. These assignments were collected, compiled, and graded by Dr. Yockers and the researcher.

*2. Interviews* – One-on-one interviews were conducted by the researcher with the intent to assess how the trip to Puerto Rico affected participants personally, professionally, and to determine how the program affected their curriculum. Each participant was asked questions that were previously validated by the WCEE International Committee.

(Appendix M) A post-trip workshop was arranged so the researcher would have ten to fifteen minutes with each participant. A tape recorder was used to record the one-on-one interviews to be transcribed later.

*Task 1: Determine if the program on environmental education is a valuable and effective educational tool*

To determine if this program was an effective addition to the Extended Masters Program at UW-SP, the researcher utilized data from the sources listed above to create a profile on each participant to determine if there was any noticeable change in attitude, thoughts, or feelings from before and after the travel program. Data were collected thoroughly on each participant and compiled to complete eleven profiles. After profiling each participant, the subjects were compared to detect possible trends and commonalities among the participants. Trends and commonalities were identified based on qualitative data gathered and quantitative data compiled in evaluations that used a Likert scale.



## CHAPTER 4: RESULTS

This chapter describes the results of the development, implementation, and evaluation of the study. The first section describes the results of Subproblem 1 and 2, the development and implementation of the program model. Model goals and objectives of the program are outlined and implementation procedures are described. The second section describes the results of the evaluations given throughout the program, Subproblem 3. As part of the evaluation process, profiles were created on each participant and data were analyzed to draw conclusions on the effectiveness of the program.

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### **Results of Subproblem 1 and 2:**

*Develop a program that will provide a professional development opportunity for educators through an overseas study course in Puerto Rico on environmental education and implement the study course model developed for teachers.*

Participants' Demographics: The application gathered general demographics on each participant such as sex, age, educational level, work experience, and travel experiences abroad. Table 4 shows that the majority of participants were female (82%). Among the participants, 64% were in their 20's and 30's while 36% were in their 40's and 50's. The mean age of participants was 38 with the range of 25 to 53 years of age. The median age was 34.

Table 4. Demographic characteristics of participants (n=11).

<b>Sex</b>	<b>Frequency</b>	<b>Percent</b>
Female	9	81.8
Male	2	18.2
<b>Age</b>	<b>Frequency</b>	<b>Percent</b>
20-29	3	27.3
30-39	4	36.4
40-49	2	18.2
50-59	2	18.2
60+	0	-

The majority of the participants (64%) had a Master’s degree while the remaining (36%) had a Bachelor’s degree (Table 5). The majority of the teachers (55%) taught elementary grade levels while only one teacher taught middle school and four participants (36%) taught high school grade levels (Table 6). One participant taught Spanish, six taught general education, and four taught general science or biology (Table 7).

Table 5. Education level of participants (n=11).

<b>Education Level</b>	<b>Frequency</b>	<b>Percent</b>
GED or high school diploma	0	-
Some College	0	-
Bachelor’s Degree	4	36.4
Master’s Degree	7	63.6
Doctoral degree or equivalent	0	-

Table 6. Grade level(s) currently taught by participants (n=11).

<b>Grade Level</b>	<b>Frequency</b>	<b>Percent</b>
K-5	6	54.5
6-9	1	9.1
10-12	4	36.4

Table 7. Subjects currently taught by participants (n=11).

<b>Subject Area (n=11)</b>	<b>Frequency</b>	<b>Percent</b>
General Education (K-5)	6	54.5
Biology	2	18.2
General Science	2	18.2
Spanish	1	9.1

Participants were asked if they had any previous international travel experience (Table 8) and 82% said they did. Of the 82%, the majority (78%) had spent less than a year abroad.

Table 8. Previous international travel experience of participants.

<b>Previous Travel Internationally (n=11)</b>	<b>Frequency</b>	<b>Percent</b>
Yes	9	81.8
No	2	18.2
<b>Experience Internationally (n=9)</b>	<b>Frequency</b>	<b>Percent</b>
Less than 1 month	2	22.2
Less than 3 months	2	22.2
Less than 1 year	3	33.3
1-2 years	1	11.1
More than 2 years	1	11.1

When asked prior to the experience in Puerto Rico if participants currently infuse education about the environment into the curriculum, all (100%) replied that they do. (Table 9) When asked how often they did in the past year, three (28%) participants marked daily, seven (64%) marked either weekly or monthly, and one (9%) indicated once a year. Only four participants received pre-service training in environmental education but eight of the participants have received in-service training in environmental education. In fact, five participants either have their Master's degree in environmental education from UW-SP or are currently enrolled in the program and one has taken eight workshops or courses related to environmental education.

Table 9: Environmental education experience (n=11)

<b>Currently infuses education about the environment in curriculum.</b>	<b>Frequency</b>	<b>Percent</b>
Yes	11	100
No	0	-
<b>Frequency in the past year</b>	<b>Frequency</b>	<b>Percent</b>
Once a year	1	9.1
Once each semester	0	-
2-3 times a semester	0	-
Monthly	3	27.3
Weekly	5	45.6
Daily	3	27.3
<b>Received Pre-service Training in EE</b>	<b>Frequency</b>	<b>Percent</b>
Yes	4	36.4
No	7	63.6
<b>Has Received In-service Training in EE</b>	<b>Frequency</b>	<b>Percent</b>
Yes	8	72.7
No	3	27.3
<b>Number of in-service courses or workshops in EE (n=8)</b>	<b>Frequency</b>	<b>Percent</b>
1-5	1	12.5
6-10	1	12.5
11-15	1	12.5
16-20	0	-
20+	1	12.5
Master's Degree	4	50.0

Hybrid Course Model: The program was designed as a 3-credit, graduate level course specifically for educators. A model was created using both online and face-to-face delivery methods of information offered in the course. (Figure 1)

Figure 1: Hybrid Course Model



Online Course: One of the three graduate level credits was received through a four-week online course titled “Natural History, Resources, and Culture of Island Ecosystems: Puerto Rico.” The course was developed around three goals:

- Engaging participants in coursework that enables them to comprehend island biogeography, understand the importance of studying island ecosystems and environmental challenges, as well as learn how islands can be preserved.
- Exposing participants to various levels of private and governmental organizations, institutes, and agencies working to sustain island ecosystems.
- Increasing participants' awareness of the urgency of environmental problems on islands – both in magnitude and long-term implications.

The course was created in Microsoft FrontPage. It was delivered through Desire2Learn (D2L). D2L is a platform to organize, create, and manage online activities and courses. It allows users to create and administer online courses, manage and record grades, and communicate online with students and instructors.

The course design was organized in four, one-week units:

- Unit 1: Island Biogeography
- Unit 2: Threats to Island Ecosystems
- Unit 3: Conservation
- Unit 4: Island Case Study: Puerto Rico

Participants studied the basis of island biogeography. They studied the importance of island ecosystems and how islands can be a reflection on what is occurring on a global level. They read excerpts of Charles Darwin's theory of evolution. They read articles from speakers they met during the study course in Puerto Rico. Each week an assignment engaged them in online discussion with other classmates through the discussion board. Participants also took a weekly self-graded quiz as part of the course. The assignments each week were used as a tool to facilitate discussions concerning the course content. The final week gave them an overview of Puerto Rico. The course culminated with a

curriculum assignment to help participants design a plan for implementing information learned into their curriculum.

Orientation: An orientation meeting for teachers prior to their departure to Puerto Rico was arranged on May 21, 2004 and conducted by Dr. Yockers and the researcher. An agenda (Appendix G) was created. During the orientation, teachers participated in an ice breaker activity to get to know each other. They also received a one inch binder of materials concerning Puerto Rico and its natural resources, curriculum material on environmental education, and a few activity guides: Windows on the Wild from the World Wildlife Fund and Boots, Bananas, and Biodiversity from the Center for Latin America and Caribbean Studies at the University of Wisconsin-Milwaukee. The following components were included during the orientation.

a) Outline logistics and expectations for travel in Puerto Rico

A description of all activities, accommodations, and meals arranged for each day in Puerto Rico were discussed with the participants. Participants' questions were answered.

b) Review safety and health issues traveling in Puerto Rico

Dr. Jim Zach, a physician at UW-SP's Health Services, gave a presentation on health and safety precautions in Puerto Rico. He answered questions and concerns of the participants.

c) Perform cultural awareness activities

Activities that would build participants' cultural awareness were planned. The purpose was to prepare participants for travels in other cultures where customs,

language, and lifestyles are different from those in Wisconsin. Sources of activities came from materials created by the United States Peace Corps Office.

d) Assess the participants

A written pre-trip assessment form was created prior to the workshop and reviewed by the WCEE International Committee. (Appendix I) This assessment gathered teachers' demographic information, expectations, information concerning their teaching methods, and feedback that was used by the researcher.

Travel Overseas: Dates for the Puerto Rico study course in the summer of 2004 were chosen for the following reasons. July and August are the warmest months in Puerto Rico, and therefore, travel during these months was restricted. Additionally, the July 4<sup>th</sup> holiday, Independence Day, is a busy time for people in Wisconsin and Puerto Rico. Not only would people want to be with their families on the holiday, but travel on this day is difficult particularly with a large group. Most Wisconsin teachers finish the school year in early or mid-June; therefore, dates in early June were avoided. Following a preliminary visit to Puerto Rico in June 2003, it was decided that two weeks were needed to accomplish all planned activities for the program. As a result of these considerations, June 17-July 1, 2004 was identified as the most appropriate time to travel to Puerto Rico for the educational program.

Dr. Yockers (UW-SP), Frances Venegas (IAUPR), and the researcher (UW-SP) were trip leaders. Their responsibility was to direct and supervise the two-week program in Puerto Rico from June 17 to July 1, 2004. The itinerary (Appendix C) for these two weeks included activities with the United States Forest Service, US Fish and Wildlife Service,

personnel from IAUPR, REVIBE, and other organizations. Throughout the program, the trip leaders were responsible for the safety and security of the participants and for resolving issues as they arose.

The first week was designed to expose participants to various areas of Puerto Rico, exploring tropical ecology in the Caribbean National Forest, marine ecology and mangrove forests on Vieques, and karst topography near Mata de Platano in Arecibo. The second week was primarily located at REVIBE's headquarters, Hacienda Verde. Hacienda Verde is located on approximately 375 acres of tropical forest at the top of a watershed in the central mountains of Puerto Rico near Utuado. A five-day workshop was designed to focus on curriculum and in-depth exploration of Puerto Rico's environmental issues regarding watershed management, tropical forest ecosystems, sustainable agriculture practices, and cultural awareness. Specific activities and speakers were arranged for the travel program. (Appendix H)

June 18-19, 2004 – Caribbean National Forest (CNF)

The CNF, also known as El Yunque, is the only tropical rain forest in the USDA Forest Service System. It consists of 28,000 acres of forest about 30 miles southeast from San Juan. During the two days spent in the CNF, lectures and tours led by scientists, educators, and interpreters took place. Participants learned about the forest, the Puerto Rican Parrot Recovery Program, the history of the forest, and explored the biological diversity within the CNF. A written evaluation from the three days at CNF was completed by each participant.



#### June 19-22, 2004 – Vieques Island

The island of Vieques lies just 6 miles off the east coast of Puerto Rico's mainland. Since May 2003, when the US Navy withdrew from the island, the US Fish and Wildlife Service had managed approximately two-thirds of the island. There had been several political demonstrations about the US Navy's activity during their 60 year occupation. It was planned that participants in the study program would learn about these issues while exploring marine ecosystems. Arrangements were made for participants to meet and talk with the US Fish and Wildlife Service, learn about mangrove forests and dry tropical forests, experience a bioluminescent bay, and take part in a night of sea turtle exploration during peak nesting season. A written evaluation of the four days in Vieques was completed by each participant.

#### June 22-24 – Mata de Platano Field Station, Arecibo

Mata de Platano is a research field station in Arecibo for IAUPR. This served as the base for exploring karst topography. During these two days a program was developed for participants to learn about and explore karst topography, gain knowledge on cave systems and the wildlife that depends on them, and visit the Arecibo Observatory to learn about the advancements of astronomy in Puerto Rico. One night was spent capturing bats with mist nets to learn more about bat biology and the current research in this field. A written evaluation of the few days at Mata de Platano Field Station was completed by each participant.

June 24-30, 2004 – Hacienda Verde, Utuado

Arrangements were made for the second week to be based at Hacienda Verde, the field station for REVIBE, in Utuado. Teachers participated in a five-day, environmental education workshop. Each day had a different theme.

Day 1: Watershed Management: Speakers from the US Geological Service and Natural Resource Conservation Service were asked to speak in the morning on water management practices in Puerto Rico. The Adopt-a-Watershed Educational Program was also included. The afternoon plans consisted of exploring the watershed at Hacienda Verde. In the evening, a teacher from Wisconsin shared watershed curriculum materials with the group.

Day 2: Sustainable Agriculture: Miguel Rico, the founder of REVIBE, gave a talk in the morning about the sustainable agriculture practices he was using at Hacienda Verde to plant shade-grown coffee on the property. In the afternoon, plans included a visit to Miguel's coffee fields to learn about his management practices. In the evening, one of the Wisconsin teachers volunteered to lead activities on population and carrying capacity.

Day 3: Puerto Rican Culture and History: Arrangements were made to travel to Ponce, a very traditional and colorful city in southern Puerto Rico. Teachers were given free time to attend a church service or go to the Ponce Historical Museum. There was also an opportunity for participants to shop. In the afternoon, a visit to a Taino Indian indigenous site was planned. That evening two Wisconsin teachers led curriculum discussions of how story telling and literature is used in their classroom to teach about indigenous cultures.

Day 4: Forest Management: Guests from the US Fish and Wildlife Service were invited to give a talk in the morning before leading a hike in the forest. During their tour of the forest, plans were made for participants to learn about the uniqueness and importance of protecting the forest at REVIBE. In the afternoon a service learning project of planting native plants that attract butterflies and birds was organized. One of the teachers volunteered to offer dance lessons on how to “merengue” as an evening activity.

Day 5: The Puerto Rican Parrot and Puerto Rican Music: In the morning, special arrangements were made for the group to travel to the Rio Abajo Aviary to learn about the Puerto Rican Parrot and view parrots being raised in captivity with hopes of releasing them in 2006. A closing ceremony was planned in the afternoon and evening with a local Puerto Rican band.

Infusion in the Curriculum: A course assignment (Appendix L) was created to assist the participants to “bring the experience home” and apply it to their curriculum. Participants were required to keep a journal during the travel course to record information learned, thoughts and feelings, and ideas that they could use in the classroom. To complete the course, participants were required to create lessons using information gained in the hybrid course.

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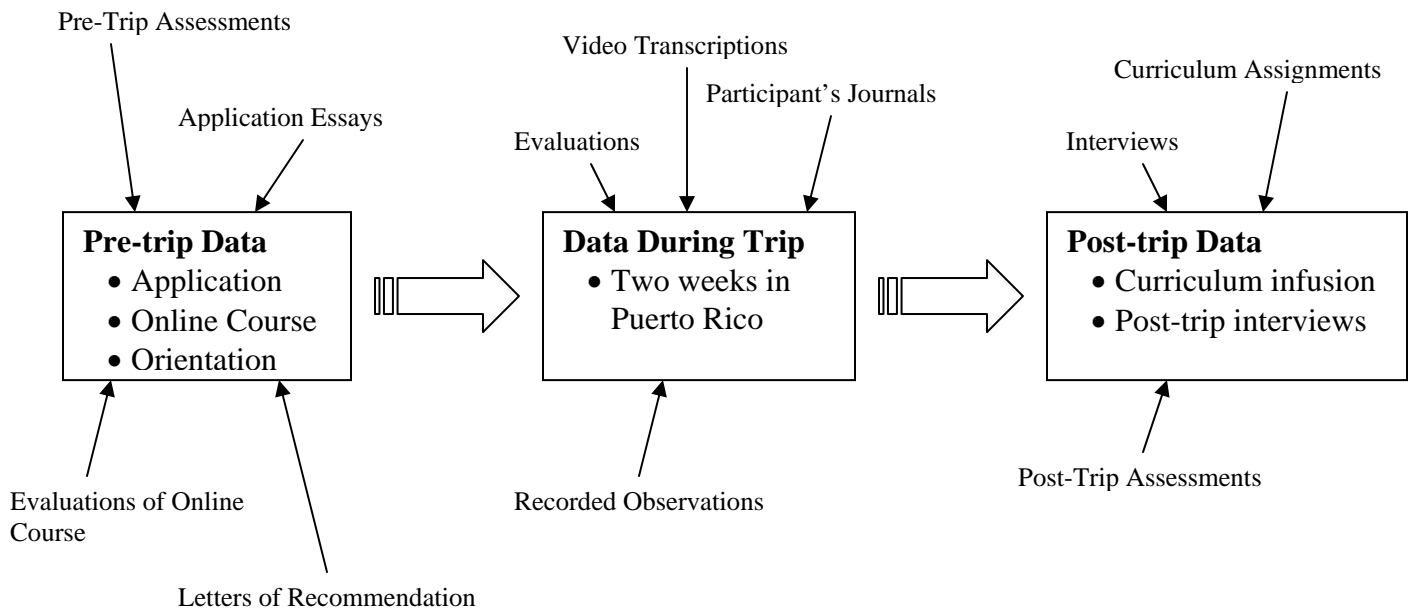
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### Results of Subproblem 3:

*Evaluate the program to determine if the hybrid course model created is an effective educational tool for the Wisconsin Center for Environmental Education.*

To evaluate the value and effectiveness of this program, data were collected using a variety of methods throughout the program. (Figure 2)

Figure 2: Data collection methodologies



There were three phases of the program where data were collected. The pre-trip data were collected from the application, online course, and orientation. Data sources included the application, letters of recommendations, evaluations from the online course, and the pre-service assessments. While in Puerto Rico for two weeks June 16 to July 1, 2004, data were collected from written evaluations, recorded observations, personal journals from each Wisconsin participant, and some video transcriptions taken from footage shot during the program. Post-trip

data were taken from graded curriculum assignments, post-trip assessments, and one-on-one interviews with each Wisconsin participant.

To explain the results of the evaluations, this section is divided in six sections:

1. Online Course Evaluation
  2. Orientation Evaluation
  3. Travel Course Evaluations at El Yunque-Caribbean National Forest, Vieques Island, Mata de Platano, and Hacienda Verde
  4. Participants' Assessments
  5. Participants' Profiles
  6. Value of Journaling
- 

### **Online Course Evaluation Results:**

There were twelve participants, eleven teachers and one graduate student, who enrolled in the online course. Following the four-week course, a written evaluation was given to gather feedback. (Appendix J) There were 24 statements where participants were asked to respond using a five-point Likert scale, where “1” indicated “strongly disagree” and “5” indicated “strongly agree.” In addition, seven open-ended questions were asked at the end of the evaluation. The evaluation was divided into nine sections. Information was compiled from each section.

1. **Student Development:** Three questions were used to determine if the participants increased their level of knowledge concerning island biogeography. Question 1 asked participants to respond to the following statement on a five-point Likert scale where responses ranged from “1” (strongly disagree) to “5” (strongly agree).

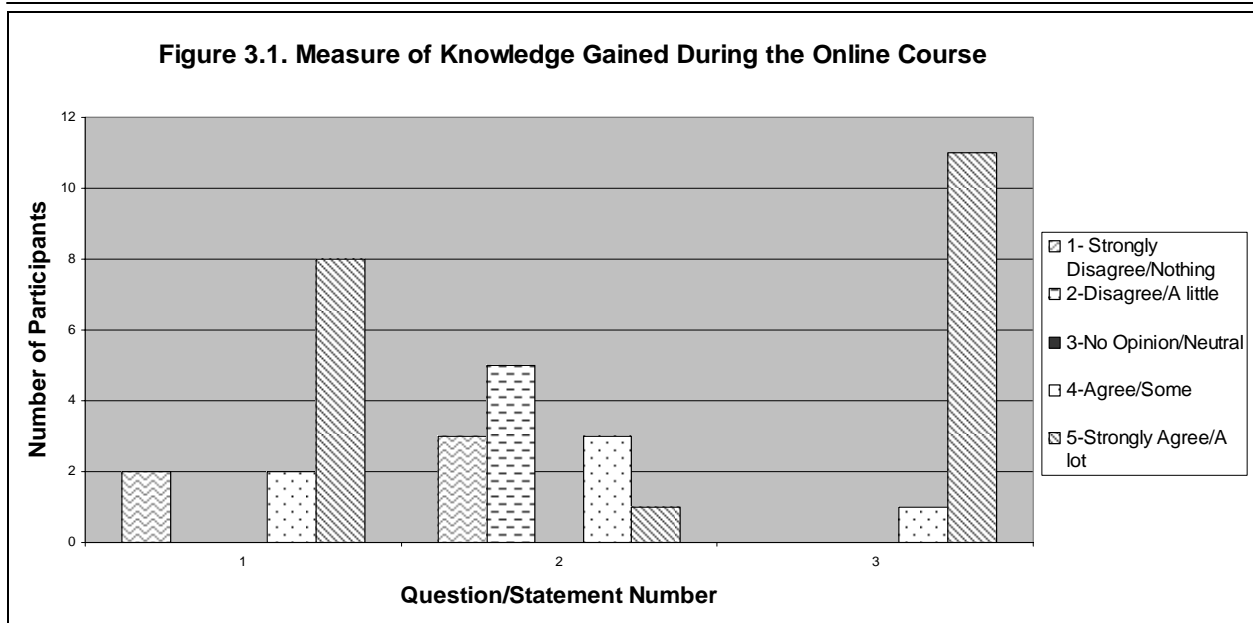
*The course helped me gain a better understanding of concepts, generalizations, and theories related to island biogeography.*

Of the twelve participants, an average rating of 4.83 was reported for the statement above.

In questions 2 and 3, participants were asked how much they knew about island

biogeography before and after taking the course. The evaluation results showed that 92%

increased their knowledge by taking this course. (Figure 3.1)

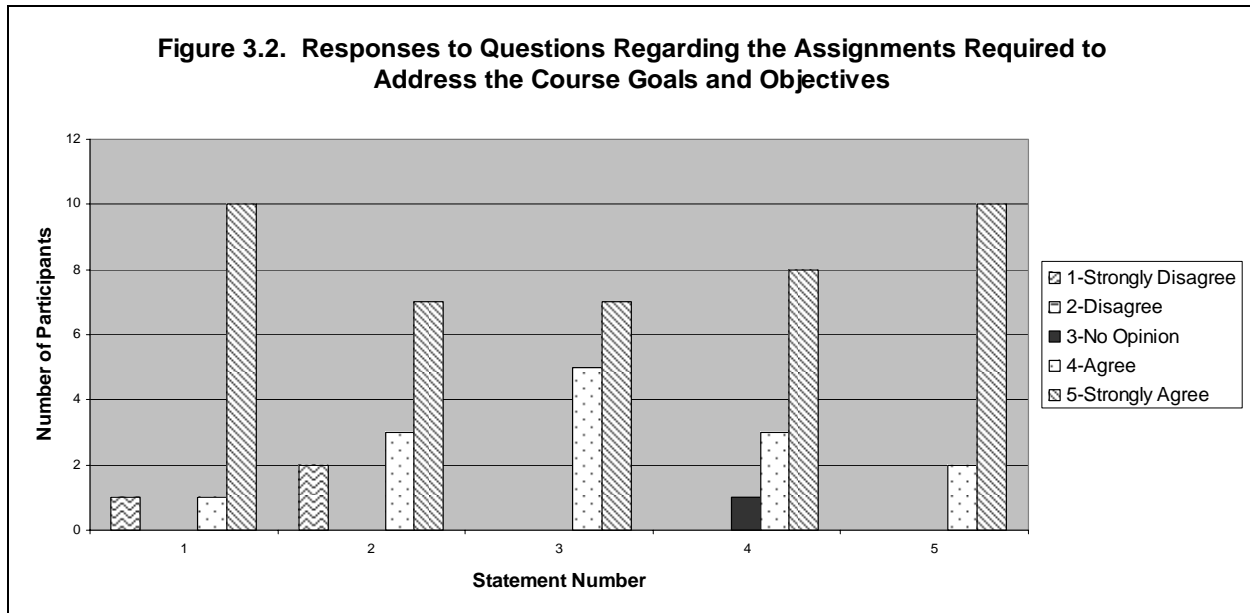


**Statements:**

- 1) *The course helped me gain a better understanding of concepts, generalizations, and theories related to island biogeography.*
- 2) *Knowledge you had concerning island ecology prior to taking this course.*
- 3) *Knowledge you had concerning island ecology following the course.*

2. **Assessment Tools:** Participants were asked to rate five statements in regard to how the goals and objectives of the course were met through readings, assignments, and quizzes. A five-point Likert scale was used where responses ranged from “1” (strongly disagree) to “5” (strongly agree). Overall the mean for each question ranged favorably from 4.08 to 4.83. On the second question (*The discussion assignments supported the accomplishment*

of course objectives.) two participants reported 1-Strongly Disagree. (Figure 3.2.) They did not feel that the online discussions accomplished the course objectives well.

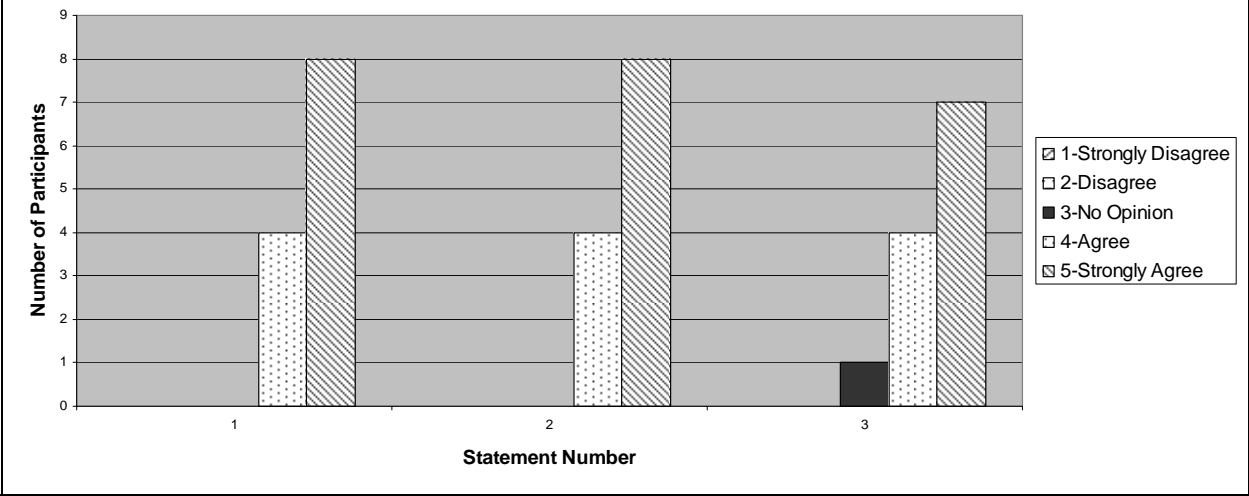


**Statements:**

- 1) *The course readings promoted the accomplishment of the course goals and objectives.*
- 2) *The discussion assignments supported the accomplishment of course objectives.*
- 3) *The quizzes supported the accomplishment of course objectives.*
- 4) *The written assignments (paper) supported the accomplishment of course objectives.*
- 5) *The assignments provided clear and adequate instructions.*

3. Breadth/Depth of Coverage: Three questions were asked in regards to the breadth or depth of course material covered in the online course. Again a five-point Likert scale was used to rate the responses ranging from “1” (strongly disagree) to “5” (strongly agree). Results indicated that 100% of the participants agreed or strongly agreed with the first two statements. (Figure 3.3.) Both the coverage and depth of the topics covered were adequate for the online course. One question (not included) was eliminated from the study because it related to guest speakers in the online course of which there were none.

**Figure 3.3. Responses to Questions Regarding the Breadth and Depth of the Topics Covered**



**Statements:**

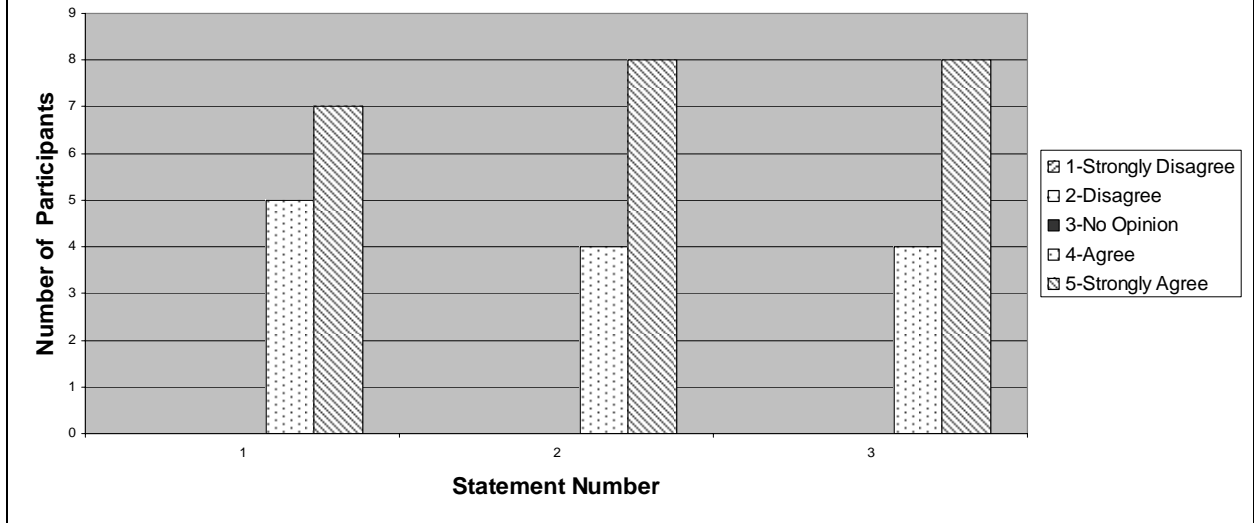
- 1) *The coverage of topics was adequate for a one-credit course.*
- 2) *The depth of the topics covered was adequate for a one-credit course.*
- 3) *The course readings expressed subject matter clearly and completely.*

4. Course Design/Organization: The evaluations indicate that this category ranks favorably on all three statements. Out of the three questions asked, all responses rated “agree” or “strongly agree.” Average responses for all three questions ranged from 4.58 to 4.75.

(Figure 3.4.)



**Figure 3.4. Responses to the Online Course Design/Organization**



Statements:

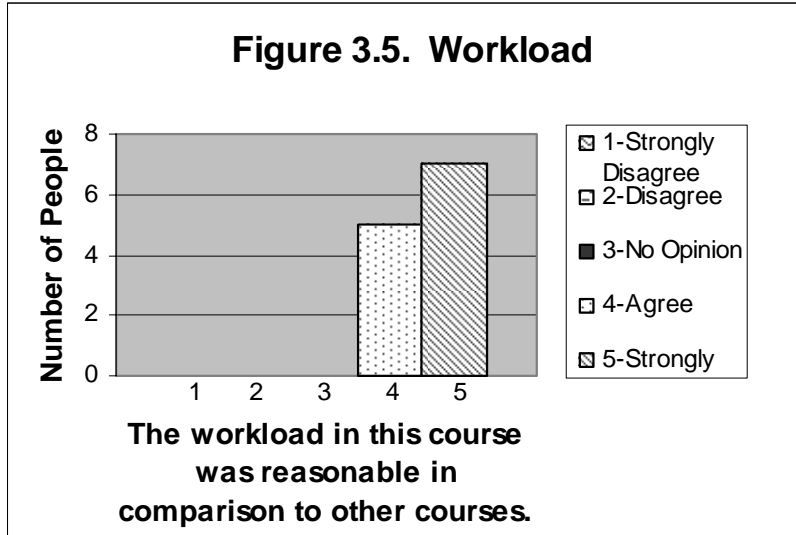
- 1) *The course design and course components were conducive to online learning.*
- 2) *The units progressed in a logical order.*
- 3) *The overall course navigation was easy to follow.*

5. Workload: One question was asked in regards to the workload required by this course.

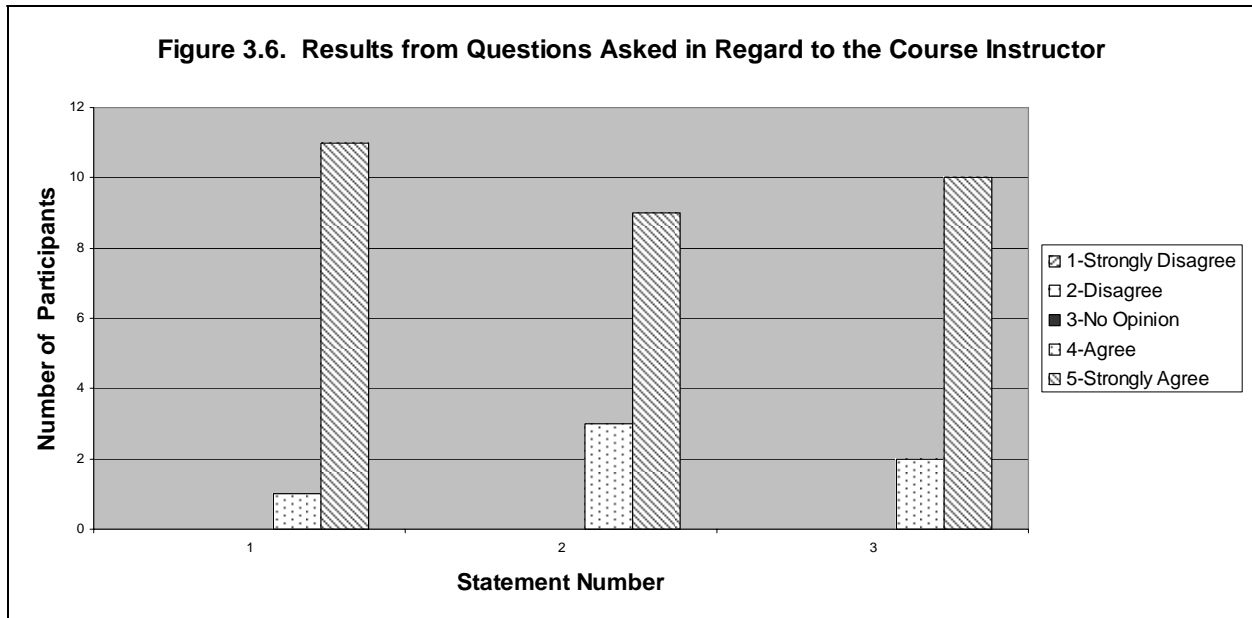
All twelve participants agreed or strongly agreed that the course load was reasonable.

(Figure 3.5.) An open-ended question asked participants to estimate how long it took them to complete the course including readings, quiz responses, and discussions.

Responses varied greatly between 6-8 hours for one participant to 35-40 hours for another participant. Evaluations revealed that for this sample of teachers it takes an average of about 20 hours to complete this course.



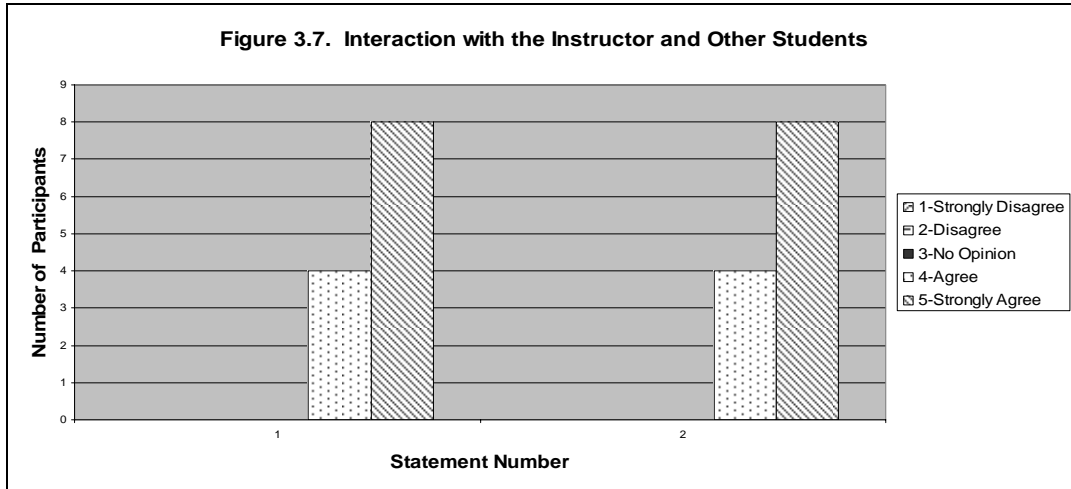
6. Instructor: Three questions were asked in regard to the instructor. On all three questions every participant agreed or strongly agreed with the statements offered. (Figure 3.6.) Responses ranged between 4.75 to 4.92.



Statements:

- 1) *The instructor(s) were readily available and returned emails, phone calls, and discussion questions within a reasonable time frame.*
- 2) *The instructor(s) involved in the course was adequate.*
- 3) *The instructor(s) showed enthusiasm for the course.*

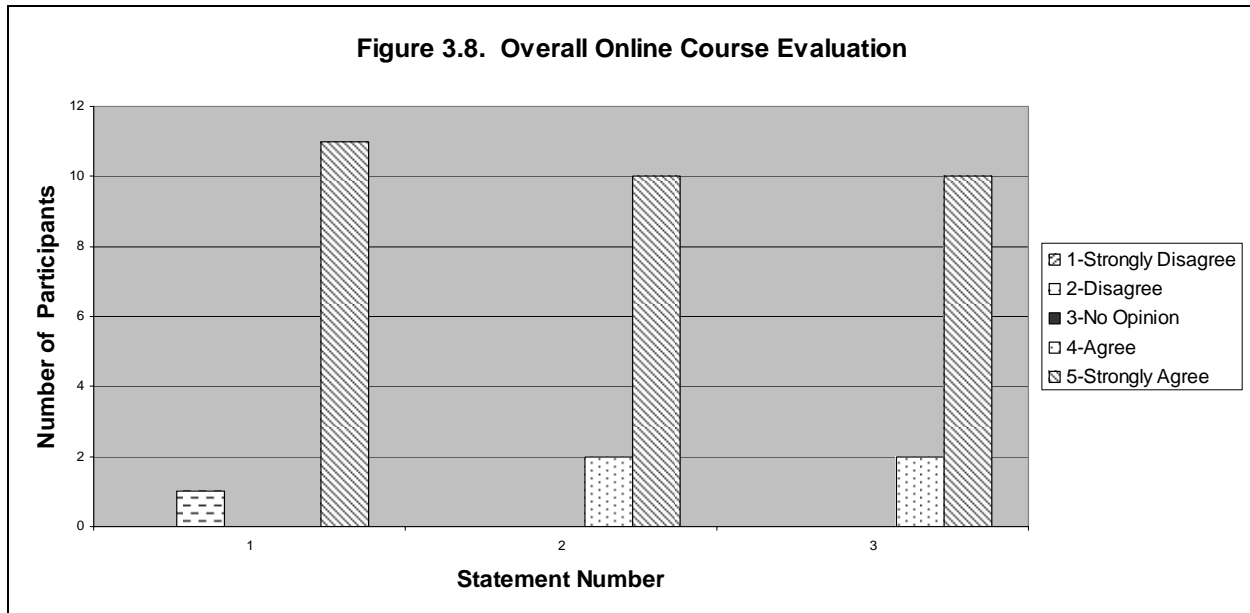
7. Interaction: Participants responded to two questions in regard to the interaction between the instructor and participants. The responses ranked favorably on both accounts with everyone answering either “agree” or “strongly agree.” (Figure 3.7)



Statements:

- 1) *There was reasonable interaction between the instructor(s) and class participants.*
- 2) *There was reasonable interaction between the class participants.*

8. Online Component/Value of Online Courses: Participants were asked to respond to three statements in regard to the value of this online course. One person marked “disagree” with statement number 1 while the rest of the participants indicated that they strongly agreed. On all three accounts, participants again rated the statements overall favorably. (Figure 3.8)



Statements:

- 1) *I found this online course valuable relative to content covered.*
- 2) *I would recommend this course to others.*
- 3) *I would participate in another online course as a result of this experience.*

9. Registration Information: Two open-ended questions were asked at the end of the evaluation to gather information on the registration process for this course. When asked, “*What were barriers to your registration process through Credit Outreach?*” only one person made a comment, “System lost my password.” This was the only student who indicated any barrier. Participants were asked to respond to another question, “*Can you please identify 3 or more items you feel would have been beneficial to know prior to signing up for an internet class?*”

The responses revealed some good suggestions and favorable comments that are useful to the future of the course. Below are a few responses to this question:

- *Time requirement-schedule of when discussions will be done and assignments.*
- *I really enjoyed it and didn't have any concerns.*
- *Maybe an estimate of time commitment.*
- *Who do I contact if I have problems (with computer problems)?*
- *Can I get information by mail?*

- *Do these credits transfer to other UW Systems?*
- *Is it ok to work ahead?*
- *What happens if assignment is late?*
- *It was communicated very clearly from the start.*

Additional information was gained through four open-ended questions asked at the end of the evaluation regarding the online course. Teachers commented on what they liked best about the course. One teacher stated, “Dr. Phillips did a wonderful job facilitating the class. I enjoyed the discussions she provoked with the required discussion assignments. She was always very positive and I felt I had much more contact with her than with professors I’ve had in face-to-face lectures.” Another student stated, “It was good preparation for the travel study. Also, it was convenient and allowed for working ahead.” When asked what they liked least about the online experience, many of the comments were in regards to technical difficulties. They wrote, “A few frustrating things with the computer.” and “Technological glitches.” One person indicated that s/he missed the personal contact of face-to-face courses. Another participant wrote, “I felt some of the chosen readings assumed a biology/evolution background.” Participants were asked to offer suggestions for improvement of the course. Not all the teachers had a suggestion but one commented “Perhaps have every discussion assignment and quiz due Saturday and begin the next unit on Sunday instead of varying due dates from Friday or Sunday, etc...” Another person commented, “Make discussions more interesting and challenging...High school science teachers know much of the material.” One person indicated the value of this course, “The website connections through the online Puerto Rico course gave me a whirlwind of ideas that I can modify for each grade level that I teach.”

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**Orientation Evaluation Results:**

An evaluation for the orientation was given to all the participants. (Appendix N) Nine evaluations were received. Participants were asked to rank different components of the orientation using a five-point Likert scale where “5” indicates “bueno” (good) and “1” as “malo” (bad). There were two open-ended questions at the end for suggestions and additional comments.

There were nine components of the orientation that participants were asked to rate. All but two components received a rate of 4.0 or above. The two areas that were below 4.0 were: “Allowing time to become acquainted with some of the other participants” and “offering cultural awareness information for interacting with other Puerto Rican teachers.” These areas both received an average rating of 3.6 out of 5.0. (Table 10)

Table 10. Results of the Evaluation from the Orientation. (n=9)

Question	Mean Score
Providing additional background information concerning Puerto Rico that complements the online course.	4.7
Preparing you for the travel program in Puerto Rico.	4.8
Providing information about safety and health precautions in Puerto Rico.	4.6
Offering basic information on Spanish.	4.1
Allowing time to become acquainted with some of the other participants.	3.6
Providing information and resources useful for your classroom.	4.5
Offering cultural awareness information for interacting with other Puerto Rican teachers.	3.6
The instructors helped foster an atmosphere of mutual respect.	5.0
The time allowed for the meeting was adequate.	4.7

Participants were asked to offer suggestions for future orientation meetings. Five of the respondents indicated that they would like more time to get to know the other participants. One participant suggested, “More information on cultural traditions would have been nice. It’s challenging to find resources, especially pictures on Puerto Rico.”

Several favorable comments were offered in the evaluation.

- *I've been very impressed with this program so far – the info has been great, everything is well organized and every possible question or topic about the trip has been covered. Thank you for all of your hard work.*
- *I found the orientation well worth the time and travel. I could really see and feel the excitement among the leaders and the group. I also feel that I have a good idea of what to pack and how to pack. Thank You!!*
- *I feel very secure about the program and preparations made.*

Of the nine received evaluations, the overall orientation meeting received 4.7 out of 5.0. Several comments made were helpful for future planning of orientation meetings.

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### **Results of the Travel Course Evaluations:**

During the travel component of the course, plans were implemented and data were collected through written evaluations given to the participants; observations were taken by the researcher; and a verbal evaluation was video recorded on the last day of the course. There were 23 participants (teachers and leaders from Wisconsin and Puerto Rico) who offered feedback and insight on the program. The travel course was divided in four components, based on the location in Puerto Rico: El Yunque-Caribbean National Forest, Vieques Island, Mata de Platano, and Hacienda Verde.

1. El Yunque-Caribbean National Forest (CNF): Directly after a two-day workshop at the CNF all participants (23) including leaders and the teachers from Wisconsin and Puerto Rico completed a written evaluation. (Appendix O) Sixteen questions were asked using a five-point Likert scale where responses ranged from “5” being “bueno” (good) to “1” being “malo” (bad). Participants favorably rated the overall workshop at 4.9 out of 5.0. There were seven professional scientists from the CNF who gave a lecture to the

participants. When asked to rate the knowledge of the speakers overall, participants reported a 5.0 out of 5.0. (Table 11.1)

Table 11.1. Results from the evaluation on El Yunque – The Caribbean National Forest (n=23)

Statement	Mean
The information provided about El Yunque.	4.96
The knowledge of speakers overall.	5.00
Jafet Vélez on the Puerto Rican parrot project.	5.00
Blanca Ruiz on the introduction to tropical forest and the trunk.	4.10
Edwin Velazquez leading the hike to La Mina Falls.	4.29
Dr. Deborah J. Lodge on discovering the marvels of microorganisms in nutrient cycling.	4.86
Dr. Joseph M. Wunderle, Jr. on the day and night lifestyles of some El Yunque creatures.	4.81
Victor Cuevas on the forest awakens session.	4.73
Dr. Jeff Walker on human footprints from Taino to present.	3.34
The time allowed for each session and speaker.	4.00
The instructors helped foster an atmosphere of mutual respect.	5.00
The activities offered to involve participants at El Yunque.	4.83
Providing information that will be useful to my classroom.	4.64
The meals available during the three day session.	4.39
The accommodations at La Familia Hotel.	4.30
Overall, what grade (A-F) would you give the workshop at El Yunque?	A=4.90

Two open-ended questions allowed written responses, suggestions, and comments. Many favorable responses were reported including:

- *That was a great experience!*
- *I have learned a tremendous amount of material in only on day and a half! It was enjoyable!*
- *I thank God each day that I'm here. This is a trip/experience of a lifetime. Thank you!*

Some suggestions that were offered included:

- *Have more time to be on our own, to sit, reflect, and journal (or explore).*
- *Prepare people more on what to bring each day.*
- *Visit the elf forest next time.*

2. Vieques Island: Directly after a three-night visit to Vieques, 22 of the 23 participants completed a written evaluation. (Appendix P) Fourteen questions were asked using a five-point Likert scale where responses ranged from “5” being “bueno” (good) to “1” being “malo” (bad). Participants favorably rated the overall workshop at 4.9 out of 5.0.



Each of the fourteen questions showed an average rate of 4.3 or above. (Table 11.2) Two open-ended questions allowed written responses, suggestions, and comments. One question asked participants to rate the BioBay tour. This tour exposed participants to Mosquito Bay, a bioluminescent bay. Teachers learned about bioluminescent organisms in the sea through a hands-on tour of the bay at night. This tour received an overall rating of 4.9. There were ten favorably written comments about this event. One teacher stated that this was “an event that I will keep in my heart and enrich my soul with.” There was a suggestion by one participant. “I would have liked more scientific information.”

Table 11.2. Results from the evaluation at Vieques (n=22)

Statement	Mean
The information provided about Vieques.	4.32
The BioBay Tour.	4.90
Participating in turtle research with Julian Garcia Martinez.	4.52
The excursion snorkeling (if applicable).	4.71
The tour of the US Fish and Wildlife Service Refuge with Gisella Burgos.	4.43
The activities offer to involve participants in Vieques.	4.43
Providing information that will be useful to my classroom.	4.81
The knowledge of the speakers.	4.86
The time allowed for each session and speaker.	4.57
The delivery of each session was clear and understandable.	4.68
The instructors helped foster an atmosphere of mutual respect.	5.00
The meals available during the four day session.	4.57
The accommodations at Tradewinds Hotel.	4.90
Overall, what grade (A-F) would you give the workshops in Vieques?	A=4.94

The teachers participated in a snorkeling excursion. They were asked to rate this activity.

Overall, a rating of 4.7 was given. Several comments were made that they would have liked more background information on the reefs and what they were seeing in the water.

One of the open-ended questions at the end of the evaluation asked participants what improvements they would suggest for future programs in Vieques. Responses offered useful information for future planning.

- *Post a central clipboard for reference for all. Post regular updates on times and circumstances...a message board for people to coordinate or offer dinner plans and activities.*

- *A little more time for journaling.*
- *Take advantage of teachable moments.*

The evaluation contained an area to allow participants to share additional comments. One teacher expressed their interest in bringing information learned back to the classroom.

“BioBay was the highlight. I hope I can bring this back as a ‘wetlands’ study along with other mangrove information.”

3. Mata de Platano-Karst Region near Arecibo: Directly following a two-night visit to Mata de Platano and the area around Arecibo, 21 of the 23 participants completed a written evaluation. (Appendix Q) Twelve questions were asked using a five-point Likert scale where responses ranged from “5” being “bueno” (good) to “1” being “malo” (bad). Participants favorably rated the overall workshop at 4.8 out of 5.0. Two open-ended questions allowed written responses, suggestions, and comments. One question regarding the Arecibo Observatory tour received a considerably lower rating (3.3) than the other questions. (Table 11.3) Comments offered an explanation for the lower score. One teacher said, “A guided tour would have been nice.” Another stated, “Cool to see, poor interpretive portion.”

Table 11.3. Results from the evaluation on Mata de Platano (n=21)

Statement	Mean
The information provided about the area around Mata de Platano.	4.63
The bats and boas excursion with Armando Rodriguez-Duran.	4.90
Information provided by Abel Vale about karst topography.	4.85
The tour at the Arecibo Observatory.	3.29
The tour of the Camuy Caves.	4.43
The activities offered to involve participants at Mata de Platano.	4.76
Providing information that will be useful to my classroom.	4.63
The time allowed for each session and speaker.	4.71
The delivery of each session was clear and understandable.	4.90
The instructors helped foster an atmosphere of mutual respect.	5.00
The meals available during the three day session.	4.67
The accommodations at Mata de Platano. (n=15) *	4.37
Overall, what grade (A-F) would you give the workshops at Mata de Platano?	A=4.76

\*Not everyone stayed at Mata de Platano, therefore the number of people who answered this question on the evaluation was 15.

The bats and boas excursion with Armando Rodriguez-Duran received a very high rating of 4.9. The participants netted bats with mist nets at Mata de Platano. Not only did this activity receive high ratings, it also received ten favorable comments from teachers. One teacher said, “This experience was definitely one of the major highlights of the program.” Another participant said, “Very cool and interesting!” Teachers were asked to comment on their overall experience at Mata de Platano and the Arecibo area. Three comments were made that suggested offering more activities useful to the classroom. One teacher suggested to “drop the radio telescope (tour) unless a scientist leads the group behind the scenes.” Overall participants seemed satisfied with the program. One participant commented, “Being able to hold the bats and actually observe their adaptations/variability was incredible.” One teacher said, “Everything was excellent! I am very lucky to be a part of this wonderful group of people & leaders.”

4. Hacienda Verde: Directly following a five-night stay at Hacienda Verde in Utuado, 22 of the 23 participants completed a written evaluation. (Appendix R) Nineteen questions were asked using a five-point Likert scale where responses ranged from “5” being “bueno” (good) to “1” being “malo” (bad). Participants favorably rated the overall workshop at 4.5 out of 5.0. (Table 11.4) Two open-ended questions allowed written responses, suggestions, and comments. Participants responded favorably with activities that offered hands-on experience.

One day was devoted to watershed management activities. In the morning two speakers, one from the United States Geological Society (USGS) and one from the Natural Resource Conservation Service (NRCS), gave a lecture on water use and watershed

protection in Puerto Rico. Participants rated the speakers 4.1 out of 5.0. Although this was a good rating, it was lower than speakers in other parts of the exchange. Seven of the participants offered comments stating that they were a bit too technical. One teacher wrote, “One speaker was good, the second speaker (USGS) gave too much information that was hard to take in.”

Table 11.4. Results from the evaluation on Hacienda Verde (n=22)

Statement	Mean
The information provided about Hacienda Verde.	4.68
The speakers during the watershed management day (Friday).	4.10
The activities during the watershed management day (Friday).	4.57
Miguel Rico during the sustainable agriculture day (Saturday).	4.40
The service learning project of planting a butterfly garden.	4.90
The morning spent in Utuado (Sunday). Note: The scheduled changed to visit Ponce instead of Utuado. Participants answered based on Ponce verses Utuado.	4.35
The indigenous museum and park.	4.63
The speaker during the tropical forest day (Monday).	4.38
The visit to Rio Abajo (Monday).	4.95
The activities offered during the day of the Puerto Rico Party.	4.94
The activities offered to involve participants throughout the week at Hacienda Verde.	4.67
The band that played for the Puerto Rican Party (Tuesday).	5.00
Providing information that will be useful to my classroom.	4.86
The overall knowledge of the speakers.	4.77
The time allowed for each session and speaker.	4.73
The delivery of each session was clear and understandable.	4.63
The instructors helped foster an atmosphere of mutual respect.	4.95
The meals available during the six day session.	4.05
The accommodations at Hacienda Verde.	4.00
Overall, what grade (A-F) would you give the workshop at Hacienda Verde?	A=4.47

When asked to rate the activities offered during the watershed management day, the teachers responded very favorably by saying, “Do the stream hike again!” Another teacher wrote, “A good idea that I can use in the classroom.”

The service-learning activity done at Hacienda Verde seemed to be valuable to the participants. The activity was rated 4.9 among the participants. Native species of plants were planted to increase wildlife diversity. One participant said, “Important component!”

On the last day at Hacienda Verde, participants visited the Puerto Rican Parrot Aviary at Rio Abajo. This activity seemed to be really important to participants. The event received a 4.95 out of 5.0 rating. There were ten very positive comments following the event. One of the participants said, “Ricardo was outstanding-so was the facility.” Another wrote, “What an honor! I give it a 10 plus!”

The five days at Hacienda Verde was meant to help teachers share more about their classroom curriculum while broadening their understanding of Puerto Rico’s natural resource management and cultural heritage. Several helpful suggestions were offered to improve future programming.

- *Focus learning on a topic or goal for the week... We never had time to focus on anything long enough to think about how to use it in the classroom.*
- *I liked the build-up of knowledge from the speakers. I would have liked more ideas on how to utilize it in my class.*
- *...outside activities in the morning when it is not rainy or as hot and we are not as tired.*
- *Arrange that the participants are scheduled for jobs like kitchen prep/bedroom clean/bathroom cleaning, etc. So we all help keep Miguel’s place lovely.*

There were also comments offered in the written evaluation that expressed people’s feelings concerning the program.

- *It was a lovely, informative learning experience of a lifetime for me, thank you.*
  - *This has been a life-time experience for me, one that I will never forget. I can’t tell you how much I appreciated this trip! Thank you for all of the effort, planning, sweat, and tears that went into this class.*
  - *I truly appreciated all you’ve done to arrange all the first-hand experiences. This entire program has been a life-changing experience.*
-

### **Participants' Assessments:**

Wisconsin participants were given a post-trip assessment (Appendix S) to be used as a comparison to the pre-trip assessment. Although there were some of the same questions asked, each assessment was different. For instance, the pre-trip assessment asked for more demographic information on the teachers. The post-test asked questions relevant to their experience participating in the Puerto Rico program. To help determine what value this course provided for the eleven participating Wisconsin teachers, data were compiled and categorized as the following:

- a) Knowledge
- b) Attitude
- c) General Program
- d) Continued Communication
- e) Comments and Suggestions

Knowledge questions were asked to determine how much the participants felt they learned.

Attitude questions were asked before and after the program to determine if there was a change in attitude towards environmental education and international education. Some general questions concerning the program were asked to rate the course and determine if participants gained skills during the workshops. There were a few questions that were asked to determine if participants from Wisconsin have continued to communicate with counterparts in Puerto Rico. Finally the last section will be to share some of the comments and suggestions participants shared. Data were collected throughout the program using various data collection methodologies. (Figure 2)

#### *a) Knowledge Questions*

The post-trip assessment asked four knowledge questions to determine if they felt they had learned new information during the course. A five-point Likert scale was used for participants to rate statements in regard to knowledge gained where “1” indicated no prior knowledge on the subject and “5” indicated that they had a lot of knowledge regarding the subject. The results in

Table 12 showed that overall participants felt they gained new knowledge because of this course. Some people had prior experience and knowledge in island ecosystems. The knowledge gained was not as great compared to issues related specifically on Puerto Rico. Participants gained the most knowledge in the history of Puerto Rico and the environmental issues in Puerto Rico. One teacher either forgot or decided not to indicate his/her knowledge about island ecology after participating in the program.

Table 12. The degree to which participants felt they had gained knowledge concerning the following statements. (n=11)

Before Participating in the Program						After Participating in the Program				
Statement: How much did you know about...	1-None	2-Not Much	3-No Opinion	4-Some	5-A lot	1-None	2-Not Much	3-No Opinion	4-Some	5-A lot
Island ecology	2	6	1	1	1				1	9
The history of Puerto Rico	8	3							8	3
Environmental issues in Puerto Rico	7	4							4	7
Puerto Rican culture	5	5		1					7	4

*b) Attitude Questions*

There were five statements regarding environmental education and five statements regarding international education that the teachers were asked to rate both before the program in Puerto Rico and then again six months after returning home. The rating was asked using a five-point Likert scale where “1” indicated “strongly agree” and “5” indicated “strongly disagree.” The purpose was to measure the participants’ attitude towards environmental education and international education both before the program and following the program in Puerto Rico. The overall results are displayed in Figure 4 and Figure 5. Most of the participants came to the

program with a strong belief that environmental education and international education were important.

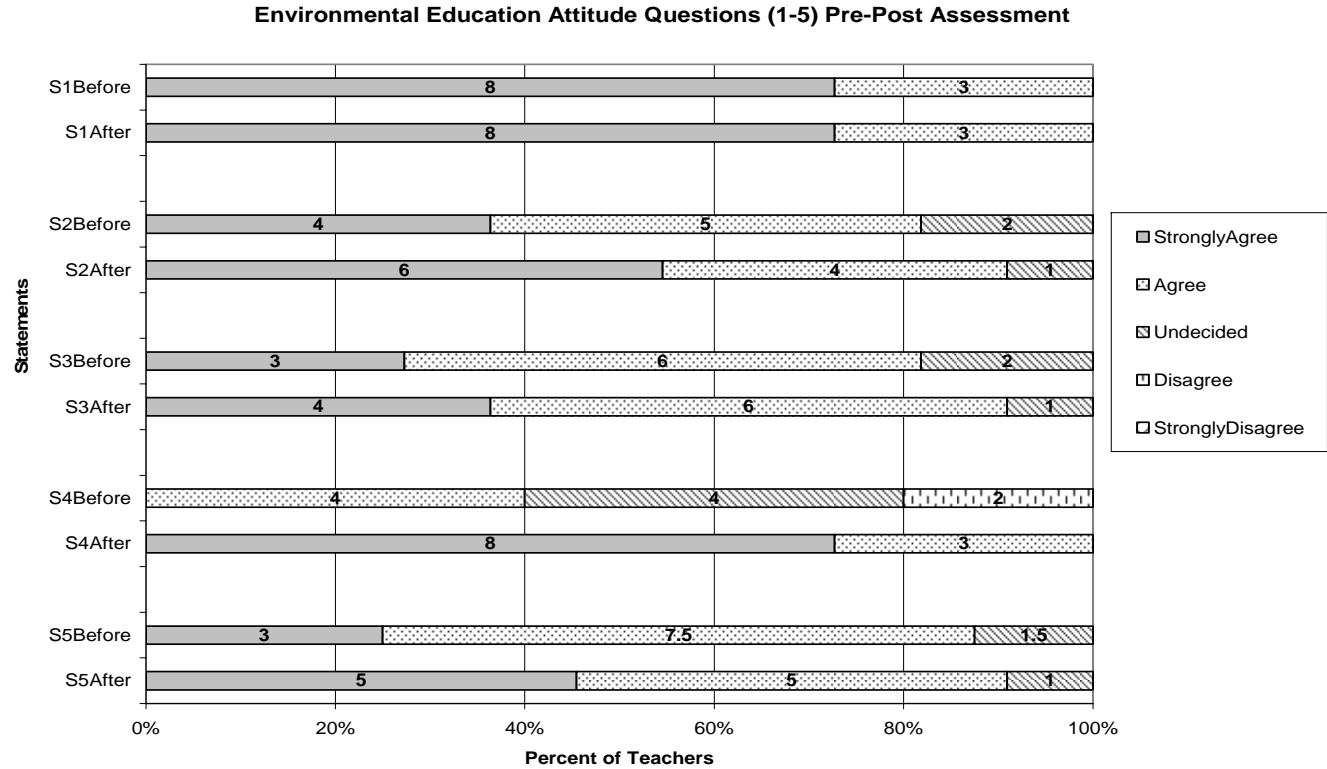
*Attitudes towards environmental education:* The five statements on environmental education were asked both before and after the program. Everyone agreed or strongly agreed with the first statement. “Environmental education was important.” There was a more dramatic shift in attitudes in regards to their feelings if they are effective educators teaching students the skills needed to resolve environmental issues. Before the course there were two who disagreed, four who were undecided, four who agreed, and one who chose not to answer. Following the course, all eleven participants agreed or strongly agreed that they are effective at teaching their students the skills needed to resolve environmental issues. (Figure 4.)

*Attitudes towards international education:* The five statements on international education were asked both before and after the course. Before the course, there were nine accounts where participants disagreed or strongly disagreed with the statements asked. Following the course, there was only one person who indicated they disagreed with one of the statements. (Figure 5.)

Overall data reveal that participants tend to have a more favorable attitude towards environmental education and international education following their participation in this course than they did prior to their involvement.



Figure 4. Attitudes related to **environmental education** before and after the program. (n=11)



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**Statements:** Below are the statements participants were asked to rate.

Statement 1: Relative to other subjects I teach, environmental education is important.

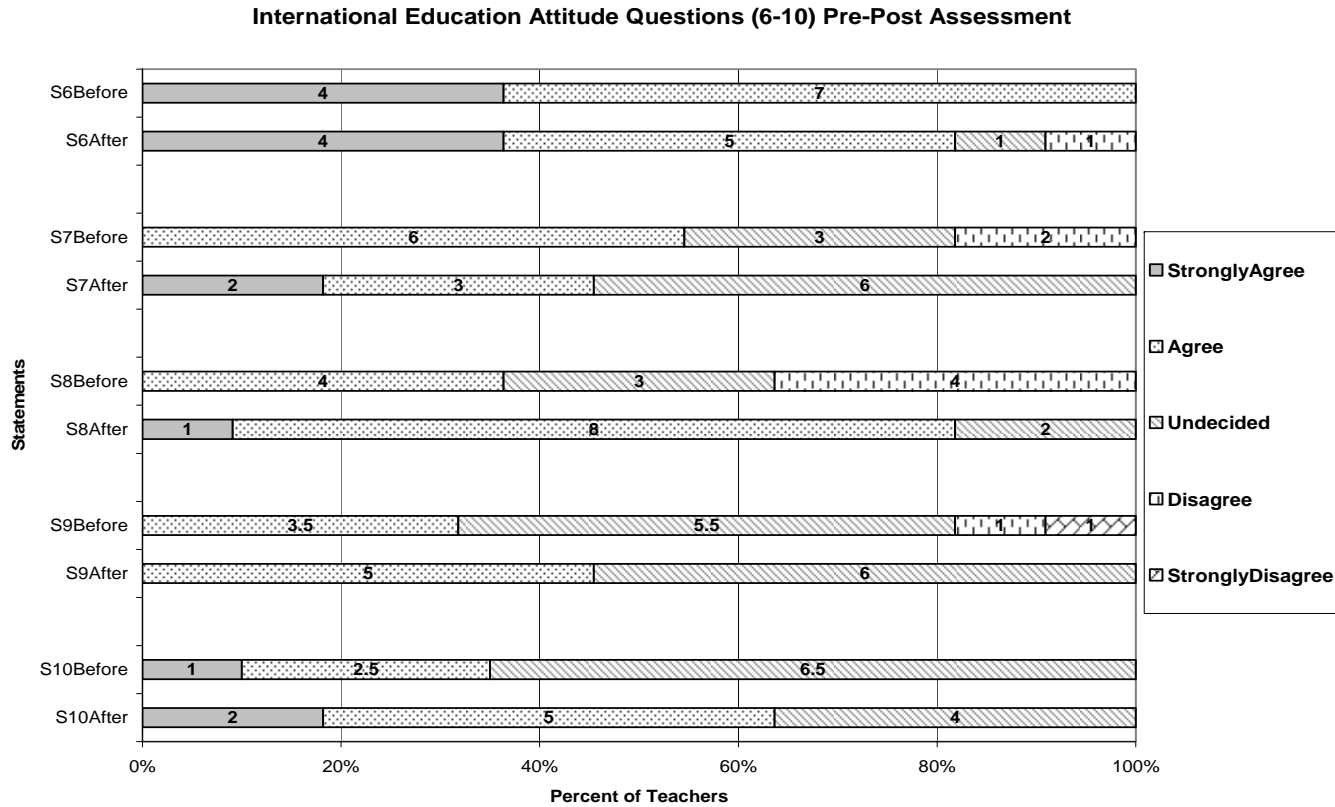
Statement 2: I believe my instruction is effective in developing environmentally literate citizens.

Statement 3: As a result of attending my classes, students are more aware of environmental concepts and issues.

Statement 4: I am effective at teaching students the skills needed to resolve environmental issues.

Statement 5: As a result of attending my classes, students are more knowledgeable of ecology.

Figure 5. Attitudes related to **international education** before and after the program. (n=11)



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**Statements:** Below are the statements participants were asked to rate.

- Statement 6: Relative to other subjects I teach, international/global education is important.
- Statement 7: I believe my instruction is effective in building students cross-cultural competency.
- Statement 8: As a result of attending my classes, students learn about other countries and cultural issues related to those countries.
- Statement 9: I am effective at teaching students the skills needed to relate to people of other cultures.
- Statement 10: I believe my instruction is effective in developing culturally sensitive citizens.

### *c) General Program Questions*

Fifteen questions were asked in regard to the program as a whole. Using a five-point Likert scale, participants were asked to respond to these questions where “1” indicated “strongly agree” and “5” indicated “strongly disagree.” Overall, participants rated all the questions very high saying they agreed or strongly agreed with the statements. (Table 13) There was one educator that consistently rated some program components lower than the rest. He/she agreed that the program helped him/her become more aware of environmental education and environmental issues in Puerto Rico, but didn’t feel that he/she gained hands-on experiences with environmental education in Puerto Rico. The same individual also did not feel that the program helped him/her integrate the information into his/her curriculum. In regards to environmental education and global education, again everyone but one person indicated that they felt the program increased their skills in EE and helped them appreciate the need for global EE. The same teacher indicated that he/she strongly disagreed with these statements. This individual felt he/she already had this understanding before the program.

All the teachers felt that the program provided them with a variety of resources useful to their classroom. In fact, on the post-assessment eight of the 11 participants indicated that they used the resources gained on a weekly basis. They also indicated that they felt safe and secure throughout the program. One teacher decided not to rate the question regarding safety and security or perhaps they simply forgot to answer it.

Two teachers disagreed with the statement that this program offered a reasonable workload for three graduate credits. One teacher felt that this was not a reasonable price for the program and

they indicated that they felt it wasn't an effective way to learn the information. Again the other teachers marked "agree" to "strongly agree" in both these cases.

In regards to the leaders on the trip, the participants rated favorably, "agree" or "strongly agree," in all cases: the leaders expressed the subject matter clearly; they were well-prepared and organized; and they helped foster mutual respect. (Table 13)

Table 13. General results regarding the program (n=11)

<b>Post-Program Assessment</b>					
<b>Statement: How would you rate the PR-WI Teacher Program meeting its objectives? Helping you...</b>	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 No Opinion</b>	<b>4 Agree</b>	<b>5 Strongly Agree</b>
Increase your awareness about environmental education in Puerto Rico.				2	9
Gaining hands-on experience with environmental education in Puerto Rico.		1		2	8
Becoming familiar with environmental issues in Puerto Rico.				1	10
Integrate information about Puerto Rico in your curriculum.	1			4	6
Form relationships and network with environmental educators and professionals in Puerto Rico.				6	5
Increase skills to teach about environmental education.	1			4	6
Appreciate the need for global environmental education.	1				10
<b>Statement: How much do you agree or disagree with the following statements regarding the program? The program...</b>					
Provided a variety of resources useful to my classroom.				2	9
Was an effective way to learn the information.		1			10
Had a reasonable workload for three graduate credits.		2		3	6
Made me feel safe and secure at all times during our travels.					10
Was reasonably priced.		1		1	9
<b>Statement: How much would you agree or disagree with the statements below concerning the leaders on this program? The leaders...</b>					
Expressed subject material clearly.				1	10
Were well prepared and organized throughout the program.				1	10
Helped foster an atmosphere of mutual respect.					11

*d) Continued Communication*

The post-trip assessment (Appendix S) included questions that helped gather information concerning participants' communication with teachers in Puerto Rico six months after the exchange in Puerto Rico. The results show that ten of the eleven Wisconsin participants had at least one contact with teachers in Puerto Rico. The majority of communication methods used was email. One teacher commented, "I felt that email was the best way to communicate and send information i.e. pictures." Two people communicated through the mail and two communicated over the phone. One teacher interacted with another teacher in Puerto Rico through video conference with their high school classes. When asked how frequently they have contact with the teachers or other people from Puerto Rico, the majority (64%) indicated 1-2 times since their return from Puerto Rico. One teacher marked both monthly and weekly. Another teacher has made communication weekly since participating in the program. (Table 14.)

Table 14. Communication with teachers and/or others from Puerto Rico since participating in the program.

<b>Communication with teacher participants in Puerto Rico</b>	<b>Frequency</b>	<b>Percent</b>
Yes	10	90.9
No	1	9.1
<b>Number of people from Puerto Rico contacted since the program</b>	<b>Frequency</b>	<b>Percent</b>
1-2	7	63.6
3-4	2	18.2
5-6	1	9.1
7-8	1	9.1
<b>Frequency in the past year</b>	<b>Frequency</b>	<b>Percent</b>
1-2 times since returning from Puerto Rico	7	63.6
Monthly	4	36.4
Weekly	1	9.1
Daily	-	-

#### *e) Overall Comments and Suggestions*

Throughout the study, comments and suggestions useful to the future development of the program was collected. This section has organized the comments and suggestions.

Participants were asked to indicate some of the strengths of the program. Below are some of these responses.

- *I think one of the things that worked out really well was the time spent building up our awareness and knowledge before we were given that hands-on experience.*
- *I think the biggest strength of the program will be in the future keeping contact with these wonderful teachers we have met here. I think the ideas we can share with each other and what they have already shared with us, is the one of the biggest strengths there.*
- *I liked the look and see approach in the beginning...it was really good that while we had the energy it was like 'go, go, go' and then we could relax and then just start absorbing all of the information that we gathered during the first week.*
- *...there were some outstanding speakers, you found some great personal resources.*

The following suggestions were collected during the program.

- *I would have liked to have seen or heard more of what they do at the elementary level as far as environmental ed.*
- *Visit a school in Puerto Rico.*
- *More research-based activities.*
- *Focus the trip more.*
- *Correlate internet course better with the trip.*
- *Give a better idea of course assignments before registration.*
- *Offer more vegetarian options.*
- *Recommend people to bring a travel pillow and a full set of sheets (not a twin).*
- *Visit other places than just the mountains.*
- *More time spent at the sea and do more wetland comparisons.*
- *Add more depth and additional service learning activities.*
- *See more petroglyphs.*
- *Consider adding a homestay component to the program.*
- *Recommend people to bring pictures of their families from home to share.*
- *Create a cleaning duties list to rotate cleaning of the bathrooms and doing dishes.*
- *Have a dry erase board available for people to write species they have seen or announcements to the group.*

There were specific suggestions to help improve the field station at Hacienda Verde.

Below are people's suggestions.

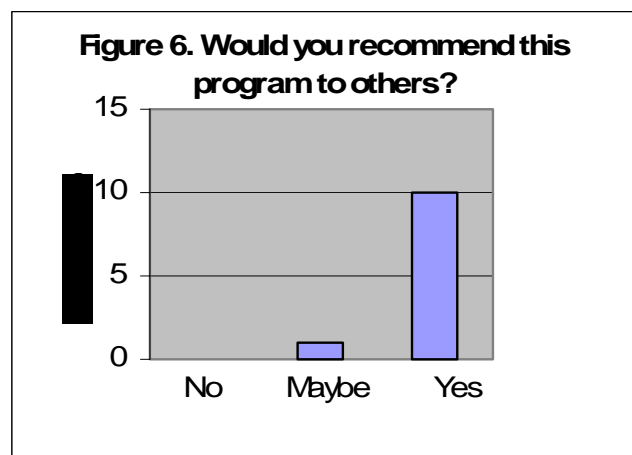
- *In the future, think about having field guides and sampling equipment at Hacienda Verde.*
- *Have teaching tubs available where you can pick a topic and you get all the information, you gather the materials and supplies and you put them in a tub.*
- *Have an inventory of all the people in the area with expertise to come and speak to the kids.*
- *A service learning component with any group would be important.*
- *Create a three-dimensional model of the area in and around Hacienda Verde.*
- *Get a rain gauge.*
- *Have a little gift shop for visitors to buy water bottles, t-shirts, and other things to help them remember Hacienda Verde.*

Some overall positive comments collected throughout the program are listed below.

- *It was awesome. It was really awesome. I can't think of a week that goes by that something doesn't come up about that trip.*
- *The program was well put together. I felt comfortable with the environment.*
- *Wonderful program even for non-science teachers.*
- *I'm not sure how our \$1,700 paid for all the things that we've experienced.*
- *I have traveled before but this is by far the best place I have been because we feel more a part.*

#### *Future Programs:*

Participants were asked if they would recommend this program to others. Ten of the eleven said they definitely would. (Figure 6.) Seven of the participants would be interested in future programs in China and eight would be interested in future programs in Africa.





## **Participant Profiles**

Each participant was analyzed independently. Profiles (Appendix T) were created on each participant to determine the extent that this program affected them personally and professionally and how the program affected their curriculum. Fictitious names are used in the profiles to protect subjects' identity. Profiles contain specific information on participants that were gathered using various data collection methods and were analyzed to determine if the program had an affect on the participants personally, professionally, and/or if it has an affect on their curriculum. The compiled trends and generalizations are listed below followed by summaries of each participant's profile.

### **TRENDS AND GENERALIZATIONS:**

The profiles created a way to analyze each participant individually in order to determine how this travel program affects participants from Wisconsin. Data were compiled and analyzed for common features and trends to make generalizations about the program. Eight generalizations were made from the profile data. Below are some of the apparent trends compiled from the profiles.

*The involvement of the teachers from Puerto Rico was important and friendships were built. (11)*

The data reveal that every participating teacher from Wisconsin benefited from the presence of the teachers from Puerto Rico. On several occasions participants indicated that the bonds they developed were very strong and meaningful. Some of the teachers commented on several occasions of the importance of having the teachers from Puerto Rico involved in the program.

*This program reignited participants' passion and motivation for teaching. (8)*

Eight participants indicated that this program help them reignite their passion for teaching. Data showed that they were more motivated and enthusiastic to return to the classroom and share their newly acquired knowledge and resources.

*Being able to afford the course was the number one obstacle participants needed to overcome in order to participate in this program. (8)*

Although there are several barriers people need to overcome to embark in travel overseas, eight participants indicated that financial reasons were on of the top issues they needed to overcome in order to participate in this program.

*More international education was being taught after this program. (5)*

Five participants' revealed that they have integrated more international education in their classroom as a result of participating in this program. They have gained a broader and more global perspective on the environment that they are using to enhance their curriculum.

*Participants have more confidence in their teaching. (5)*

Five participants indicated that they have more confidence in their teaching because of their participation in this program. They feel comfortable sharing their newly acquired knowledge with students and other staff members.

*Unexpected opportunities were created as a result of their participation. (4)*

The data showed that there were four participants who had outcomes from participating in this program that they had not anticipated. Two of these participants were able to build an unexpected connection to their minority students. The language teacher found science to be a great way to relate to her students and gain their interest. The other teacher built new connections to other staff members at her school.

*This program brought them some prestige at school. (4)*

Four participants gained more recognition amongst their staff at school because of this program. One of the participants was given the opportunity to share this experience to the whole school where over 800 people were invited.

*This was a life-changing experience. (2)*

Two people indicated that this was a life-changing experience for them. It had a long term impact that helped them personally and professionally.

*Minimal impact (2)*

It seemed that there were two people who were less affected by this program. They have a commonality amongst them. Both have traveled extensively throughout the world and are very confident in their knowledge about the environment and understanding of the world.

## SUMMARIES OF PARTICIPANT PROFILES:

### *Subject 1: Molly*

Molly is a 29 year old, Spanish high school and middle school teacher with six years of teaching experience. She has her Master's in education with an emphasis on professional development. She has had four experiences overseas including a college semester in Mexico. She says that her experiences abroad greatly influence her curriculum.

Prior to participating in this program, Molly infused education about the environment in her curriculum about once a year. She has not received any training in environmental education prior to this program. Her motivation for joining this program was to “travel, to learn about a different culture, to meet people, to have another cultural and language reference in the curriculum.” She felt that the biggest barrier she had to overcome before participating in this program was not having a science background.

*Personal Effect:* At times throughout the program Molly seemed a bit reluctant or nervous towards some activities but after doing them she would appear proud or empowered for engaging with the group. Her comments were often optimistic and positive.

*“Up until this trip I really didn't know what I was missing until now concerning nature. There are so many things to enjoy, to relax and appreciate, and to be amazed by.”*

*“Wonderful people, forever friendships.”*

During a one-on-one interview with Molly, she indicated how this program personally affected her. When asked if her expectations were met, she replied:

*“Definitely, personally I’d say that I think that the trip changed my life just because traveling abroad I think changes a person’s life, so, the only country I had been to was Mexico and so going to Puerto Rico was awesome, too. I can compare both cultures and it’s bettering my Spanish.”*

*Professional Effect:* Data indicated on numerous occasions that this program had an effect on her professionally. Data revealed she was making connections between environmental education and foreign languages. Her enthusiasm for teaching shows in her comments. Below are a few selected quotes in regard to how she was affected professionally.

*“You know, because lot of students can relate to the nature and then you can leave the Spanish in there, and grabbing their interest. A second, if they’re interested in Spanish, they’re interested in science and pull that together.”*

*“It’s good to integrate the subjects I think. And, I even have talked of correlating with a sixth grade teacher who talks about the rainforest, who teaches a lesson on the rainforest.”*

*Effect on Curriculum:* Through this program Molly has enhanced her curriculum with more science concepts. She has added Puerto Rican culture to her curriculum as another reference to Latin America.

*“Even using the DVD to explain the trip is a great seed to plant in my students to travel, to learn the language, the culture, and to show that learning a foreign language can be expanded into any academic area—in this case – Science! I’m excited to dabble in this and to reach students’ interest levels in another way.”*

Following the program, Molly and a teacher in Puerto Rico participated in a video conference arranged between UW-SP and InterAmerican University-Puerto Rico: Bayamon Campus. A Spanish III/IV class participated from Rosholt High School in Wisconsin with a high school class at Superior Alfonso Casta Martínez in Maunabo, Puerto Rico. There were about 50 students participating. Some quotes from the event are the following:

Molly: *“It was great meeting and seeing everyone! My students loved the experience and would love to do it again!”*

Counterpart teacher in Puerto Rico: *“My students, the school principal, the teacher, and me are so happy and excited of what we did that we came back to Maunabo talking about*

*the experience all time in the van during the trip. The students want to do it again and they have some ideas."*

Student in Wisconsin: *"I thought it was really cool that we'd have an opportunity to speak with people who speak Spanish."*

There is one quote from Molly that culminates her experience with this program, "Fantastic! It changed my life personally and professionally!"

### ***Subject 2: Linda***

Linda has 20 years teaching experience with a Master's degree in environmental education. She teaches kindergarten. She says her nine experiences overseas have had some influence on her curriculum. She comes to this program as a leader with an extensive amount of experience in environmental education.

*Personal Effect:* Linda truly benefited from the program personally. Her journal writings often shared her enjoyment of the program. The personal effect on her is demonstrated in the data collected.

*"What started out as a questionable, apprehensive endeavor has ended in very moving, enriching, and phenomenal experiences and friendships."*

*"All I know right now is I will be eternally grateful for these last 2 weeks... it will enrich my life and my perspective."*

*"More fulfilling than any other trip I've ever had."*

*Professional Effect:* Data collected revealed that Linda was affected by this program professionally. She broadened her perspective on the world.

*"Personally, and educationally, I see things more globally."*

*Effect on Curriculum:* Linda's journal was designed around a unit she is doing with her students on the five senses. Each day she recorded something for each sense whether is

was from sight, touch, taste, sound, or smell. Throughout the program, particularly when she was in Puerto Rico, she often made connections between the information gained and the curriculum she teaches. She writes, “I’m anxious to bring these qualities to my classroom.” In the unit she wrote for her class, she helped her students explore the environment and learn about Puerto Rico using their five senses. The lessons were well written and innovative. She plans to implement them in her class in the spring semester.

***Subject 3: Kate***

Kate is a high school biology teacher with 7 years of experience and a Master’s degree. She has been overseas on nine different occasions which has amounted to between one and two years abroad. Most of these experiences have been in Latin American countries. She feels that each trip reinforces her prior knowledge and builds on past experiences. She wants to incorporate personal experiences as much as possible into her curriculum. In addition to her experiences in Latin America, Kate has a strong background in environmental education.

Through this program Kate expected to increase her knowledge about tropical ecosystems, improve her Spanish, and learn about Puerto Rican culture. When asked if these expectations were met, she had mixed opinions. She felt that she learned more about Puerto Rican culture because of the involvement of the teachers from Puerto Rico. When asked how much Puerto Rican culture she knew before and after the program, she marked four out of five on a Likert scale for before and then five of five for after showing some increased knowledge but not by much. She felt she didn’t gain more knowledge about the environment because of her previous experiences in Peru, Costa Rica, and

Brazil. But she does feel that her Spanish has improved because of her involvement in this program.

*Personal Effect:* Kate comes to the program with a lot of experience in environmental education and international experience. She simply states, “I don’t think it has a real big impact on me personally. I mean, I have so much experience already with travel.” But some of the data showed a slight positive effect. During the program the researcher had a conversation with Kate about cross-cultural competency. When this was explained to her, she replied by saying that she felt there had been an increase in her.

*Professional Effect:* The data didn’t show a large effect on her professionally, but she does indicate that it helped her develop new ideas for her advanced biology labs. She has also changed how she analyzed how her students learn. In her journal she recorded a lot of comparisons between the United States and Puerto Rico and between other parts of Latin American in comparison to Puerto Rico.

*Effect on Curriculum:* She already incorporates her experiences into the curriculum and this just added another piece. The lesson she created on dinoflagellates was new for her. She implemented it in her classroom and has already made improvements for doing it again next year.

Overall, Kate didn’t appear to be drastically affected by this program but it allowed her to bring another experience abroad into the classroom.



***Subject 4: Lisa***

Lisa is a fifth grade teacher with twelve years experience and a Master's degree in environmental education. She has had one experience overseas that lasted less than a month. It was apparent from her letters of recommendation to the program and her essay in the application that Lisa is a leader in her school community and very dedicated to her work.

*Personal Effect:* In Lisa's first journal entry she expresses her anxiety towards the program. She expressed concerns about leaving home, being able to speak Spanish, traveling under different conditions, etc. Throughout the two weeks in Puerto Rico, Lisa continued to add to her journal. In her last entry she writes, "The highest level of value I give this journal is a testament of my personal growth these two weeks...This trip has produced the last missing piece in my character. For this reason, I will say that it truly has been a life-changing and rejuvenating experience for me."

Lisa started this program with a positive attitude to embrace the experience. She had some anxiety not being able to speak the language and being in a new culture. Her journal demonstrates how well she embraced the moments and overcame her anxieties to transform the experience into a positive change for herself.

In an interview, Lisa was asked if her expectations were met during this program. She responded, "They were exceeded. Just the experience that I got through the program totally, I mean, I'm not afraid to bring it up. And, I feel very confident and knowledgeable about everything that's going on there and I can very easily bring it up

without having to pre-plan it and prepare it. Whereas, before I was totally clueless and had no idea.”

This program appeared to have a great effect on Lisa personally. There were several quotes from Lisa that demonstrated this.

*“I have been a prime example of what raising a person’s awareness, and their gaining the knowledge of something triggers an appreciation and value for something not held before. What an incredible experience!”*

*“Well, the biggest thing I think it did was it reignited my passion for environmental ed. And, it only reassured me that cultural education has to become part of the curriculum all the way through.”*

*Professional Effect:* In her school, Lisa was already looked at by some of her peers as a leader. The results of this experience led her to additional opportunities for her to take in her school. In an interview five months after the exchange, she explains two scenarios:

*“I have approached my science staff on getting copies of my lessons, and they’re all interested in taking it. I’m hesitant in just giving them copies, so I’ve applied for in-service hours in the district to give them like an hour-and-a-half training and take them through each of the lessons I’ve designed. So I have permission for that.*

*Another thing that just happened out of the blue, I’m working with a team of four teachers in language art to write a non-fiction reading unit. And, we started out by tracing your heritage, but it’s kind of turned into more of its journey. And, so through learning how to read a website and learning how to read non-fiction text to go to another culture and explore it, so the Puerto Rico experience, the teacher model that the teachers will be using to share that, you know, as an instruction for the kids to do their own exploration. So, that really totally wasn’t anywhere near what I had anticipated. It just kind of came up as I shared my scrapbook.”*

She feels these opportunities happened because of participating in the program in Puerto Rico. She also mentioned that she feels more confident with her students in the classroom.

*Effect on Curriculum:* Lisa had a lot of enthusiasm after the trip to Puerto Rico to infuse information learned into her curriculum. She wrote, ““I’m going to sprinkle Puerto Rican lessons throughout all my units and subjects taught during the year.” She created some

well thought out lessons using her experience in Puerto Rico. But more profound was her change in her attitude towards international education. Between a pre- and post-trip assessment, her responses to five statements greatly changed. Using a five point Likert scale where “1” was strongly agree and “5” was strongly disagree, she responded with the results outlined in Table 15. All five statements showed an increase in their responses. When asked if she believes if her instruction is effective in developing culturally sensitive citizens, her response changed from “strongly disagree” in May 2004 to “agree” in November 2004.

Table 15. Attitude Responses for Lisa Regarding International Education

Statements	Pre	Post
Relative to other subjects I teach, international education is important.	2	1
I believe my instruction is effective in building students cross-cultural competency.	4	2
As a result of attending my classes, students learn about other countries and cultural issues related to those countries.	4	2
I am effective at teaching students the skills needed to relate to people of other cultures.	5	2
I believe my instruction is effective in developing culturally sensitive citizens.	5	2

In the pre-trip assessment, Lisa mentioned that she “wants to become a better teacher by giving my students real-world environmental/cultural experiences that support my curriculum.” The results show that she accomplished this and more.

***Subject 5: Tina***

Tina teaches 5/6 grade and has over 20 years teaching experience with more than 63 continuing education credits. Eight of the credits were in environmental education. She is currently involved with a project at her school to create a comprehensive, cross-curricular, environment education plan. Tina is a kind, outgoing, and creative person. She likes trying and experiencing new things. She has had over ten experiences abroad and

indicated that those experiences have greatly influenced her curriculum. She says it fulfills her need to keep learning and then translate it to sharing and teaching others.

*Personal Effect:* This experience was not life changing for Tina but it had a positive effect on her personally. She enjoyed the exchange component of the program. Following the two weeks in Puerto Rico she states, “I think that exchange was one of the things that interested me in the program as much as the going itself. That, that wasn’t just a one shot deal, the fact that that could be an ongoing experience.” During the program she was able to build some friendships and have fun. She commented on the experience, “Dancing showed just how our camaraderie has grown over the past 2 weeks. I haven’t had so much fun and laughter in just too long.”

*Professional Effect:* One thing Tina expected to get out of the program was a better connection to the Wisconsin Center for Environmental Education. In her interview, she mentioned that she felt she had accomplished this. Another thing she mentioned was the cross-curricular exchange during the program. She felt that it was good having teachers from different subject areas and age groups learning from each other. She also felt renewed after this exchange. She said, “It’s given me that direct approach of how I am going to work my infusion this year with some of the things I enjoy and have been familiar with, but yet giving myself a freshness because I have been an experienced teacher; how to add that freshness.”

*Effect on Curriculum:* In the interview Tina indicated that she felt more secure in taking children out of the classroom more and giving them more experiences and skills that meet

the academic standards. She has noticed a change in the semester of teaching. She is “...having fun with it. Even if we’re not pencil and paper or worksheet, the enthusiasm that the kids show, and the kind of assessments that when we come back, the sharing, the circle time, or in their writing or in their drawing, it just comes out.” She expressed an excitement by taking two of her favorite topics and enriching them. She feels this program has “given me the tools to enrich my curriculum as well as personal interests.”

In the post assessment, Tina indicated that because of this program she is spending more time each week in her classroom teaching about environmental education, Puerto Rico, and other countries and cultures. Sometimes more than 60 minutes per week are spent on these topics.

***Subject 6: David***

David is a third grade teacher with 27 years of experience and a Master’s degree in environmental education. His school has an environmental education curriculum which he references daily/weekly. He indicated that he infuses information about other cultures and countries into his curriculum daily. David has had over twenty experiences abroad amounting to over two years overseas. He says these experiences have greatly influenced his curriculum.

*Personal Effect:* David embraced the cultural exchange moments of this program. He enjoyed making comparisons to other places he had visited. It appeared that he was moved by moments like the teachers from Puerto Rico cooking for us, the dancing, a night walk through the forest, and counterparts in Puerto Rico sharing their philosophies.

After a night of dancing, he comments how he felt “moved by the music and by humanity.” He makes a record in his journal of the last morning as teachers from Wisconsin and Puerto Rico part ways:

*“Good-byes: Sweet and sad. Parting the attachments during the workshop with Puerto Rican teachers were quite apparent in heartfelt embraces, slaps on the back, and misty eyes. One last time winding down the mountain. The views of the topography still captivate me, particularly the depth of the steep drops.”*

In the interview in November, David was asked if this program had affected him personally. He said it did and added, “Like every experience I’ve had it just adds more elements that I can make ties with other things.” Having had many experiences abroad prior to this program, David did not have anxiety or nervousness to overcome. He was comfortable throughout the program.

*Professional Effect:* David already has extensive teaching experience and has traveled extensively. He already taught about other cultures and countries quite regularly in addition to environmental education. He used this experience to add another perspective or component to his classroom.

*Effect on Curriculum:* David used his journal for documenting things he saw. He made several comparisons of Puerto Rico to the continental United States and some countries in Latin America. He video recorded some of his time in Puerto Rico to use in his classroom. And he “starred” items in his journal that he planned to utilize in his curriculum. By the time David was interviewed, he was still working on his curriculum infusion. He had shared some of the information learned with his students in an informal format.

***Subject 7: Bill***

Bill came to the teacher exchange with four years teaching experience in high school biology and earth science. He was finishing his last class for his Master's degree in environmental education. In his essay with his application, Bill expressed a lot of enthusiasm to go abroad and bring the knowledge and experience back to the classroom. He had never traveled abroad before this experience.

*Personal Effect:* Bill was able to benefit from this program personally. It was the first time he had traveled outside the continental U.S. It helped him connect to the broader scale of the world. He said, "...seeing different things there made me realize that we are only just a very small part of the global aspect of the whole earth." Watching Bill interact throughout the two weeks in Puerto Rico, it was observed that he started slowing down his speaking and talking more clearly with the other teachers from Puerto Rico. He was becoming more culturally sensitive. The program helped him build connections and extend his knowledge about the environment. It really benefited him overall. "I feel that I have learned much more than I thought because of the informative speakers and the great hands-on activities that have been offered. The real bonus of this trip is the friendships that have been built over the last two weeks."

*Professional Effect:* The data collected on Bill throughout the program shows how he was able to make connections to his professional career. He built a better understanding of the global aspects of environmental education and brought it to the classroom. He built relationships with people. A few powerful quotes further express his change.

*"This will hopefully lead to many contacts here in Puerto Rico so that we can both exchange lessons and ideas to make both of our classes a more global learning"*

*environment. I hope to add lessons on Puerto Rico into every one of my units and these teachers will be a large part of this plan.”*

*“But what I’ve learned throughout the whole program here is that this trip has really brought the whole two, well three years that I’ve had, this program, I mean it, really brought it altogether. So it was great.”*

In the coming months, Bill had plans to give a presentation to his school on Puerto Rico to share his experience, talk to the school about our program, and share his knowledge gained about Puerto Rico with students and staff. This will allow him to take a leadership roll among his colleagues and bring the knowledge gained in Puerto Rico back to a broader audience.

*Effect on Curriculum:* Bill wanted to incorporate information on Puerto Rico into every one of his lessons. He has broadened his view on the environment to a more global perspective. Some of the data collected from him indicates this change in perspective:

*“The goal after this trip is to incorporate Puerto Rico into all of the units I teach.”*

*“I’m taking more global look at the environment and exposing my students to it.”*

According to the data collected from Bill, it is apparent that this program benefited him in all aspects, personally and professionally.

### ***Subject 8: Megan***

Megan teaches high school astronomy, earth science, and environmental science. She is a new teacher with one year experience. She has never traveled outside the continental United States. This is one of the reasons she was interested in the program. She wanted to travel, learn about a different culture, and visit the rainforest.

*Personal Effect:* Before traveling it was observed that Megan had excitement but some anxiety about traveling abroad. She asked several questions and didn’t appear as



comfortable as other participants. By the end of the second week in Puerto Rico, Megan was very comfortable in the group. She was connecting well with several of the teachers and really seemed to be enjoying herself. She became more culturally sensitive. During her speech given in Puerto Rico, she slowed down and spoke clearly to the group so everyone could understand. She embraced the cultural aspect of the program while expanding her knowledge about the environment. Data collected from her throughout the program demonstrate this change.

*“I hadn’t traveled before out of the country, so just getting that travel experience was a big, I guess, just a big learning experience for me. It’s just broadened my view of things, I guess. And, so it’s definitely made me more open-minded.”*

*“On this trip I always felt safe, inspired, interested, and at times entertained. I learned so much about the ecology of Puerto Rico, political issues and specifics about bats, boas, endangered species, and all types of tropical forests.”*

*“I learned so much on this trip about environmental education, another culture, and myself. It was organized and educational and fun!”*

There was one particular quote that Megan said that shows how she transformed through this experience.

*“I learned a lot about myself. I realized my strengths and weakness. I surprised myself at times with patience I don’t always have and fears I could overcome. Thanks for opening the door to more travel!”*

**Professional Effect:** Megan gained more confidence in the knowledge she had while adding new information learned during the course. This program helped her realize that she should learn more about her own surroundings. It really helped her gain enthusiasm for teaching.

*“I know that this experience has aided in my growth as a person and as an educator. I will be able to refer to this trip many times with my students. I will be easy to show enthusiasm for environmental ed, earth science, astronomy and biology by incorporating this awesome opportunity!”*

**Effect on Curriculum:** Megan has started the transition to bringing the experience into the classroom. By November, she had not implemented the formal lessons she created for the program but she had plans to later in the school year. Through this program, she was able

to change her approach in class a little. She is making more references on a global or broader sense of the environment. She is also incorporating environmental education more. The data collected demonstrate this change.

*“... I’ve already noticed I’m incorporating environmental ideas into things that we’re talking about, and relating a lot more than I was aware of last year. So, I definitely feel like that is an enhancement to my curriculum.”*

*“The focus is definitely global, globally instead of just locally. Because, I’ve always thought that every lesson should try to relate things locally, and I still do so that the kids can understand that, but trying to get them to think of the bigger, the whole system instead of just where they live. So, that’s just a mindset I guess I’ve kind of changed my thinking, and hopefully that comes across to them as well.”*

### ***Subject 9: Jill***

Jill is a second grade teacher at an environmentally based school with five years teaching experience and 23 additional graduate credits. She has had three experiences overseas and says that these experiences have had a great effect on her curriculum. In her essay she submitted with her application, she wrote, “Some of my greatest personal learning experience that have assisted me in becoming a more effective educator have been through multifaceted first-hand experiences, including traveling to another country and learning about their environment while being immersed in their cultural community. Through these firsthand experiences I am able to bring back real tangible information to my students, in addition to enhancing my own teaching skills and generating an environmental curriculum that is more global and cultural.” She enjoys having new experiences and bringing them into the classroom to enrich her curriculum.

*Personal Effect:* Jill benefited from this program by listening to and learning from the various speakers. She also engaged in all the activities and enjoyed building friendships with the other participants. The data revealed that she had a positive experience.

*“This trip was an exceptional experience and I hope many more teachers will be able to have similar experiences in the future with you.”*

*Professional Effect:* The data collected on Jill show that this program affected her personal career. She gained more confidence, increased her knowledge, and was recognized at her school when she returned. She enjoyed the online course and assignments required for the course. She really liked learning the information firsthand through experience.

*“This was a truly wonderful and educational experience. I am able to relate more to students about issues and culture because it was hands-on and not just learned through books.”*

Upon returning to school, Jill was asked to share her experience with the staff. She did and felt empowered by the experience. “So there’s a little prestige that came along with coming back with this information. And, professionally just continuing to remind myself that there’s so much more out there that I could be working on, and I guess it’s just made me look into more avenues for research.”

*Effect on Curriculum:* There were some unexpected areas where infusing information learned in Puerto Rico help Jill engage some students in her classroom. She teaches in a culturally diverse school. There are some students who are Caucasian or Latino but the majority are African-Americans. Using lessons she developed from Puerto Rico helped the students who were Latino engage in the discussions through their firsthand experiences with Latin American culture. She explains below:

*“I have many Hispanic/Latino students. I am able to now engage more through discussions about their culture – compare/contrast to that of Puerto Rico’s.”*

This program has helped Jill advance her skills teaching about environmental education and international education. Her experience abroad helps her engage students more.

*“The nice thing about this is that it made me make it into a lesson and now because of that I can relate, I use it all the time. We talk about Puerto Rico all the time.”*

*“You’re teaching them to be environmental citizens, so it truly helped.”*

*“I am integrating more environmental topics/issues into the regular education curriculum.”*

***Subject 10: Nikki***

Nikki is a second grade teacher with three years teaching experience. She has traveled overseas four times. After two weeks observing Nikki, she can be described as a quiet individual with a keen sense of adventure. By the end of the program, she seemed to become very comfortable with the group and built many friendships with participants. An observation was made after a week into the trip in Puerto Rico. “As I watch her interact I can tell she is becoming more of a participatory individual in the group. She is starting conversations with Puerto Rican teachers more. She is more comfortable jumping into the experiences.”

*Personal Effect:* The largest effect this program had on Nikki seemed to be the relationships she built. She really enjoyed the teachers from Puerto Rico being with us the whole time.

*“I am feeling so attached to Puerto Ricans and many of the teachers that I am already sad to be thinking of leaving...They are so hospitable, sharing, caring, thoughtful, fun, I could go on forever. What an amazing experience.”*

*“I have traveled before but this is by far the best place I have been because we feel more a part.”*

During the program, we did a reflection activity to give time to the participants to reflect on the program after one week and describe how they feel. Nikki enjoyed this activity and wrote, “I really liked this activity because I never stop to look back in such a thorough way to recall what has passed moment by moment – it was very special and eye-opening to take part in.”

*Professional Effect:* Nikki started to make connections through the assignments required for the program. Her journal helped her capture some of the things she enjoyed so she could share them with her class and others.

*“...I think an experience you can share is worth much more than just an experience itself. I have learned a lot from all the people involved in this course and I hope to pass the passion, knowledge, love, and experience of it all on to others – we have to show what we want others to know.”*

*Effect on Curriculum:* Nikki hasn't utilized her lessons she wrote yet but she is taking advantage more of teachable moments. She has a renewed excitement to bringing this experience to the classroom.

*“I am more aware of ‘teachable moments’ and take advantage of those in regard to the environment more.”*

*“I'm excited about doing my new lessons.”*

Nikki summed up her experience in an email following the interview. She wrote, “I got way more resources and ideas than I ever expected, met many awesome people/contacts, and one of the biggest things I came away with is that environmental education is not just about big elaborate lessons, but infusing ideas, relationships, and in fact where ever and whenever possible. Now I don't feel so intimidated by the whole ‘environmental education’ concept.” She is planning to spend the next year at Hacienda Verde helping REVIBE with their mission. This is a 100% volunteer decision. She will leave in June 2005.

### ***Subject 11: Liz***

Liz is a fourth grade teacher with nineteen years of teaching experience and a Master's degree in environmental education. She has traveled overseas twice. Liz's attitude toward this program was full of excitement. She didn't seem to have any anxiety.

*Personal Effect:* Liz's journal captures her enthusiasm and positive attitude she had throughout the program. She always had a lot of positive energy that helped her gain an appreciation for the speakers, lessons, and land we were visiting. In her journal she wrote about the experiences and people who moved her.

*"Without our Puerto Rican teachers our learning curve and opportunities would have been so much less! The language barrier broke down each day we spent with them – until we tied together like the anchoring roots of the mangrove tree!"*

During the interview Liz shared her compassion about Puerto Rico. Learning about the island and the pressure on their land, water, and resources gave her more personal feelings towards the future of the island. She said, "I was very sad and worried and disappointed for the future of Puerto Rico."

*Professional Effect:* Liz has felt good about herself joining this program. "Everybody says I'm so courageous to go on a trip with, however many were together on the trip, twenty-three or twenty-four with our Puerto Rican friends and not know a soul and do that. And they think all the slides and pictures; they think are wonderful." This gave her an empowering feeling. She believes these experiences abroad help her infuse a more global perspective in the classroom. "So I think it brings so much more every trip you go on. Of the real-world into your classroom." This program also helped her become excited about changing things with her curriculum. She says, "I'm always changing, and so for me, prep is just exciting and a way to make teaching more fun for me."

*Effect on Curriculum:* Liz really enjoyed the resources gained during the program and brought a lot of enthusiasm for creating her five-lesson curriculum plan. This gave her new ideas and education pieces she could use in class. She liked the fact that she was expanding her curriculum to have a broader focus than Wisconsin.

*“I am constantly seeking when I’m going to teach a new unit, what can I, what can I bring in here from Puerto Rico? What can I show about islands?”*

*“I have a much broader sense of what to bring into education than I did before. I was very local; it was my own backyard.”*

She really enjoyed being exposed to the ocean and all the new things it had to offer education.

*“I’m always thinking about how it can, and there’s so many ways. And, one place I’d like to go back to and learn more about is the ocean. And, it was in my “How could you improve?” Which I don’t know where you could have fit it in.”*

Liz has also enhanced her lesson on Native American people by talking about Taino people.

By communicating with one of the teachers in Puerto Rico, Liz was able to arrange a leaf exchange. A teacher in Puerto Rico pressed leaves and waxed them while Liz did the same with her class. They exchanged waxed leaves and both used them in class to study the leaf anatomy between temperate and tropical leaves.

One unexpected outcome of her curriculum infusion was how it was able to help captivate her students who speak Spanish. She explains her experience, “I have a Spanish-speaking student, and she’s taught us some Spanish words or, you know, word and hand action games. And, so yeah, I would have never have done that before or thought of that.”

Liz really enjoys receiving resources so this program offered a lot to her. She writes:

*“The resources. Learning about island ecology was absolutely fabulous. To learn about something you know nothing about, and then all the resources, laying them out, knowing that there’s a connection to Puerto Rico. And, just always be excited about filling in places and making learning more exciting; tie it into island ecology, Puerto Rico, equator-type living.”*

## **Value of Journaling**

Each participant from Wisconsin was required to keep a journal throughout their travels in Puerto Rico. They had specific instructions but were given enough flexibility to write freely. (Appendix K) For their final entry they were required to reflect on this aspect of the assignment and share their reactions to journaling. Although all the participants appeared to value their journal, five of the participants shared their strong support for journaling and indicated that they had a positive experience reflecting throughout the two weeks.

Bill: *“As far as this journal is concerned, I usually do not like to do this sort of thing. But as I write my thoughts down each night, I found out how useful it really was. I like to observe what is going on and not talk much, the journal helped me put this info into something that will be easy for me to remember. I am looking forward to using a journal for my teaching as well as my next journey, wherever that may be.”*

Lisa: *“I think there are many levels of value in this journal.”* She continues to explain 3 levels: general knowledge, cultural experience, and personal growth. Concerning cultural experience—*“This is something that only can be gained and learned by directly experiencing the people and nature found while on the trip...It is obvious to me that I have been blessed to have encountered all these individuals (the teachers from Puerto Rico). Their passion and excitement to share with us their island and all its beauty is something that has left a lasting impression on me.”* Personal Growth- *“The highest level of value I give this journal is a testament of my personal growth these two weeks...This trip has produced the last missing piece in my character. For this reason, I will say that it truly has been a life-changing and rejuvenating experience for me.”* Teaching ideas-*“I’m going to sprinkle Puerto Rican lessons throughout all my units and subjects taught during the year. This is really how environmental education should be done anyway.”*

Jill: *“I can say that this journal has been very valuable...I am glad that this was an assignment with structure. Having structure ironically has helped me to be more creative and organized...This journal has made me more reflective about the people and events, and has made me apply new knowledge to old knowledge. This has been an amazing trip and I would like to say ‘thank you.’”*

Nikki: *“As I look back through this journal, I see so many things that I would (and have) already forgotten. There are so many things that I learned that are in this journal that I can use in my classroom and presentations – it is amazing how fast we can be introduced to information and even faster it can be forgotten. We had so many valuable speakers and interactions on this trip that I would like to share with others and am now able to. At the time I always think that I will remember most things and am disappointed when I don’t but this time, having a required journal, made me do that I couldn’t have made me do if that makes any sense. I think an experience you can share is worth much more than just an experience itself. I have learned a lot from all the people involved in this course and I hope to pass the passion, knowledge, love, and experience of it all on to others – we have to show what we want others to know.”*

Liz: *“This journal has its good memories – where I had the time and energy to reflect...As I look back in this journal, even at the poorly written pages, I am thankful for the memories I will recall so much more vividly for writing about them.”*



## **CHAPTER FIVE: CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS**

The researcher with assistance from the WCEE, GEM Program, and IAUPR: Bayamon Campus developed a project plan, implemented an overseas travel program for teachers, and evaluated the program. Data were collected over a ten-month period between February to November 2004 through written and verbal documentation before, during, and after the two-week travel course in Puerto Rico June 16 to July 1, 2004. Through a one-month online course, one-day orientation, and two-week study program, this program increased participants' understanding of environmental education, broadened their perspective on environmental issues, expanded their collection of teaching materials, and provided networking opportunities with other teachers. This travel course abroad had a positive effect on all the participants personally and professionally at varying degrees. The three goals of the exchange were achieved. Through a cultural, educational, and overseas exchange, participants built a deeper understanding concerning the world's diverse biosphere. The project provided a professional development opportunity for teachers. Leadership skills were taught to help teachers learn how they can take a role to help protect and sustain the world's biosphere. Overall, it advanced the understanding of both environmental education and international education among those involved.

This chapter is organized in the following manner:

### **I. Program Conclusions and Recommendations**

- Planning Trips to Puerto Rico
- Research and Gathering Resources
- Project Plan
- Recruiting Participants
- Application
- Participant Details
- Funding
- Online Course

- Orientation
- Travel Program in Puerto Rico
- Assignments
- Overall Program Conclusions

## II. Research Conclusions and Recommendations

- Profiles
- Reliability and Validity/Limitations
- Suggestions for Further Research

## III. Suggestions for Program Development

## IV. Implications

## V. Postscript

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# I. PROGRAM CONCLUSIONS AND RECOMMENDATIONS

**Planning Trips to Puerto Rico:** There were two planning trips to Puerto Rico to make arrangements for the program. The planning committee of four members traveled to Puerto Rico June 2003 for a week to make preliminary contact with various agencies, organizations, and officials. The contacts made with the Department of Education in Puerto Rico, US Forest Service, REVIBE, and InterAmerican University of Puerto Rico provided the necessary foundation for the development of the program. A one-week trip in January 2004 by the researcher solidified the relationships with the partners and helped finalize logistics for the program. These reconnaissance trips proved to be invaluable in the success of the program.

*Recommendation:* It is highly recommended to visit the sites and meet with some of the counterparts in the host country, state, or, in this case, commonwealth prior to the teacher travel program.

**Research and Gathering Resources:** Months spent researching the history and natural resources of Puerto Rico were spent by the researcher, Dr. Yockers, and Dr. Phillips throughout the program. The two planning trips were invaluable to collect resources useful for the teachers. Posters, curriculum, brochures, fact sheets, and maps were all collected for the teachers. Time was spent organizing the information into an orientation packet, the online course, orientation meeting, and resources binder prior to the travel program. In-depth research and gathering resources is imperative for any program. The information learned provided the core content of the course.

*Recommendation:* Offer detailed information about the country or commonwealth the participants will be visiting. Providing curriculum useful to their subject area and grade level is also helpful.

**Project Plan:** The goals and objectives in the project plan were developed based on the first planning trip to Puerto Rico. They reflected the sought outcomes for the program. The project plan helped partners understand their role. It contained a useful timeline to keep the planning and implementation of the project on schedule. A basic budget was created to give a basis for spending. The WCEE international committee was valuable in providing advice, suggestions, and comments on the participant assessments and project plan. This committee strengthened the study and offered useful information during the planning of the project.

*Recommendation:* A project plan was important throughout the program and is recommended, if not necessary, for future planning and similar programs.

**Recruiting Participants:** The promotion strategies and recruitment techniques used for this project targeted teachers who might be interested in environmental education. A strong effort to recruit teachers from the Extended Masters Program at UW-SP in

environmental education for teachers was the focus of promotions for this travel course. There are 200 teachers who have graduated or are currently enrolled in this graduate program. Targeting this group seemed to be successful as five of these teachers participated. The other six participants were recruited the following ways. Four participants heard about the program through a member of the WCEE staff. One learned about the program from a colleague at school. One person heard about the program through staff development at their school. Word of mouth appears to be a strong method of promoting the program.

*Recommendation:* Encouraging past participants to share information with colleagues and others who might be interested in the program would be a very cheap and effective way to continue to recruit teachers. Conferences provide a good venue in which to share information with different target audiences.

Attending and presenting at science, social studies, international education, foreign language, and environmental education conferences could help market future course offerings if there is adequate time and money available. Another suggested method of recruiting to consider is to advertise in teacher professional organizations' newsletters and conference programs. The price varies for publication, but could potentially reach hundreds or thousands of teachers.

**Application:** Participants were required to fill out an application that provided demographic information. Their principal and a district administrator were required to sign the application in recognition of their support for the teacher's enrollment and participation in the travel course. Not only does this demonstrate the support of the administration in participant's school but it also helps the visibility of the program and gives recognition to the teachers involved. Two letters of recommendations were also

required. This provided some background information of the teachers and insight on those applying. An essay from each of the applicants was required. This was particularly important to learn about the teachers' commitment to the program. These essays provided organizers with information on the participants' motivation, previous experience, and interest in the program. Eleven applications were received and all eleven were accepted. Applications were due late January to allow ample time of making travel reservations, registering participants for courses, and collecting payment. Setting a deadline for the application is very important. Many teachers start planning their summer just after the holidays. Reservations for hotels and airlines should be booked at least 4 months in advance to receive discounts and affordable rates. Teachers on this program were given a payment schedule to pay for this course, but payment in-full upon acceptance to the program was acceptable as another option to them. Participants seemed to favor the payment plan.

*Recommendation:* Receiving approval from the principal and district representative is highly recommended for any program especially since a day is required by the teachers to be absent from class to attend the orientation in the spring semester. Although it was not arranged for this project, it is recommended to have one or two alternate teachers identified in the event that one of the teachers had to withdraw from the program. Set an application deadline for the course in December or January to allow ample time to make group reservations. A payment plan for participants is also recommended. A refund policy should be developed as part of the program. It is recommended to require a non-refundable deposit upon acceptance into the program.

**Participant Details:** The application and pre-travel assessment helped gather additional demographic information on the participants' educational background, teaching experience, and travel experience abroad, all of which can be used for future recruitment purposes.

Demographics: The information provided about the description of the participants can help with promotions of similar programs in the future. It was interesting that the majority of participants (82%) were female. This could have been due to the fact that approximately 71% of teachers in Wisconsin are female (WI-DPI, 2004) or it could just be due to chance. Seven of the participants (64%) were 39 or younger. (Table 4) Again, this could be due to chance or the fact that the majority of teachers under 39 in Wisconsin are pursuing professional development opportunities.

*Recommendation:* Further studies would have to be completed to determine if these are common trends for overseas travel programs.

Teaching experience: The majority of the teachers (64%) had their Master's degree. This is not surprising for the fact that there was a deliberate attempt to recruit teachers from the Extended Masters Program at UWSP. Most of the participants had a science background. The six teachers who taught elementary school all had experience or a background in environmental education. Three of the high school teachers taught a science related subject. One teacher was a foreign language educator. The research shows profound results from this teacher in creating cross-curricular opportunities for her students. This teacher started the program with little experience with science and completed the program empowered. She was also helpful to translate and build relationships with the

teachers from Puerto Rico. Environmental education is not designed solely for science curriculums. Integrating more environmental concepts into other subject areas allows more exposure, awareness, and knowledge students will gain.

*Recommendation:* Although it is based on one individual, it is recommended that promotion strategies should make an effort to recruit more foreign language teachers and educators who teach different subjects other than science. If possible, future programs could be designed for specific subject areas and/or grade levels.

Environmental Education Experience: The promotion plan for this project targeted those who have experience with environmental education; therefore it was not surprising that all participants infuse information about the environment in their curriculum. The frequency of lessons about the environment varied among the participants, yet a large percentage (73%) of the teachers infuse EE weekly or daily into their curriculum prior to their participation in this program. Four participants said they received pre-service training in environmental education, but eight have taken in-service courses related to EE. This group of educators was unique in that they came to the program with a high level of understanding and experience with EE.

*Recommendation:* It might be valuable in the future to focus the program more each year. For instance, target a particular teaching population like elementary school teachers only or those who have little environmental education experience. Each year could be offered to a different teacher population if there is a large enough population of teachers interested in the programs.

Previous travel: The number of experiences abroad a person had prior to participating in this program seemed to be a factor in their rating of their experience. Two of the participants had extensive travel experience abroad. They were very comfortable with their surroundings at all times. The data on these individuals revealed that this experience had less of an impact on them than it did on others. Teachers who had little to no experience showed a great gain of empowerment and confidence as a result of their participation in this program. The literature review helped explain this phenomenon. Research by Debring, Willis, and Genet (1995) states that maximum learning potential is achieved at moderate anxiety levels. Those who are experienced with traveling abroad and comfortable interacting with people from other cultures even through language barriers tend to have little anxiety and will therefore gain less from the experience. Perhaps this could have explained the results based on these two individuals who have extensive travel abroad experience.

*Recommendation:* While promoting the program, try to attract participants who have no or limited experience traveling overseas. If participants with extensive travel experience participate in future programs then perhaps they could provide some assistance to the leader or offer an activity so they become more engaged, assuming they would agree to this.

**Funding:** The funding for this program was supported by several organizations and institutions. Funding from UW-SP was provided by GEM and the WCEE through a cooperative agreement with the Wisconsin Natural Resources Conservation Service. Coordination from Puerto Rico was provided by InterAmerican University of Puerto Rico-Bayamon Campus. Financial assistance from Puerto Rico was provided by the



Department of Education in Puerto Rico. The participating teachers from Wisconsin paid a total of \$1,500 each. Agencies in Puerto Rico donated staff time to coordinate sessions for the program including the United States Forest Service at El Yunque, US Fish & Wildlife Service in Vieques, Rio Abajo Aviary staff biologists, staff at Hacienda Verde, Friends of the Karst, a non-profit organization, and IAUPR-Bayamon Campus staff at Mata de Platano field station. The Center for Latin America and Caribbean Studies donated \$1,000 to the first year's program to help support teachers. The approximate value of the whole program including all travel fees for 23 participants from Wisconsin and Puerto Rico, course tuition, meals, excursion fees, and coordination was \$47,700. A challenge to future course offerings such as this one is financial obligations. Overseas course offerings require more money than a typical graduate course. Financial reasons were the most frequent barrier the teachers indicated that they had to overcome in order to participate in the program. The positive impact of this course is shown in the study results.

*Recommendation:* Grants and donations can considerably lower the cost for abroad programs and can therefore increase the interest from other teachers. A recommendation to the WCEE and others offering study abroad courses is to allow staff time for grant writing and networking activities with funding agencies and/or foundations. Another way to reduce costs to the participating teachers is to provide them information on sources of funding that could help pay some of their tuition. Often school districts will pay for the graduate credits. There are some teacher organizations that offer grants or scholarships to international travel for teachers. Sharing the budget with the participants is important for them to

understand where the money for the program is going. A cost break-down should be available for participating teachers.

**Online Course:** The online course “Natural History, Resources, and Culture of Island Ecosystems: Puerto Rico” was offered April 19 to May 14, 2004. Participants found it useful to interact with other classmates online through the discussion board. The overall evaluation results showed favorable responses towards the course. All participants agreed that they would recommend this course to other participants. They would also participate in another online course as a result of their experience with this course. These results demonstrate the effectiveness of this course. The participants seemed to greatly benefit from their participation. It was a convenient and effective way to offer information and prepare participants for their travel in Puerto Rico.

*Recommendation:* This course is recommended in future programs to Puerto Rico. It is also suggested to develop similar online courses for future teacher abroad courses related to other areas of the world.

**Orientation:** A one day, face-to-face orientation on May 21, 2004 at UW-SP gave participants the opportunity to meet and plan for the travel course. This was an invaluable opportunity to prepare the group, answer questions, and give information useful to the program. There is a lot of information to cover, so remaining efficient on time during the meeting is important. At the same time participants will most likely have many questions. Coordinators must be somewhat flexible to assure participants’ needs are met. The evaluations provided feedback on the program. Overall, participants rated the orientation a 4.7 out of 5.0. This high rating indicated the orientation to be effective.

*Recommendation:* Future orientations should include more time to allow participants to become more acquainted with each other and offer additional

information on the cultures and customs of Puerto Rico. If an orientation can be offered in an area within reasonable distance for participants to travel, then this component should be offered for future programs. One day should be sufficient; more than that could become costly and difficult for teachers to attend. If teachers from different parts of the country are enrolled in the travel program, then alternative means of delivering information offered in orientations should be arranged. Perhaps a video or phone conference or simultaneous online discussion could be arranged to help prepare participants who live further away.

**Travel Program in Puerto Rico:** The results from the travel course June 16 – July 1, 2004 to Puerto Rico revealed a considerable benefit to those who participated.

Participants learned together, shared new experiences, discussed curriculum, gained new ideas and knowledge, and built new relationships. In total, twenty-three participants including the teachers and leaders participated in the exchange and completed evaluations. The results using a five-point Likert scale where 5.0 was most favorable ranged from 3.34 to 5.00 on 63 questions. The mean was 4.61. The statistical results show the value in all the topics and activities included and suggest the same or similar topics in the future.

Group dynamics will change with each program. Listening to the needs of the participants is an important factor. Although it is difficult to meet every wish of all the participants, being flexible and accommodating as much as possible is important. The results from the evaluations, reflection activity, journal, and group verbal evaluation provided a means for participants to share ideas, suggestions, and comments. It was important to have a variety of methods for participants to share feedback since different

people might prefer to express their comments or make suggestions different ways. Some individuals prefer verbalizing their suggestions; others prefer writing it down.

*Recommendation:* There were several suggestions in chapter four regarding travel program changes that should be considered for future programs. In addition to recommendations, suggestions, and comments previously stated, it would be valuable to visit a school in Puerto Rico to allow participants to make comparisons with their school setting in Wisconsin. Focus the program around a research question or topic for the participants to think about and analyze throughout the program. Consider adding a homestay component of the program to give participants a firsthand experience in a typical home of someone from Puerto Rico. These revisions could enhance future programs. For evaluating the program, it is important to continue to offer a variety of ways participants can give feedback on the program. A combination of written and verbal evaluations is important.

**Assignments:** Different assignments were required by each participant throughout the program. Attempts were made to relate each assignment to each other and make relevant to the teachers' curricula. An assessment on each assignment and future recommendations are explained below.

Online Course: The program required Wisconsin teachers to complete assignments for the course. The online course required teachers to take a self-graded quiz each week, participate in the discussion board on a weekly basis, and develop an outline for ways they plan to use information learned in their classroom. Participants felt that it was a reasonable workload for a one credit course. Participants spent a varying degree of time to complete the course,

probably because different people read at a different pace; but on average, participants worked about 20 hours to complete the course. A face-to-face course offered at UW-SP requires sixteen contact hours for one graduate level credit. This online course seems reasonable when considering the assignments and quizzes.

*Recommendation:* At the beginning of each unit, give the participants an idea concerning the average amount of time it should take them to complete the assignments and quiz. This will be useful to help them appropriately manage their time to complete the course.

Travel Course: Prior to the program in Puerto Rico, each teacher had to prepare a ten to fifteen minute talk on something related to Puerto Rico. They were given the freedom to choose the topic. Informal feedback from the teachers showed that they really benefited from this assignment. It allowed teachers a way to create dialog and in-depth discussions on issues that interested them concerning Puerto Rico. It helped participants take a leadership role during the program and engage them in the exchange.

*Recommendation:* Continue to require this assignment. It is valuable to the program and helpful to the travel course leaders.

Journal: During the program in Puerto Rico, Wisconsin teachers were required to keep a journal. (Appendix K) The final entry asked teachers to comment on their feelings towards journaling and their experience reflecting on their experiences in Puerto Rico. Data revealed overwhelming favorability to this assignment.

Participants expressed the benefit they received from keeping a journal. The following statement is just one account of how it helped a person record thoughts,

“I like to observe what is going on and not talk much, the journal helped me put this info into something that will be easy for me to remember.” It seemed the journal provided value to each person in a different way. It provided an effective way to help participants reflect; process what they learned; and/or record ideas for their classroom.

*Recommendation:* This assignment proved to be valuable and should be continued in future courses.

Lesson Plans: Following the two week travel course, Wisconsin participants were required to submit five lesson plans they created or adapted to use in their curriculum. (Appendix L) They were required to use the information gained during the online course, orientation, and travel in Puerto Rico to enrich their curriculum. Flexibility was given to teachers to make the assignments as useful to them as possible in order to ensure the usability of the lessons. This is very important for any assignment given to educators. They know their situation and curriculum better than anyone. Letting them creatively infuse the information allowed them to apply the information most suitable for their teaching situation. The teachers seemed to appreciate the flexibility. The unit lessons were organized and arranged in a binder. Each Wisconsin participant received a copy of the compiled and completed lessons. Selected lessons will be used or adapted to create a resource guide for Hacienda Verde.

*Recommendations:* This assignment seemed to be appropriately fit for this travel program. It allowed a formalized structure to direct teachers to create lessons suitable for their classroom so they can transfer the

information learned to the students. It is recommended to offer the same or a similar assignment in the future.

**Overall Program Conclusion:** There were two factors in this program that seemed to enhance the experience for the teachers. First, the hybrid course model using the online course in addition to the two-week travel program proved to be an effective way of delivering information and optimize learning among the participants. All participants increased their knowledge level in regards to Puerto Rican history, customs, culture, and environmental issues. The online course built a foundation for the program by helping the teachers become more familiar with the island before their visit. They arrived in Puerto Rico with basic knowledge of the island. The course enriched their experience and was delivered in a cost effective method. It also provided a platform for the teachers to start interacting with and getting to know each other. Second, an experience abroad where participants met other teachers and natural resource professionals provides educators with a different perspective on environmental issues that can be used in their classroom. The involvement of teachers from Puerto Rico was an important aspect of the program. They shared experiences and discovered commonalities as well as differences in teaching students in Wisconsin as compared to students in Puerto Rico. The program fostered friendships between the educators. Participants were able to share insights on cultures and customs through firsthand experience.

This program affected Wisconsin participants' attitudes towards environmental education and international education. They responded with greater confidence in their knowledge about environmental issues and their instruction in EE and international education. The online course and involvement of the teachers from Puerto Rico seemed to be major

contributing factors in the positive results of this program. The data collected throughout the program revealed tremendous support for the program. Not only do the data show a positive reception of the program, but they also reaffirm the continued success of courses available to teachers from the Wisconsin Center for Environmental Education.

*Recommendation:* There are three overall recommendations explained below.

1. Offer Courses in Other Countries: In the post-trip assessment given to the eleven participants from Wisconsin, nine of the participants said they would consider participating in another travel abroad course through the WCEE in China or Africa. One indicated that she might consider participating in another course abroad. It is recommended that additional courses in other countries be developed and offered to teachers in addition to this program in Puerto Rico.
  2. Hybrid Course Models: The addition of an online course prior to the firsthand experience was an effective way of delivering background information to the participants and preparing them for their travels. It gave them a way to get acquainted with others who they will be traveling with for two weeks. It was cost effective and convenient. The hybrid course model created for this program is recommended for any travel abroad course in the future offered through the WCEE or other agencies developing similar programs.
  3. Complete the Exchange: Through this program, only the Wisconsin teachers were given the opportunity to make direct comparisons to island ecosystems. It would be ideal if the exchange could be completed by reuniting the teachers in Wisconsin.
-



## II. RESEARCH CONCLUSIONS AND RECOMMENDATIONS

**Profiles:** Detailed profiles on each of the participants helped determine the effect this program had on participants personally, professionally, and how it affected their curriculum. Numerous methods of data collection provided a thorough analysis on each participant. By analyzing each individual in-depth and separately, conclusions were drawn that might not have been revealed using quantitative methods alone. Because there were only eleven subjects, the study was designed to gather feedback on the program using several methods that might not have otherwise been possible if there were a larger subject population. The profiles provided a means of condensing the data on each person and drawing conclusions about the program's effectiveness.

*Recommendations:* Profiling participants requires very detailed information on participants. Data gathered from various sources acquired through various means improves the validity of the study. It would be ideal to add longer term data to the profiles to determine the long-term effects of the course.

**Reliability and Validity/Limitations:** This study was highly qualitative while supported with some basic quantitative data. Every effort was made to diversify the data gathering methodologies throughout the ten month study. On the evaluations completed by all 23 participants during the travel course in Puerto Rico, cultural barriers or language interpretation could have affected the responses from the teachers from Puerto Rico. It is important to recognize that data collected in the profiles and journals were specific for the individuals from Wisconsin. It does not imply that the exact same conclusions would result with different individuals. It was discovered that everyone was positively affected to some degree personally and professionally and their curriculum was affected.

Quantitative data supported the qualitative data when drawing conclusions and making

generalizations about the program. Because the sample size was eleven, statistical significance could not be proven in the results based on the quantitative data collected. However, because the sample size was small, it provided a means to gather more detailed information than would have been possible with a larger sample size.

*Recommendation:* Additional research on future programs to Puerto Rico would strengthen the study. Below are some suggestions for continued research.

**Suggestions for Further Research:** Six suggestions for continued research are explained below:

1. *Study the Effect on Teachers in Puerto Rico:* This study closely evaluated and assessed teachers in Wisconsin. It would be valuable to extend the research to study the effects the program had on the participating teachers from Puerto Rico.
2. *More Follow-up to Determine the Longevity of the Effect of the Program:* This study only gathered data over a ten-month period. The final assessment was given to the teachers in November, just six months after returning from Puerto Rico. They had not completed a full year of school. It would be valuable to assess the teachers one, two, and three years later to determine if lessons created and information learned from the experience were being utilized in their curriculum.
3. *Classroom Observations:* It would have added value to the study if the researcher could have traveled to each of the teachers' classrooms to observe them implementing their lessons on Puerto Rico. This would have helped to determine if and how the lessons were implemented. In the future, teachers

could be asked to video tape themselves teaching these lessons if the researcher is not able to visit each school.

4. *Student Impact:* The ultimate audience that is reached because of the involvement of educators in this program is their students. One of the aims of this program is to ensure that the information learned in Puerto Rico is transferred into curriculum. A teacher must first understand the need to “think globally; act locally” before it is taught to the students. It would be valuable to assess the students to measure their level of understanding and knowledge of island ecosystems and Puerto Rico before and after the program.
5. *Comparison to Other Study Abroad Programs:* It would be valuable to compare the results of this study course to the results of similar programs abroad.
6. *Assess the Course Instructors and Group Leaders:* As more overseas courses are developed and more instructors/group leaders get involved, it would be valuable to create an evaluation tool that could be used to gather feedback, impressions, and suggestions for future courses.

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### **III. SUGGESTIONS FOR PROGRAM DEVELOPMENT**

There are three important barriers people should be aware of when developing programs internationally. Traveling to other countries requires

- 1) financial support and time,
- 2) careful preparation to orient participants effectively, especially if they have never traveled overseas, and
- 3) detailed planning.

Financial support and time were the largest barriers teachers indicated that they needed to overcome in order to participate in this program. It is expensive to travel internationally. Funding is required to embark on travels overseas. Offering stipends, waiving course registration, or getting grant support are ways that fees could be reduced. Requiring teachers to pay some expenses engages participants in the program but it is recommended to offer programs to teachers at reduced rates. Time is also an issue for teachers who travel overseas. Many participants have families and other commitments that are barriers to participation in overseas programs. Some flexibility is required to accommodate schedules.

The orientation of teachers to programs abroad is critical for preparing them for their experience to ensure that they are comfortable and prepared. The online course, resource binder, and orientation meeting provided as part of the Wisconsin-Puerto Rico Teacher Overseas Program were all useful and important to participants. Future programs and similar programs abroad should adapt these components as part of their program. Additional attention might be needed for educators traveling overseas for the first time.

Individuals or organizations wishing to develop similar programs should understand the time and commitment it takes for success. Planning and organizations skills are necessary to build programs like this. Below is a recommended timeline and task list that would help others wishing to plan similar programs.

- |                 |  |
|-----------------|--|
| One Year Out:   | Create a project plan and identify funding sources (Appendix B)<br>Make initial contact with potential partners in the host country<br>Start gathering information and researching the destination |
| Ten Months Out: | Draft an itinerary (Appendix C)<br>Create an outline for the online course   |

- Continue to gather information
- Contact local community groups to support the effort
- Create a recruitment plan and start advertising the program
  
- Eight Months Out: Start creating the online course using information gathered  
Recruit participants
  
- Six Months Out: Send confirmation to selected/enrolled participants  
Register participants in course  
Start making airline and hotel reservations  
If going to a country that requires a passport and visa, send information to participants or be prepared to help participants with this.  
Start vaccinations, if required
  
- Four Months Out: Design agenda for orientation (Appendix G)  
Continue to gather information and resources  
Continue to arrange logistics  
The course leader should travel to the destination to finalize logistics
  
- Two Months Out: Offer the 4 week online course  
Create evaluations that reflect the travel course  
Organize a binder full of resources, curriculum, maps, and fact sheets to pass out during the orientation  
Create an emergency plan for the program
  
- One Month Out: Offer the orientation  
Sign participants up for overseas medical coverage  
Mail materials and supplies needed to destination such as curriculum materials, supplies, gifts for speakers and counterparts, flip chart paper, office supplies, etc.
  
- Two Weeks Out: Confirm all reservations  
Organize insurance forms  
Request a travel advance to cover costs during program  
Print off all necessary documents and evaluations  
Organize folder for all participants with relevant information: itinerary, emergency contact information, name tag, participant list, evaluations, etc.  
Make arrangements with your doctor to bring any required prescriptions/medications needed during the travel period overseas
  
- Overseas Program: Lead the program abroad  
Keep notes throughout the program of suggestions and comments  
Ask participants to fill out evaluations as necessary

Upon Return: Rest a few days (you will need it)  
Compile the evaluations  
Collect assignments from participants  
Send “thank you” cards to all host country counterparts  
If a different person was the leader for the program, arrange to meet with them to gather feedback and input on the travel component.

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#### IV. IMPLICATIONS

Results of this study indicate that there is interest in continued opportunities abroad for teachers. Ten out of the eleven participants from Wisconsin indicated that they would definitely recommend this course to others. The eleventh participant said they might recommend it. Nine of the participants would consider participating in a similar program in China or Africa.

This study has implications on overseas travel courses to other parts of the world. The hybrid course model is adaptable to any overseas travel course. Connecting teachers to others throughout the world allows for sharing, learning, and building friendships that can ultimately enrich curriculum. It builds confidence and empowers participants.

Experiences in other cultures prepare participants by helping them recognize and handle cultural differences back at home. They learn to better understand the statement “Think globally; act locally.” By having an experience abroad, participants gain an understanding of global environmental issues and cultural differences. This experiential learning has an affect on participants that adds value to them personally and professionally as a teacher. As research has shown, “when study abroad programs employ experiences that are carefully matched with participants’ needs, goals, and expectations, the results can be life-changing (Citron & Kline, 2001).” This statement becomes apparent in this research project particularly for two individuals who participated.

Courses designed according to the hybrid course model outlined in this study will have direct implications to future programs being planned. Using this model, a new program called the Global Environmental Teachings (GET) Program has been developed as a collaborative effort between GEM and the WCEE. This program will offer additional programs in Puerto Rico and extend its programs to the People's Republic of China, South Africa, and Mexico. This study provided invaluable information for the planning and will be referenced throughout the establishment of future courses abroad.

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## V. POSTSCRIPT

Since the conclusion of the study, some expected and unexpected results occurred. This section will provide an update on the current offerings at GET and explain some of the accomplishments from the Wisconsin participants.

**Global Environmental Teachings Update:** The GET program was developed and is implementing its course model in other areas of the world as planned. Partners have been identified in the People's Republic of China, Mexico, and South Africa. Overseas courses are arranged for these three countries in 2006 and 2007. Additional online courses in environmental education and sustainability education are being developed to service teachers in the US and abroad. This program offers a series of graduate courses worth one credit each through UW-SP. Educators must complete a series of three of these courses to receive a certificate of completion.

## **Participant Updates:**

Nikki: In June 2005, a year since she had been to Puerto Rico, Nikki and her husband went to Hacienda Verde to volunteer. Nikki is working on some organic gardens and environmental education materials for Hacienda Verde and her husband is working on a few forestry projects. Without this program, they would have never been exposed to this option

Jill: Jill is currently teaching in a school in Venezuela. Before going to Puerto Rico she had been thinking about teaching abroad but was unsure if she had the courage to do it. After returning from Puerto Rico she decided to pursue a program with a Fulbright Program in Venezuela. She is currently teaching primary school in Venezuela under a Fulbright grant.

Megan: Knowing Spanish prior to her involvement in this program, Megan returned from Puerto Rico and decided to pursue an advance certification in Spanish. She left the program with more confidence in her Spanish speaking abilities and perhaps this had some influence on her decision to become a certified Spanish speaker in her community.

Bill: Following the program in Puerto Rico, Bill was asked to give a speech at Global Awareness Week at the high school where he taught. Over 400 students and teachers were present. His speech generated interest in the school.

Molly: Being a Spanish teacher, Molly was able to make many connections to her curriculum. She displayed information on Puerto Rico on one side of her classroom for the whole school year. Her Spanish III and IV class responded well to the video conference with Superior Alfonso Casta Martínez High School in Maunabo, Puerto Rico. Throughout the rest of the year, the classes exchanged



letters and a video of each others school. Molly remained in contact with one of the teachers from the program on a monthly basis. She indicates that this has considerably enriched her curriculum.

**Teachers Exchange Completed in Wisconsin:** With additional funding from the US Environmental Protection Agency and the Department of Education-Puerto Rico, the teachers from Puerto Rico and Wisconsin who participated in this study were reunited in Wisconsin in July 2005. Ten days were arranged for participants to learn about natural resources and work together to infuse the information into their curriculum.

**Year Two Teacher Program:** An additional group of teachers were organized in 2005. Using the same organization structure of this program, 20 teachers (10 from Wisconsin and 10 from Puerto Rico) united and learned together in Puerto Rico for two weeks. Some unexpected outcomes resulted from the second year program. Fictitious names are used to protect the identity of the participants.

Jackie: Following the exchange in Puerto Rico 2005, she went to China with the International Crane Foundation to attend a teacher workshop on crane conservation. GET helped facilitate her involvement.

Dina: Just a month after returning from Puerto Rico, Dina and her husband returned to Puerto Rico to visit. They went to Hacienda Verde and helped on some of their projects. She hopes to return again in the spring.

Kelly: Kelly and a teacher in Puerto Rico will collaborate through a video of both their classes. Students will share materials about the areas they live, their school and community. They will also share and compare information about the flora and fauna in Wisconsin to Puerto Rico. They plan to track the changes in the forest during the school year.

US Fish and Wildlife Service: This program has helped UW-SP's relationship with the US Fish and Wildlife Service on Vieques. They are interested in involving undergraduate and graduate students to participate in an internship program working on the Vieques National Wildlife Refuge.

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## **APPENDIX A: Memorandum of Understanding**

### **MEMORANDUM OF AGREEMENT FOR INTERNATIONAL UNIVERSITY COOPERATION BETWEEN**

**INTERAMERICAN UNIVERSITY OF PUERTO RICO**

**AND**

**THE UNIVERSITY OF WISCONSIN-STEVENSON POINT, U.S.A.**

**AND**

**REVIBE, INC., A NON-PROFIT ENVIRONMENTAL EDUCATIONAL FACILITY**

#### **I. PURPOSE:**

This agreement is entered into this first day of January, 2004 between the InterAmerican University of Puerto Rico, hereinafter referred to as "IAUPR," and the University of Wisconsin-Stevens Point, U.S.A., hereinafter referred to as "UW-SP" and Reverence for Life and Beauty, Incorporated, a non-profit environmental educational facility, hereafter referred to as "REVIBE." This memorandum of understanding (MOA) is established for educational and cultural exchange as well as development of basic scientific and applied technological research at these three institutions. The parties of this agreement are represented by President Manual J. Fernos for IAUPR, Mr. Luis M. Rico for REVIBE, and by Interim Chancellor Dr. Virginia Helm for UWSP.

#### **II. TERMS AND CONDITIONS:**

Pursuant to the above, the parties agree to cooperate as follows:

1. All three institutions are united by common interests and objectives in educational, scientific and cultural affairs, and wish to establish channels of communication that will permit the exchange of educational, scientific and cultural knowledge, staff and students.
2. The general terms for the exchange of educational, scientific and cultural knowledge, staff and students will be represented by this memorandum of agreement, and that work agreements will be executed for specific projects under this master agreement.
3. The aforementioned work agreements may be developed for, but are not limited to:
  - a. Interchange of personnel for participation in conferences, symposia, courses, workshops, research projects and the development of educational training and research proposals;
  - b. Short-term exchange of personnel to promote educational, scientific and technical skills;



## **APPENDIX A: Memorandum of Understanding**

- c. Exchange of publications and other teaching and research materials; and
  - d. Interchange for student training.
4. Specific areas for which the work agreements might be developed initially include, but are not limited to, natural resources and forestry.
  5. All institutions agree to consultation by correspondence or periodic visits to agree jointly on specific cooperative activities. The mutually developed and agreed upon work plans will require approval by the appropriate administrative representatives of the parties to this agreement or their designees.
  6. Each institution will be responsible for the international travel costs and living expenses of its personnel in accordance with its internal regulations unless otherwise agreed upon by all three institutions for specific projects and depending upon the projects' funding.
  7. Personnel will be subject to the patent policies of their own institution.
  8. Personnel will remain subject to the rules and regulations of their own institutions in all matters of employment, benefits, medical and life insurance, employee rights, etc.
  9. This agreement does not obligate IAUPR, REVIBE, or UW-SP to any financial expenditure. Such obligations, if any, will be made as part of the specific work agreements and annual program plans developed under this agreement.
  10. Within 30 days after the execution of this agreement, or as soon as possible thereafter, each institution will take action to:
    - a. Make this agreement and the opportunities available hereunder known to its personnel;
    - b. Provide assistance to personnel with the administrative details of the exchange and work agreements.
  11. This agreement may be modified at any time by written consent of all parties.
  12. This agreement will become effective upon receipt of all signatures and will be in effect for five (5) years. This agreement may be automatically renewed by mutual consent for an additional period of five (5) years. This agreement and any modifications thereto may be terminated by either party providing six months in advance written notice to the other institutions.
  13. An English version of this agreement is being distributed.

### **III. CONTACT PERSONS:**

The IAUPR President designates Dr. Armando Rodriguez-Duran, Dean of Arts and Sciences, as the IAUPR contact person. REVIBE, Inc. designates Luis Miguel Rico as

**APPENDIX A: Memorandum of Understanding**

the contact person. UWSP designates Dr. Randy Champeau, Associate Dean of Extension and Outreach, College of Natural Resources, as the contact person.

**IV. SIGNATURES:**

IN WITNESS WHEREOF, the parties have executed this agreement as of date first written above.

FOR THE INTERAMERICAN  
UNIVERSITY OF PUERTO RICO

FOR THE UNIVERSITY OF  
WISCONSIN-STEVENSON POINT, USA

\_\_\_\_\_  
MANUEL J. FERNOS  
PRESIDENT

\_\_\_\_\_  
DR. VIRGINIA HELM  
UWSP INTERIM CHANCELLOR

FOR REVERENCE FOR LIFE AND  
BEAUTY INC.

\_\_\_\_\_  
MR. LUIS M. RICO

## APPENDIX B: Puerto Rico-Wisconsin Environmental Education Project Plan Puerto Rico-Wisconsin

### Environmental Education Program 2003 - 2004 Project Plan



#### AIM

To enhance studies in environmental education and natural resources through an international experience for educators that will be administered through the Wisconsin Center for Environmental Education (WCEE). This program will build on the Memorandum of Understanding established between the Global Environmental Management (GEM) Education Center located in the College of Natural Resources at the University of Wisconsin – Stevens Point (UW-SP), InterAmerican University of Puerto Rico (IAUPR), and Reverence for Life and Beauty Incorporated (REVIBE) to support the educational and cultural experiences as well as the development of basic scientific and applied technological research at the three institutions.

#### GOALS



- Build a deeper understanding among educators concerning the world's diverse biosphere through a **cultural, educational, and international exchange**.
- Provide participants with **professional development opportunities** through an international environmental education experience.
- Build **leadership skills** among the participants which will develop the knowledge and skills necessary to work towards the protection and sustainability of the world's biosphere.

#### OBJECTIVES

Through a cultural, educational, and environmental program between Wisconsin and Puerto Rico, participants will:

- Identify similarities and differences between the ecosystems in Wisconsin and Puerto Rico and further explore their unique characteristics.
- Participate in environmental research projects to compliment studies in natural resources and environmental education at UW-SP and IAUPR.
- Understand the issues and challenges surrounding the protection and sustainability of the ecosystems in each area.
- Participate in workshops to apply their knowledge and skills about the environment to produce a product that will enhance environmental education.
- Collaborate among colleagues during the program to enhance their knowledge, understanding, and skills in natural resources and environmental education.



#### Committee Objectives

To reach the above goals and objectives the Wisconsin and Puerto Rican Environmental Education Committee\* established by the WCEE will:

- Assist the InterAmerican University to outline an action plan to administer a Masters Program similar to the Masters Program in Environmental Education at UW-SP.
- Identify components necessary to develop joint courses between UW-SP and IAUPR.

## **APPENDIX B: Puerto Rico-Wisconsin Environmental Education Project Plan**

- Initiate joint scientific projects between UW-SP and REVIBE that will enhance participants' knowledge, understanding, and skills in natural resources and environmental education.

\*Currently the WI/PR Environmental Education Committee consists of four members: Dr. Dennis Yockers, Dr. Mai Phillips, Carol Wake, and Susan Ermer. Additional members will be identified at a later date.

### **MEANS:**

In order to reach the aim of the project, Wisconsin educators will gain knowledge about Puerto Rico through an online course. During this course lessons will highlight unique characteristics of island ecology in comparison to temperate biomes. During the two-week program in Puerto Rico, teachers from Wisconsin and Puerto Rico will interact during a multi-day workshop. Bilingual resources on environmental education in English and Spanish will be introduced and used. Follow up workshops and online collaboration with Wisconsin teachers and the WCEE will assist teachers throughout the program. A comprehensive evaluation will be performed following the program to make further recommendations for the continuation of the project.

### **AUDIENCE:**

The budgetary scope of the project will directly benefit ten educators in Wisconsin that have completed at least one year of the Masters in Environmental Education Program for teachers. Although some funding from this original grant will be used, additional funding will be solicited to support the involvement of ten Puerto Rican teachers that have expressed a strong desire and interest in environmental education.

The indirect and ultimate beneficiaries are students. This project will indirectly impact 1,000 students assuming each teacher involved educates an average of 50 students per year. Resources developed will be implemented in the classroom to expand the students' knowledge of environmental education to a more global understanding.

### **PARTNERSHIPS:**

The aim of this project strengthens the partnership between five constituencies. Additional agencies will be joined through indirect partnerships to contribute to the success of the program. Direct partnerships include the following agencies:

University of Wisconsin – Stevens Point

- College of Natural Resources
- Wisconsin Center for Environmental Education
- Global Environmental Management Educational Center

InterAmerican University of Puerto Rico – Bayamon Campus

REVIBE – Hacienda Verde

Indirect partnerships include:

Wisconsin Department of Public Instruction

Wisconsin Department of Natural Resources????

EnviroSurvey, Inc.

US Fish and Wildlife – Caribbean

US Forest Service – Caribbean

Coralations Inc.

Puerto Rico Department of Education

Puerto Rico Department of Natural Resources and the Environment



**APPENDIX B: Puerto Rico-Wisconsin Environmental Education Project Plan  
TIMELINE AND RESPONSIBILITIES:**

<b>April 2003</b>	Development of the MOU between UW-SP, IAUPR, and REVIBE
	Puerto Rico/Wisconsin Environmental Education Committee established
<b>May 2003</b>	Research similar programs
	Program development, goals and objectives, etc.
<b>June-July 2003</b>	Site visit in Puerto Rico
	Collaborate with partners and establish networks to accomplish the project goals
<b>August 2003</b>	Continued project development
	Collaborate with WI partners
<b>Sept/October 2003</b>	Establish marketing strategies
	Online course development
	Develop trip itinerary 2004
	Outline participation criteria
	Develop flyer/announcement
<b>November 2003</b>	Send announcements to candidates
	Announce project on the website
	Online course development (cont.)
<b>Dec/January 2003</b>	Selection process
	Online course development (cont.)
<b>January, 30 2004</b>	Send acceptance letters to participants
<b>February 2004</b>	Organization meeting with participants
	Communication with participants and finalize arrangements for online course
<b>March 2004</b>	Participants enrolled in online course
	Organize logistics for the trip: airline tickets, vehicle rental, course registration, accommodations, etc.
<b>April 30,2004</b>	Participants finish online course
<b>May 2004</b>	Preparation of logistics
<b>June 18-July 1, 2004</b>	Educational Program in Puerto Rico
<b>July 8–18, 2004</b>	Compile and Review Evaluations
<b>August 2004</b>	Follow-up assignment plans (Bring the experience home)
<b>Fall 2004</b>	Teachers implement plans into the classroom
	Formal evaluation performed
	Recommendations made for project continuation

**APPENDIX B: Puerto Rico-Wisconsin Environmental Education Project Plan**

Expense	Total	Comments
PR Site Visit June 28- July 5, 2003	\$5,200	Flights-\$2,200/Miguel-\$1,200/Transport in PR-\$600/Lodging-\$1,100/Fees-\$100
Online Course Development (July- Dec03)	\$1,500	
Grad Student Stipend (May 1, 2003-April 30, 2004	\$5,000	Susan Ermer (32hrs/month for 12 months=364 hrs at \$13.75/hr.)
Miscellaneous	\$4,300	Printing, mailings, phone, resources for course
Trip Expense for 2 instructors June 2004	\$4,000	
Stipend for 10 teachers June 2004	\$10,000	
<b>Total</b>	<b>\$30,000</b>	

**BUDGET: \$30,000**

**EVALUATION:** (To be further developed)

A descriptive and thorough evaluation will be recorded and recommendations will be given for the continuation of the project for the following two years funding is allocated.

**APPENDIX C: Itinerary in Puerto Rico June 17-July 1, 2004**

	Thursday 6/17	Friday 6/18	Saturday 6/19	Sunday 6/20	Monday 6/21	Tuesday 6/22	Wednesday 6/23
Breakfast		El Yunque	El Yunque	TradeWinds - Esperanza	TradeWinds - Esperanza	TradeWinds - Esperanza	Mata de Plantano
Morning	Leave Chicago at 1:15pm - O'hare	Teacher Workshop	Morning in El Yunque	Snorkeling Ecotour 9am to 2pm	Meet Gisella Burgos with the US Fish and Wildlife Service	Leave via Ferry at 11am	Introduction to Karst Topography
Lunch	On Plane	El Yunque	Fajardo	Tiki Hut Sack Lunch	Tiki Hut Sack Lunch	On the Road	Mata de Plantano: Toni Bach lead discussion
Afternoon		Teacher Workshop	Ferry to Vieques at 3:00		Meet Gisella Burgos with the US Fish and Wildlife Service	Travel to Mata de Plantano	Arecibo Observatory
Dinner	San Juan	Tropical Paradise	Esperanza	Esperanza	Esperanza	Mata de Plantano	Mata de Plantano
Evening	Arrive in Pr at 6:51pm	Kim Lemberger and Genene Lynott lead discussions	Rest	Bioluminescent Bay	Turtle research with Julian Garcia Martinez	Bats and Boas	Hanna Anderson lead discussion
Lodging	La Familia Hotel - Fajardo	La Familia Hotel - Fajardo	TradeWinds - Esperanza	TradeWinds - Esperanza	TradeWinds - Esperanza	Mata de Plantano	Mata de Plantano
Theme		Tropical Rainforests	Tropical Rainforests	Dry Forest and Turtle Biology	Marine Ecology	Bat Ecology	Biodiversity and Astronomy
Contact	Blanca Ruiz	Blanca Ruiz	Gisella Burgos	Gisella Burgos	Gisella Burgos	Armando Rodriguez-Duran and Frances Venegas	Armando Rodriguez-Duran and Frances Venegas

**APPENDIX C: Itinerary in Puerto Rico June 17-July 1, 2004**

	Thursday 6/24	Friday 6/25	Saturday 6/26	Sunday 6/27	Monday 6/28	Tuesday 6/29	Wednesday 6/30	Thursday 7/1
Breakfast	Mata de Plantano	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hotel
Morning	Karst Region - Rio Camuy Cave	Explore the Watershed at Hac Verde	Explore and learn about sustainable ag while working in coffee fields	Utuado and optional church service	Tour and learn about the forest at Hac Verde - DNR-PR	Party Puerto Rican Style	Say Good-bye - Travel To San Juan	
Lunch	Lares	Hacienda Verde	Hacienda Verde	Utuado	Hacienda Verde	Hacienda Verde	San Juan	
Afternoon	Optional Walk - Settling In	Teacher Workshop - Curriculum on Watersheds	Teacher Workshop - Teaching about Sustainable Ag.	Indigenous Site Teachers lead disucssion	Rio Abajo Forest go to see local artist	Party Puerto Rican Style	San Juan - Free for Shopping or Walking Tour	
Dinner	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hotel	
Evening	Nature Journaling	Teachers lead discussion	Teacher leads discussion	Forest at Night	Teacher leads dance lessons	6 pm music	Debriefing	
Lodging	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	Hacienda Verde	San Juan - Best Western	
Theme	Karst Topography	Watershed Management	Sustainable Agriculture	History and Culture of Puerto Rico	Sustainable Forestry	Culture	Culture	
Contact	Miguel Rico and Nani Gonzalez	Miguel Rico and Nani Gonzalez	Miguel Rico and Nani Gonzalez	Miguel Rico and Nani Gonzalez	Miguel Rico and Nani Gonzalez			



## APPENDIX D: Promotional Cover Letter

Tuesday, October 20, 2003

Dear Educator,

Hola! The Wisconsin Center for Environmental Education would like to extend an opportunity to participate in a unique experience with Puerto Rican teachers. This summer the WCEE is offering an environmental education exchange program as one of the course offerings. We understand the knowledge you have gained through the UW-SP Masters in Environmental Education Program and would like to offer this three credit program in order to expand your knowledge to island ecology, collaborate with Puerto Rican teachers on an environmental education project, and gain insight firsthand on Caribbean culture. Through partnerships and grants, the WCEE will offer this opportunity to gain 3 credits, travel to Puerto Rico, and participate in the two week program for the reduced cost of **approximately \$1,800-2,000**.

The Puerto Rican/Wisconsin Exchange includes three goals:



- Build a deeper understanding among educators concerning the world's diverse biosphere through a **cultural, educational, and international exchange**.
- Provide participants with **professional development opportunities** through an international environmental education experience.
- Build **leadership skills** among the participants which will develop the knowledge and skills necessary to work towards the protection and sustainability of the world's biosphere.

You will receive three graduate credits through a one credit online course prior to the trip and a two credit course during the two weeks in Puerto Rico. The WCEE is looking for individuals with a curiosity for other cultures, the willingness to share their environmental education knowledge and leadership, and enthusiasm to participate as an active member of a team.

Attached is further information about the program. We look forward to sharing the diverse ecosystems and culture of Puerto Rico with you. Feel free to contact Dr. Dennis Yockers at 715-346-4943 or Susan Ermer at 715-346-4349 if you have questions or comments.

Sincerely,

Susan Ermer  
Environmental Education Specialist, WCEE

Dr. Dennis Yockers  
Associate Professor, WCEE

Enclosure

# Explore Puerto Rico!

## Two Week Educational Exchange Program for Teachers Summer 2004



Graced with an array of breathtaking landscapes, Puerto Rico offers a tremendous amount of beauty and biodiversity. From 200 foot cliffs banking the ocean to an extensive freshwater aquifer that sculpts a massive cave system in the Karst Region to rain clouds slowly misting the dense tropical forests, this island offers a magnificent opportunity to explore island ecology. The adventure never ceases to end. Explore diverse cultures and customs, unique geological features, and specific habitats for various endangered species all enclosed in 311 miles of land coverage, about the size of Delaware.

The Wisconsin Center Environmental Education is offering a unique opportunity to explore Puerto Rico. Teachers will travel to Puerto Rico **for two weeks in June 2004** to learn about island ecology and participate in a teacher exchange. Preference will be given to those who have graduated or completed one year of UW-Stevens Point's Extended Masters Program in Environmental Education.

### The course consists of four parts:

- Part 1: One credit online course in April about island ecology and Puerto Rico prior to the visit
- Part 2: EE Exploration Excursions – Visiting Puerto Rico's diverse landscapes
- Part 3: EE Workshop with Puerto Rican teachers
- Part 4: 2 day homestay experience (tentative)



View Images Online at  
[www.uwsp.edu/wcee](http://www.uwsp.edu/wcee)

**Through grants and partnerships, the WCEE is offering this program at the reduced cost of approximately \$1,800-2,000. This includes:**

- 3 Graduate Credits
- Round trip airfare to Puerto Rico
- Food, lodging, and travel expenses while in Puerto Rico

**Tentative Dates:** Summer 2004 - June 17<sup>th</sup> to July 1<sup>st</sup>

**Limit:** 10 participants (Preference will be given to those participating or graduated from the Extended Masters Program in Environmental Education from UW-SP.)

**Optional:** Extended excursion to study Giant Leatherback sea turtles on Culebra Island following the trip

**Application Deadline: January 9, 2004**  
**For an application or more information, contact Susan Ermer at**  
**715.346.4349 or [sermer@uwsp.edu](mailto:sermer@uwsp.edu)**

APPENDIX F: Application  
**Puerto Rico-Wisconsin  
Environmental Education  
Exchange**



**Application Form**



Instructions:

Please answer all the questions provided. The PR/WI Reviewing Committee will be organized to verify eligibility and select participants for this program. Please type or neatly write your responses in black ink. This form can be copied to accommodate the needs of additional applicants. When completed, mail to:

**Wisconsin Center for Environmental Education**

Att: Susan Ermer

University of Wisconsin-Stevens Point  
Room 110 - College of Natural Resources  
Stevens Point, WI 54481

Before mailing your completed application, be sure you have included the following:

- Application Form
- Essay
- 2 Letters of Reference
- Signatures from your principal and school district administrator

**Application Deadline Received By: January 9<sup>th</sup>, 2004**

Feel free to contact Susan Ermer at 715-346-4349 or [sermer@uwsp.edu](mailto:sermer@uwsp.edu) or Dennis Yockers at 715-346-4943 or [dyockers@uwsp.edu](mailto:dyockers@uwsp.edu) if you have questions or comments.

*The Wisconsin Center for Environmental Education aims to promote, develop, disseminate, implement, and evaluation environmental education programs for K-12 teachers and students in Wisconsin.*

**APPENDIX F: Application**  
**Puerto Rico-Wisconsin Environmental**  
**Education Exchange**  
**Application Form**



Please provide all the information below:

Name: First \_\_\_\_\_ Last \_\_\_\_\_ Maiden \_\_\_\_\_ Gender: Male/Female

Home Address: \_\_\_\_\_ Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

School Address: \_\_\_\_\_ Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Home Phone: \_\_\_\_\_ School Phone: \_\_\_\_\_

E-mail \_\_\_\_\_

Are you a US Citizen? Y/N \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Place of Birth: \_\_\_\_\_  
 (City, State)

General Grade Level Taught: \_\_\_\_\_ Number of years in the education field: \_\_\_\_\_

General Subject Area: \_\_\_\_\_

Have you enrolled in UWSP's Extended Masters in Environmental Education Program: Y / N  
 If so, what is your anticipated graduation date or which year did you graduate? \_\_\_\_\_



**PREVIOUS FOREIGN TRAVEL EXPERIENCE**

Please fill in your most recent overseas travel experience. (if applicable)

Place	Dates	Reason for travel (personal, educational, employment, etc.)

Do you know how to speak Spanish? Y / N  
 If so, please rate your abilities. Good / Fair / Poor  
 If necessary, use the space below to explain further.

\_\_\_\_\_

\_\_\_\_\_

**APPENDIX F: Application**

**SPECIAL NEEDS**

Do you have any chronic/reoccurring health conditions that may restrict your participation? Y/ N

If yes, please explain: \_\_\_\_\_

Do you have any dietary needs or restrictions for us to be aware of? Y / N

If yes, please explain: \_\_\_\_\_

Do you have any special requests or conditions of concern? Y / N

If yes, please explain: \_\_\_\_\_

Upon acceptance to this program, you will be asked to be cleared by a medical physician prior to travel in Puerto Rico.

**ESSAY**

To complete your application, please submit a 2-3 page essay explaining your interest in this program. Use the following questions as a guide.

- 1) Explain how you feel this educational teacher exchange program will benefit you.
- 2) How do you plan to use this exchange in your profession?
- 3) How do you respond to traveling overseas and encountering different cultures?
- 4) What professional skills and/or knowledge could you offer to this program?
- 5) Discuss how you are a leader in environmental education in school, your community, or the state.

**RECOMMENDATIONS**

Please include two (2) letters of recommendation: one from your principal and the other from a community member, teacher, or friend who knows you well enough to complete this recommendation.

Where did you hear about this exchange program? \_\_\_\_\_

**APPROVAL**

Please ask your school principal and district administrator to sign.

I, Mr./ Ms./Dr. \_\_\_\_\_, understand the value of overseas experience for staff development opportunities and support my staff to participate in this two-week environmental education program in Puerto Rico during the summer of 2004. I understand the attendee will be asked to attend a pre-trip organization meeting in the spring 2004 and post-



## **APPENDIX G: Agenda for Orientation**

### **Agenda**

May 21, 2004

Puerto Rico Leaders and Participants

9 am to 4:30 pm

9:00 am	Sweat Breaker with Dennis Yockers as Alex Trebek
9:30 am	Introduction into Puerto Rico and Personal Expectations
10:00 am	Medical Precautions by Dr. Zach
10:30 am	Logistics – Medical Insurance/Emergency Plan/Cost
11:30 am	Online Course Reflection
Noon	Lunch
12:45 pm	Have you packed your 5 suitcases?
1:15 pm	Puerto Rico video clips
1:30 pm	Itinerary and Culture Awareness
2:15 pm	Break
2:30 pm	Ready for EE Resources?
3:00 pm	Spanish 101
3:30 pm	Research
4:00 pm	Course Assignment and Expectations
4:15 pm	Evaluation
4:30 pm	Adjourn

## APPENDIX H: Outline of Activities and Speakers in Puerto Rico El Yunque Workshop

### Friday 6/18

Arrive at EL Portal Rain Forest Center and meet at El Portal Conference Room

- 9:00 Welcome - Forest Supervisor
- 9:05 Puerto Rican Parrot Recovery Program, Jafet Vélez, FWS
- 10:00 Break
- 10:15 Tour of EL Portal, Blanca Ruiz
- 11:00 Introduction to Tropical Forests and Tropical Forest Trunk, Blanca Ruiz, Interpretive & CE Program Manager
  
- 12:00 Drive up Rd. 191 with stops at La Coca Falls, Yokahu Tower, Sierra Palm
- 12:30 Lunch at Sierra Palm\*
- 14:00 Hike from Palo Colorado to La Mina Falls and back through Big Tree Trail, Edwin Velazquez, Interpreter & Blanca Ruiz
- 15:30 Break
- 17:00 Talk at entrance of trail:  
***Discovering the marvels of microrganisms in nutriet cycling*** Dr. Deborah J Lodge  
***Day and Night lifestyles of some El Yunque creature*** Dr. Joseph M. Wunderle, Jr
- 18:30 Drive back to La Familia
- 19:00 Dinner – Tropical Paradise in Fajardo

### Saturday, 6/19

- 05:15 am Drive to the Forest
- 05:30 ***The Forest Awakens*** - Interpretive tour of El Portal Trail, Víctor Cuevas, Interpretive Supervisor
- 07:30 Breakfast\*
- 09:00 Talk and drive/walk to selected forest historic sites:  
***Human footprints from Taino to present***, Dr. Jeff Walker, Archeologist, CNF
- 11:30 Drive to lunch and Fajardo pier

Dress should be slacks/shorts and sneakers (no skirts or heels) in order to visit Cara de Indio site. With a bathing suit underneath if they want to take a dip in the river while visiting the petroglyphs.

\*Palmer Bakery, they have very good breakfast options and very reasonable prices.



**APPENDIX H: Outline of Activities and Speakers in Puerto Rico  
Schedule on Vieques**

Saturday 6/19:

- 3:00pm Take Ferry to Vieques
- 4:30pm Arrive on Vieques and drive to Trade Winds Hotel
- 6:00pm Dinner on your own and the rest of the night free to explore Esperanza or rest\*

Sunday 6/20:

- 8:00 am Breakfast at Trade Winds
- 9:00 am Introduction to US Fish and Wildlife Service/Vieques National Wildlife Refuge
- 10:30 am Snorkeling  
Lunch on the beach
- 1:30 pm Return to the hotel to clean up and Siesta
- 3:00 pm Depart to Vieques National Wildlife Refuge Eastern end (Dry Forest, Turtle biology)
- 5:30 pm Meet with Julian Garcia Marinez
- 6:00 pm Dinner Reservations to be announced
- Night Turtle Watching

Monday 6/21:

- Morning open to rest up
- 11:00 am Vieques National Wildlife Refuge
- 12:00 pm Lunch at Camp Garcia (Bieke's History)
- 1:00 pm Depart to Vieques National Wildlife Refuge Western end (Mangroves)
- 3:30 pm Siesta
- 5:00 pm Dinner in Esperanza\*
- 6:30 pm Meet at Trade Winds for the Bio Bay tour

Tuesday 6/22:

- 7:30 am Breakfast
- 8:30 am Take ferry back to the mainland Puerto Rico

On Vieques, we will be touring around and visiting various ecosystems. On the refuge wear comfortable clothes and shoes. It will be hot so a hat and sunscreen is highly recommended.

\*Esperanza is a small, quaint town with several very good restaurants. Suggestions will be given to at Trade Winds.

**APPENDIX H: Outline of Activities and Speakers in Puerto Rico  
Mata de Platano Workshop**

Tuesday, June 21

3:00 pm Arrive at Mata  
4:00 pm Overview of Bats and Boas  
5:00 pm Dinner  
6:00 pm Set up for misnetting  
7:00 pm Observe and misnet bats  
9 or 10 pm PR teachers leave for Hacienda Verde

Wednesday, June 22

7:00 am Birding with Dennis  
8:00 am Breakfast  
9:00 am Introduction to Karst Topography with Abel Vale, president of Citizens of the Karst.  
12:00 pm Overview of the Arecibo Observatory by Toni Bach  
12:30 pm Lunch  
2:00 pm Tour scheduled for the group  
4:00 pm Return to Mata or Hacienda Verde  
5:00 pm Rest  
6:00 pm Dinner  
7:00 pm Hanna Anderson lead a discussion on hurricanes and Week One Reflections

Thursday, June 23

7:00 am Birding with Dennis  
8:00 am Breakfast  
8:30 am Leave for Rio Camuy Caves to meet PR teachers  
9:00 am Tour Rio Camuy  
11:00 am Drive to Lares  
Noon Lunch in Lares  
1:00 pm Tour coffee plantation - Tentative  
3:00 pm Travel to Hacienda Verde

**APPENDIX H: Outline of Activities and Speakers in Puerto Rico  
Teacher Exchange and Environmental Education Workshop**

Thursday, June 24, 2004 to Wednesday, June 30, 2004

Hacienda Verde, Utuado, Puerto Rico

One week will be organized to involve the following people: 11 teachers from Wisconsin, 10 teachers from Puerto Rico, 5 WI coordinators, 4-5 PR coordinators, and 3 guest speakers. The goals of the workshop are to:

- Build a deeper understanding among educators concerning the world's diverse biosphere through a **cultural, educational, and international exchange**.
- Provide participants with **professional development opportunities** through an international environmental education experience.
- Build **leadership skills** among the participants which will develop the knowledge and skills necessary to work towards the protection and sustainability of the world's biosphere.

To meet the goals of the workshop, the week will consist of two components:

1. Professional Development in Environmental Education
  - a. Theme I: Watershed Management: Visit the hacienda's water shed and learn about water quality issues that affect Puerto Rican residences. Also receive training on supportive curriculum available to teachers.
  - b. Theme II: Sustainable Agriculture: Learn about sustainable agriculture and land use practices. Also receive training on curriculum available to teachers.
  - c. Theme III: Tropical Forests: Learn about tropical forests and receive training on curriculum available to teachers.
2. Cultural Awareness and Exchange

Wisconsin and Puerto Rican teachers will be asked to participate in the whole week. Each morning the teachers will receive instruction about one of the three themes: Watershed Management, Sustainable Agriculture, and Tropical Forests. In the afternoon each day, teachers will learn about some curriculum materials that can be used to address these topics. Participants will be asked to actually participate in some of the lessons to gain hands-on experience using various curriculums. Throughout the week, Wisconsin and Puerto Rican teachers will work together on various workshops and sessions. The evenings will allow for time for the teachers to share their best classroom practices. This will help build leadership skills among the teachers. Everyone will be expected to remain at Hacienda Verde for the complete workshop. Biodiversity will be a concept that will be used to connect all three themes as one.

**APPENDIX H: Outline of Activities and Speakers in Puerto Rico**  
Hacienda Verde Workshop

**Thursday 6/24: Arrival and introductions**

- 3:00pm Teachers arrive at Hacienda Verde and check in to the lodging facilities.
- 5:30pm Dinner
- 6:30pm Social with everyone – Susan and Dennis lead some introductory activities and go over the planned itinerary for the week.

**Friday 6/25: Watershed Management**

- 6:00am Optional Bird Walk/Yoga/Morning Trek
- 7:00am Breakfast
- 8:00am Session 1a: A guest speaker from USGS- Fernando Soto and NRCS-Edwin Mas will talk about the watershed around Hacienda Verde.
- Noon Lunch
- 1:00pm Siesta
- 2:00pm Session 1b: Blanca Ruiz will talk about the Adopt-a-Watershed program. Nature Journaling session led by Kathy Kruthoff. Teachers will receive curriculum instruction about watershed management through a river analysis activity and soil analysis
- 5:30pm Dinner
- 7:00pm Share session. Janine Hedges will lead a discussion about water issues in Puerto Rico.

**Saturday 6/26: Sustainable Agriculture**

- 6:00am Optional Bird Walk/Yoga/Morning Trek
- 7:00am Breakfast
- 8:00am Session 2a: Miguel Rico will speak about the shade-grown coffee at Hacienda Verde and benefits of sustainable agriculture that promotes biodiversity of flora and fauna. All teachers proceed into the hacienda for a tour.
- Noon Lunch
- 1:00pm Siesta
- 2:00pm Session 2b: Teachers will participate in a service learning project to help the ecological diversity by planting trees and plants. Some curriculum instruction will be offered. (Service Learning Project actually postponed due to rain. Kim was injured and taken to the hospital. Teachers discussed best practices.)
- 5:30pm Dinner
- 7:00pm Share session. Randy Colton will lead a discussion on population issues related to Puerto Rico

## APPENDIX H: Outline of Activities and Speakers in Puerto Rico

### Sunday 6/27: Culture and History of Puerto Rico

6:00am	Optional Bird Walk/Yoga/Morning Trek
7:00am	Breakfast
9:00 am	Drive into Ponce for the morning. (about a 1 ½ hour drive) Walk around, go to church if people want, shop, etc.
noon	Lunch
1:00pm	Visit the Tibes Indigenous Museum
3:30	Return to Hacienda Verde for a siesta
5:00pm	Dinner
7:00pm	Puerto Rican story telling/Literature/tales by Cari Frederiksen and Mary Scheifer will lead a discussion on the Kapok Tree Walk into the forest (canceled due to rain)

### Monday 6/28: Tropical Forests

6:00am	Optional Bird Walk/Yoga/Morning Trek
7:00am	Breakfast
8:00am	Session 3a: Guest speakers from US Fish and Wildlife-Edwin Muniz and Carlos Diaz talks about the forest type around Hacienda Verde. All teachers proceed into the forest for a tour to learn about the biodiversity within the forest.
Noon	Lunch
1:00pm	Long Siesta due to hike in the morning
3:00pm	Service learning project planting native plants for wildlife habitat.
5:30pm	Dinner
7:00pm	Share session. Dance lessons led by Sara Krauskopf

### Tuesday 6/29: Party – Puerto Rican Style

6:00am	Optional Bird Walk/Yoga/Morning Trek
7:00am	Breakfast
8:00am	Special visit to Rio Abajo Aviary: Travel to Rio Abajo for a tour of the Puerto Rico Parrot aviary led by Ricardo Valentin.
Noon	Lunch
1:00pm	Siesta
2:00pm	Time for Packing
3:00pm	Closure activities: Final evaluations and feedback, slideshow, preparation for the band
5:30pm	Dinner
7:00pm	Puerto Rican Party- Dancing like you never danced before!!!!

### Wednesday 6/30: San Juan

8:00 am	Breakfast and saying good-bye
9:00 am	Depart for San Juan

APPENDIX I: Pre-trip Assessment  
**Wisconsin Teacher Assessment**

**International/Global Education and Environmental Education**

**Directions:** The purpose of this assessment is to gather information about your experiences and attitude as they relate to the environmental education and international/global education and assess your teaching methods regarding these topics. Please read and answer each question below to the best of your knowledge. It might be important to take a moment to think about each question carefully before answering.

Name: \_\_\_\_\_ (During the research analysis, your name will be coded to respect confidentiality.)

1. How many years have you been teaching? \_\_\_\_\_
2. What subject area(s) do you teach? \_\_\_\_\_
3. What grade level(s) do you teach? \_\_\_\_\_
4. Indicate the highest level of education you have received.  
 Bachelors degree  
    BS or BA (please circle one)  
    Please indicate your major: \_\_\_\_\_  
 Masters degree  
    Please indicate your emphasis: \_\_\_\_\_  
 Other Degrees: (please list) \_\_\_\_\_
5. Have you previously traveled internationally?  
 No, if no then go to next section.  
 Yes
  - a) How many travel experiences have you had internationally? \_\_\_\_\_
  - b) What was your purpose of your previous travel experiences? (mark all that apply)  
 Personal  
 Educational  
 Volunteer  
 Business  
 Other \_\_\_\_\_
  - c) In total, how much time would you say you have spent internationally? (circle one)
    - 1) One week
    - 2) Less than a month
    - 3) Less than three months
    - 4) Less than a year
    - 5) 1-2 years
    - 6) More than 2 years
  - d) How much do you feel your international experience(s) influence your curriculum? (Circle one)
    - 1) Very much
    - 2) Some
    - 3) Not Much
    - 4) Not at all
  - e) Optional: Offer additional comments below regarding your travels

APPENDIX I: Pre-trip Assessment

Assessing Your Environmental Education Instruction:

*Definition: Environmental Education is a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions. By these actions, environmentally literate citizens will help ensure an ecologically and economically sustainable environment.*

*(WI DPI, A Guide to Curriculum Planning in Environmental Education)*

1. Does your school district have a written EE curriculum plan?

\_\_\_\_\_ No, if no then go to question 2.

\_\_\_\_\_ Not sure, if you are not sure, then go to question 2.

\_\_\_\_\_ Yes

Do you have a copy of this plan? (circle one) Yes No

How often do you refer to it? (circle one)

Daily Weekly Monthly Yearly Never

2. Do you currently infuse education about the environment into your class curriculum?

\_\_\_\_\_ No, if no then go to question 3.

\_\_\_\_\_ Not sure, if you are not sure, then go to question 3.

\_\_\_\_\_ Yes

a. What is your main reason for teaching students about the environment?

b. During the last school year (2003-04), how often would you say you infused education about the environment into your class curriculum? (circle one)

- 1) Once a school year
- 2) Once each semester
- 3) 2-3 times a semester
- 4) Monthly
- 5) Weekly
- 6) Daily

3. Did you receive training in environmental education (EE) teaching methods during your pre-service education?

\_\_\_\_\_ No, if no then go to question 4.

\_\_\_\_\_ Yes

If yes, how many courses related to EE teaching methods did you take? \_\_\_\_\_

4. Have you received in-service training or taken post-graduate courses related to EE teaching methods?

\_\_\_\_\_ No, if no then go to question 5.

\_\_\_\_\_ Yes

If yes, how many courses/workshops have you taken? \_\_\_\_\_

**APPENDIX I: Pre-trip Assessment**

To gather your general attitudes and information regarding your teaching as it relates to EE, use the following key to indicate your opinion on the following statements.

1 = Strongly agree    2 = Agree    3 = Undecided    4 = Disagree    5 = Strongly disagree

- \_\_\_\_\_ 5. Relative to other subjects I teach, environmental education is important.
- \_\_\_\_\_ 6. I believe my instruction is effective in developing environmentally literate citizens.
- \_\_\_\_\_ 7. As a result of attending my classes, students are more aware of environmental concepts and problems.
- \_\_\_\_\_ 8. I am effective at teaching students the skills needed to resolve environmental issues.
- \_\_\_\_\_ 9. As a result of attending my classes, students are more knowledgeable of ecology and environmental issues.



**Assessing Your International/Global Education Instruction:**

*Definition: International Education (or Global Education) teaches about the lives and the natural and social contexts of people living in other countries and cultures and actively promotes immersion experiences in other cultures. International education is an approach that creates awareness of political, economic, scientific, and cultural interdependence that exists across national and cultural borders. It acknowledges the complexity of the world's peoples including their difference, similarities, conflicts, and connections.*

(WI DPI, Planning Curriculum in International Education)

- 1. Do you currently infuse education about different countries into your class curriculum?
  - \_\_\_\_\_ No, if no then go to question 2.
  - \_\_\_\_\_ Not sure, if you are not sure go to question 2.
  - \_\_\_\_\_ Yes
    - a. What is your main reason for teaching about different countries?
  
    - b. During the last school year, how often would you say you infused education about different countries into your class curriculum? (circle one)
      - 1) Once a school year
      - 2) Once each semester
      - 3) 2-3 times a semester
      - 4) Monthly
      - 5) Weekly
      - 6) Daily



**APPENDIX I: Pre-trip Assessment**

2. Do you currently infuse education about different cultures into your class curriculum?

\_\_\_\_\_ No, if no then go to question 3.

\_\_\_\_\_ Not sure, if you are not sure then go to question 3.

\_\_\_\_\_ Yes

a. What is your main reason for teaching about different cultures?

b. During the last school year (2003-04), how often would you say you infused education about different cultures into your class curriculum? (circle one)

- 1) Once a school year
- 2) Once each semester
- 3) 2-3 times a semester
- 4) Monthly
- 5) Weekly
- 6) Daily

To gather your general attitudes and information regarding your instruction related to international/global education, use the following key to indicate your opinion on the following statements.

1 = Strongly agree    2 = Agree    3 = Undecided    4 = Disagree    5 = Strongly disagree

\_\_\_\_\_ 3. Relative to other topics, I feel that teaching about international/global education is important.

\_\_\_\_\_ 4. I believe my instruction is effective in building students cross-cultural competency.\*

\_\_\_\_\_ 5. As a result of attending my classes, students are aware of other countries and cultural issues related to that country.

\_\_\_\_\_ 6. I am effective at teaching students the skills needed to relate to people of other cultures.

\_\_\_\_\_ 7. I believe my instruction is effective in developing culturally sensitive citizens.

*\*Cross-Cultural Competency is defined as having the ability to interpret and evaluate inter-cultural encounters with a degree of accuracy and to show cultural empathy.*

## APPENDIX I: Pre-trip Assessment

### Assessing Your Teaching Methods:

The purpose of this section is to gather information of your teaching methods you have used in the past as it relates to environmental education and/or international/global education. This section is divided up in three categories: Cognitive Teaching Methods, Affective Teaching Methods, and Action Strategies.

**Directions:** Take a minute to think about your classroom instruction and the teaching methods you have previously used in your curriculum to teach about environmental education and/or international/global education. If you have never taught environmental education or international/global education, then leave this section blank and go to the next section.

*Cognitive teaching methods can be used to encourage awareness about environmental and global issues and increase the knowledge about a these topics in order to develop skills to help resolve issues related to the environment and the world.*

1. Please mark each of the cognitive education methods you have previously used in your classroom to teach about environmental education and/or international/global education. If you have not used any of these methods then leave blank and go to question 2.

- |  |   |
|--|---|
| <input type="checkbox"/> Outdoor teaching strategies       | <input type="checkbox"/> Self-directed learning       |
| <input type="checkbox"/> Guided discovery                  | <input type="checkbox"/> Cooperative learning         |
| <input type="checkbox"/> Lectures                          | <input type="checkbox"/> Computer-oriented activities |
| <input type="checkbox"/> Experiments                       | <input type="checkbox"/> Writing, art, and music      |
| <input type="checkbox"/> Role playing and dramatizations   | <input type="checkbox"/> Independent projects         |
| <input type="checkbox"/> Problem-solving/critical thinking | <input type="checkbox"/> Group projects               |
| <input type="checkbox"/> Case studies                      | <input type="checkbox"/> Community resource           |
| <input type="checkbox"/> Data gathering and analysis       | <input type="checkbox"/> Observations                 |
| <input type="checkbox"/> Audiovisuals                      |   |
| <input type="checkbox"/> Issue investigation               |   |
| <input type="checkbox"/> Simulations                       |   |

*Affective Teaching Methods can be used to examine attitudes and values inherent to environmental and global issues.*

2. Please mark each of the affective teaching methods you have previously used in your classroom to teach about environmental education and/or international/global education. If you have not used any of these methods then leave blank and go to question 3.

- |  |   |
|--|---|
| <input type="checkbox"/> Sensory or awareness activities | <input type="checkbox"/> Values clarification |
| <input type="checkbox"/> Action learning                 | <input type="checkbox"/> Values analysis      |
| <input type="checkbox"/> Behavior modification           |   |
| <input type="checkbox"/> Moral development activities    |   |
| <input type="checkbox"/> Inculcation                     |   |

## APPENDIX I: Pre-trip Assessment

*Action Strategies can be used with individuals or groups to help resolve issues related to the environmental or the world.*

**Please note:** For clarification on some of these terms, turn to page 7.

3. Please mark each of the action strategies you have previously used in your classroom to teach about environmental education and/or international/global education. If you have not used any of these methods, then leave blank and go to the next section.

- Persuasion
- Economic action
- Political action
- Ecomanagement
- Legal action

---

### General Assessment Regarding Your Involvement for Participating in the Puerto Rico Program:

1. What was your main motivation for getting involved with the Puerto Rico program?

2. Of the items listed below, what were the top 5 barriers you feel you needed to overcome before participating in this program? (Rank your top 5 with 1 being your biggest barrier)

- Financial obligations
- Family obligations
- Employment obligations
- Language competency (knowing some Spanish)
- Medical constraints
- Safety concerns
- Cultural awareness about Puerto Rico
- Knowledge level about Puerto Rico
- Other \_\_\_\_\_

3. What do you expect to gain from your participation in this program in Puerto Rico?

Additional comments:

***Thank you for taking the time to complete this assessment***

## APPENDIX I: Pre-trip Assessment

### Glossary of Terms

Action learning	Often associated with service-learning, this method takes students into the community to learn from real-life experiences. Examples include working at a center that helps immigrants learn English, helping to plant trees at a nursing home, etc.
Behavior modification	This process uses external reinforcement both positive and negative to control the desired behavior. Examples include awarding students who recycle, punishing a student with a time out if they said a racial comment in class, etc.
Ecomangement	The process of taking physical action toward the environment for the purpose of either maintaining a good environment or improving a weakened environment. Examples include picking up litter, conserving energy, planting trees, etc.
Economic action	The process of using economic pressure to support or oppose a business or industry. Examples include buying environmentally friendly products or fair trade products, boycotting, raising funds for a group, etc.
Inculcation	The method of teaching values through moral lectures, stories, modeling or positive/negative reinforcement. Examples include biking to school as a model to students, researching role models in society or history, etc.
Legal action	This action involves using legal processes to alter the behavior of an individual or a business or industry that is damaging the environment or using unfair treatment of global citizens. Examples include reporting inhumane offenses, bringing suit against polluters, etc.
Moral development activities	Knowing a student's level of moral reasoning, this method challenges the student to theorize on a higher stage of cognitive thinking. Examples include discussions on moral dilemmas, role playing activities, etc.
Persuasion	The process of trying to convince others that a certain source of action is correct. Examples include letter writing, debates, posters, etc.
Political action	Any action that brings pressure on political or governmental agencies. Examples include writing letter to representative, lobbying, voting, etc.
Values analysis	A systematic approach taken to investigate an issue. Logical and rational processes are used to work through a dilemma. Examples include data collection and analysis, hypothesis testing, etc.

## **APPENDIX I: Pre-trip Assessment**

**Values clarification** A process that allows students to compare and contrast ideas or opinions about an issue freely. This allows them to choose for themselves and speak their thoughts freely. Examples include group discussions, sharing opinions, etc.

## APPENDIX J: Online Course Evaluation

### **NRES 679 PR: Natural Resources, History, and Culture of Island Ecosystems: Puerto Rico**

All responses to this survey are anonymous so please answer the questions honestly. The results will be used in personnel and course evaluations, and to provide summary data for UWSP Credit Outreach and Student Government Association records.

Mark the most appropriate response to each statement in the corresponding circles.

In my opinion:

#### **Student Development**

1) The course helped me to gain a better understanding of concepts, generalizations and theories related to island biogeography.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

2) How much did you know about island biogeography before taking this course?

1. Nothing
2. A Little
3. Neutral
4. Some
5. A lot

3) How much did you know about island biogeography after taking this course?

1. Nothing
2. A Little
3. Neutral
4. Some
5. A lot

## APPENDIX J: Online Course Evaluation

### Assessment Tools

4) The course readings promoted the accomplishment of the course goals and objectives.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

5) The Discussion Assignments supported the accomplishment of course objectives.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

6) The quizzes supported the accomplishment of course objectives.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

7) The written assignments (paper) supported the accomplishment of course objectives.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

## **APPENDIX J: Online Course Evaluation**

8) The assignments provided clear and adequate instructions.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

### **Learning Materials I Course Materials**

#### **Breadth/Depth of Coverage**

9) The coverage of topics was adequate for a one-credit course.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

10) The depth of the topics covered was adequate for a one-credit course.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

11) The course readings expressed subject matter clearly and completely.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree



## **APPENDIX J: Online Course Evaluation**

12) The use of guest lecturers helped to clarify concepts and express subject matter clearly.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

### **Course Design / Organization**

13) The course design and course components were conducive to online learning.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

14) The units progressed in a logical order.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

15) The overall course navigation was easy to follow.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

## **APPENDIX J: Online Course Evaluation**

### **Workload**

16) The workload in this course was reasonable in comparison to other courses.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

### **Instructor(s)**

17) The instructor(s) were readily available and returned emails, phone calls and Discussion questions within a reasonable time frame.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

18) The instructor(s) involvement in the course was adequate.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

19) The instructor(s) showed enthusiasm for the course.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

## **APPENDIX J: Online Course Evaluation**

### **Interaction**

20) There was reasonable interaction between the instructor(s) and class participants.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

21) There was reasonable interaction between the class participants.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

### **On-line component I Value of on-line courses**

22) I found this on-line course valuable relative to content covered.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

23) I would recommend this course to others.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

### **APPENDIX J: Online Course Evaluation**

24) I would participate in another on-line course as a result of this experience.

1. Strongly Disagree
2. Disagree
3. No Opinion
4. Agree
5. Strongly Agree

#### **Other Comments**

25) How many hours overall would you estimate that it took you to complete this course? Include readings, quiz responses and discussion in your estimate.

26) What did you like best about the overall on-line experience?

27) What did you like the least about the overall on-line experience?

## **APPENDIX J: Online Course Evaluation**

28) Do you have suggestions for improving the class and/or the instruction?

29) In addition to the assigned Discussion activities in this class, what other activities would you recommend for future classes?

### **Registration Information**

30) What were barriers to your registration process through Credit Outreach? For example, could you find us easily? If you checked out the Credit Outreach website, was the registration information clear and easily accessible? Did you encounter any technical problems?

31) UWSP Extension - Credit Outreach will be adding an FAQ page to their website for students taking online courses. Can you please identify 3 or more items you feel would have been beneficial to know prior to signing up for an Internet class.

**APPENDIX K: Journal Assignment**  
**JOURNAL ASSIGNMENT NRES 679**  
**Puerto Rico 2004 (50 points)**

**PURPOSE.** The purpose of having you keep a journal is to allow you to record and reflect on your experiences prior to, during, and at the end of our trip to Puerto Rico. Your journal will be uniquely your own. Keeping journals has been shown to improve writing skills, improve divergent thinking ability, improve expression, and promote reflective thinking.

Many great naturalist/scientist writers have kept journals – Leopold, Muir, Carson, Darwin, Thoreau, and Burroughs, to name a few. Their books and articles, born of journals, have helped us to better understand the natural world and our relationship to it. We hope your journal helps you better appreciate and save memories of what you see, hear, smell, taste, and touch in Puerto Rico!

**WHAT TO USE FOR A JOURNAL.** For starters, a **six by nine-inch side-bound notebook is recommended.** Lined or graph paper is strongly recommended for this assignment. Look around several stores and you may find special features which appeal to you such as: durable covers, pockets in the cover, or combinations of lined and unlined pages (for drawing or other creative expression). Avoid those with perforated pages, which may easily fall out of your journal.

**GRADING.** Your first question might be, “How can you grade someone’s personal journal?!” It’s a valid question, but fortunately an easy one to answer. Primarily you’ll be graded on including certain key elements and on the quantity, *not quality*, of your writing. The one exception is explained in the grading criteria below. **Journal will be worth 50 points. (An additional 12 extra credit points can be earned)**

**CHECKLIST OF REQUIRED COMPONENTS AND QUANTITY**

- .... Each page must be numbered consistently, either at the top or the bottom.....1 pt
- The first entry (the only one which needn’t be dated) should be a list of goals or rules that you’ll keep in writing your journal. Include at least three rules. Examples include: .....3 pts
  - I’m going to use left hand pages for sketches, rubbings, poems, or other “right brain” entries.*
  - I’m going to write an entry each day.*
  - I’m going to use at least three media for creative entries: pens, pencils, and colored pencils.*
  - I’m going to include at least one idea per day that I can use in my education/career.*
- Notes, quotations, new Spanish words or phrases learned, business cards, and other documentation should be kept, starting from the back of your journal. These do not count as journal entries. Reflective and creative journal entries should start at the front.
- An entry consists of reflections on one day. Each day’s entry must:
  - include the day and date. ....1 pt
  - include a description of the weather conditions: approximate temperature °F/°C, sky conditions, winds, humidity, precipitation, geographic location.....1 pt
  - be **at least 1-2 full pages** long, not including sketches .....1 pt
  - be easily legible .....1 pt



## APPENDIX K: Journal Assignment

- ❑ You must have an entry for:
    - ❑ the day of our flight to Puerto Rico. You might reflect on your expectations, anxieties, excitement, concerns, hopes... Anything is OK.....3 pts
    - ❑ the day of our return flight. Include in this day’s entry thoughts on “The value of this journal...” ..... 3 pts
    - ❑ at least eight additional days (about every other day). Daily entries are recommended and *can earn extra credit see below*.....32 pts
    - ❑ – four points for each entry completed (beyond the 10 minimum) using the required criteria, up to 12 points. .... Up to 12 pts
  - ❑ Choose and somehow mark **four entries**, other than the first or last day, for which a score will be assigned based on creativity or expressive thought – new ideas or insights generated, creative writing such as poetry, or sketches. (2 pts each entry).....Up to 8 pts
- ..... **Total= 50 pts. (extra 12 points possible)**

### SUGGESTIONS FOR KEEPING A CREATIVE JOURNAL

- ❖ Reflect on the following in your journal entries: sites/ecosystems visited, speakers heard, people met, plants and animals observed, food, accommodations, topography, comparisons of Puerto Rican culture to that of the U.S., how you might apply information gained to your personal or professional life,
- ❖ Use more than one medium – pens with different colored inks, watercolors, crayons - for creative entries. (Journal writing should be in ink.) Each may force you to think in a different manner.
- ❖ Try adding drawings, poems, bark or other rubbings
- ❖ Absorb a new setting for several minutes before writing
- ❖ Be positive. If something goes wrong, try to cast it in a positive light by describing a lesson learned.
- ❖ Don’t collect or insert natural objects; they’re illegal to import to the U.S. and may transmit disease or pest organisms.
- ❖ Try “stream of consciousness” writing or “free writing,” where you let all your thoughts flow onto the page.
- ❖ Describe impressions gained from all your senses.
- ❖ Writer’s block? Try these entry-starters:
  - *Today’s highlight...*
  - *I tried a new food/drink that...*
  - *Puerto Rican culture seems...*
  - *Right now, I’m feeling...*
  - *Today, I got a great idea...*
- ❖ If you don’t want me to read an entry, clip pages together and add a note “Don’t read.” Otherwise, you may wish to tear out the respective pages for later re-entry. I will not share your entries with anyone else.
- ❖ **DUE DATE: Journals are due by Friday, July 9, 2004 in my office 110E CNR.** Students can turn in their journal at O’Hare or mail them to me by July 8. 10%/day will be deducted from late journals. Students will be notified when the journals are graded.
- ❖ **PICK UP OF JOURNALS:** Journals may be picked up in my office – 110E CNR. Anyone wishing their journal to be mailed to them must provide a stamped, return-address envelope.



## APPENDIX K: Journal Assignment

### ❖ PASTE OR CLIP THIS IN YOUR JOURNAL CHECKLIST OF REQUIRED COMPONENTS AND QUANTITY

- Put your name and address on the inside front cover, or the outside if you prefer.
- Each page must be numbered consistently, either at the top or the bottom
- The first entry (the only one which needn't be dated) should be a list of goals or rules that you'll keep in writing your journal. Include at least three rules. Examples include:
  - *I'm going to use left hand pages for sketches, rubbings, poems, or other "right brain" entries.*
  - *I'm going to write an entry each day.*
  - *I'm going to use at least three media for creative entries: pens, pencils, and colored pencils.*
  - *I'm going to include at least one idea per day that I can use in my education/career.*
- Notes, quotations, business cards, and other documentation should be kept, starting from the back of your journal. These do not count as journal entries. Reflective and creative journal entries should start at the front.
- Each day's entry must:
  - include the day and date.
  - include a description of the weather conditions: approximate temperature, sky conditions, winds, humidity, precipitation
  - be separated from others with a dark horizontal line
  - be at least two pages long not including sketches or drawings, more for paper smaller than six by nine inches
  - be easily legible
- You must have an entry for
  - the day of our flight to Puerto Rico
  - the day of our return flight. Include in this day's entry thoughts on "The value of this journal..."
  - at least eight additional days (i.e., at least every other day). Daily entries are recommended and *can earn extra credit*.

### SUGGESTIONS FOR KEEPING A CREATIVE JOURNAL

- ❖ Reflect on the following in your journal entries: sites/ecosystems visited, speakers heard, people met, plants and animals observed, food, accommodations, topography, comparisons of Puerto Rican culture to that of the U.S., how you might apply information gained to your personal or professional life,
  - ❖ Use more than one medium – pens with different colored inks, watercolors, crayons - for creative entries. (**Journal writing should be in ink.**) Each may force you to think in a different manner.
  - ❖ Try adding drawings, poems, bark or other rubbings
  - ❖ Absorb a new setting for several minutes before writing
  - ❖ Be positive. If something goes wrong, try to cast it in a positive light by describing a lesson learned.
  - ❖ Don't collect or insert natural objects; they're illegal to import to the U.S. and may transmit disease or pest organisms.
  - ❖ Try "stream of consciousness" writing or "free writing," where you let all your thoughts flow onto the page.
  - ❖ Describe impressions gained from all your senses.
  - ❖ Writer's block? Try these entry-starters:
    - *Today's highlight...*
    - *I tried a new food/drink that...*
    - *Puerto Ricans seem to...*
    - *Right now, I'm feeling...*
    - *Today, I got a great idea...*
  - ❖ If you don't want me to read an entry, clip pages together and add a note "Don't read." Otherwise, you may wish to tear out the respective pages for later re-entry.
- ✓ DUE DATE: **Journals are due on Friday, July 9, 2004.** 10% /day will be deducted for each day your journal is late.



## APPENDIX L: Curriculum Assignment

### NR 679: International Environmental Studies Seminar – Puerto Rico

Assignment: An Instructional Plan for Infusing and Integrating EE regarding Puerto Rico into Your Curriculum (100 points)

**The purpose of this assignment is for you to analyze your current teaching situation and synthesize a curriculum plan for infusing and integrating what you learned from the Puerto Rican on-line course and your Puerto Rican trip experience.**

#### NRES 679 - Written Assignment from online course

As you proceed through all the units in the course, you are asked to think of the most appropriate topic that you might want to infuse in your current curriculum. At the end of the course (Unit 4 written assignment), you will be asked to reflect upon the knowledge and/or awareness you had gained in this online course. While you reflect, think about the lessons you are currently teaching and how the information gained about Puerto Rico and/or island biogeography/ecology can be applied to your curriculum. **The Unit 4 written assignment will ask you to submit a written draft of your lesson plan based on the material that you had learned from the online course.** For your assignment, you will be asked to submit a 2-3 paragraph description or outline of how you plan to use this information in your classroom curriculum. This assignment is limited to approximately one page double spaced.

You will use this written draft as a framework for the overall assignment for the Puerto Rico travel course.

#### Part 1 – Current Teaching Situation and EE Infusion

**Describe your present teaching situation (grade level/subject areas/schedule format/school name/location/community description). List three goals you have for your students regarding the infusion of EE and your Puerto Rico experiences into your curriculum. Part 1 should be on a separate page.**

#### Part 2 – Proposed Instructional Plan for EE Infusion

**The Wisconsin Department of Public Instruction has developed model academic standards for the various discipline areas including EE. Academic standards specify what students should know and be able to do, what they might be asked to do to give evidence of standards, and how well they must perform. They include content, performance and proficiency standards.**

**Design an instructional plan for infusing and/or integrating EE and your Puerto Rican experience, resources and on-line course into your curriculum. *Your plan should address Wisconsin's academic standards for your grade level/subject areas and environmental education.***

## **APPENDIX L: Curriculum Assignment**

**Your plan should identify the EE standards that should be addressed at your grade level and in the subjects that you teach. Analyze the EE content and skills for their infusion and integration potential into your curriculum or program.**

**Your plan should include at least five (5) activities with objectives, your detailed summary of the procedure, teaching methods, resource material citations, places, people), assessment strategies and correlations with Wisconsin academic standards in your subject area and EE.. At least one of your activities must involve an outdoor site, a community resource or the students' families. It would be wonderful if your instructional plan involved making connections with Puerto Rican teachers and their students. Attached is the activity/lesson plan format that should be used for your activities.**

**This assignment constitutes the major portion of your course grade. Please be complete, careful and thorough with your EE infusion plan. The assignment should be word-processed in a 10-12-point font. Your grade will be based upon evidence of a thoughtful and thorough presentation of your plan. Provide clear and complete examples in your responses. All curriculum resources and activity guides should have complete citations.**

Assignment #2 is due Monday, August 16. Please contact me if you have any questions. Your assignment should be e-mailed to: [dyockers@uwsp.edu](mailto:dyockers@uwsp.edu)

## APPENDIX M: Interview Questions

### Interview Questions

#### Evaluation of an International Environmental Education Program for Teachers

The purpose of this interview is to gather feedback from each participant to more accurately evaluate the effectiveness of this program. In this case, “effectiveness” means to determine how and to what extent this program affected the participant personally and professionally. We want you to answer the questions thinking about the program as a whole. This includes: the online course, pre-trip workshop, resources received, two-week travel experience in Puerto Rico, and follow-up support. There are three categories we will be asking you questions about: personal effect, professional effect, and the effect on your curriculum.

We will be tape recording this interview solely for the purpose of the study. Do you have any questions before we begin?

In an assessment you filled out in May 2004, you wrote down expectations you had for this program. You wrote that you expect to gain, “.....”

1. Do you feel these expectations were met? Why or why not?
2. Did your expectations change anytime in the program? How?

Personally:

1. Thinking about the whole program, how do you feel this program affected you personally?
2. To what extent do you feel this program affected you personally? Please explain.
3. Can you give an example of how this program affected you personally?

Professionally:

1. Thinking about the whole program, how do you feel this program affected you professionally?
2. To what extent do you feel this program affected you professionally? Please explain.
3. Can you give an example of how this program affected you professionally?

Curriculum:

1. Again, thinking about the program as a whole, how do you feel this program affected the curriculum you use in the classroom?
2. To what extent do you feel this program influenced your curriculum?
3. If you noticed a change, can you give an example of the change that occurred in your curriculum as a result of participation in this program?
4. Since you returned from Puerto Rico, have you used this experience in the classroom?
  - a. If so, give an example of how you used this experience. How many times a month do you think you referenced the PR program in your classroom?
  - b. If not, what do you feel could be done to make this experience more useful to your curriculum?
5. Since you returned from this program, do you use more or less international education in your classroom? If more, how? If less, why?
6. Since you returned from this program, do you use more or less environmental education in your classroom? If more, how? If less, why?

Miscellaneous:

1. Is there anything else you would like to add?

**APPENDIX N: Orientation Evaluation**

**FAX SHEET**



Wisconsin Center For Environmental Education  
 Att: Susan Ermer  
 LRC, UWSP  
 Stevens Point, WI 54481  
 Phone: 715-346-4150  
 Fax: 715-346-4698

<i>Evaluation of</i> <i>Puerto Rico Orientation Meeting</i>	<b>GLOBAL ENVIRONMENTAL MANAGEMENT PROGRAM, WISCONSIN CENTER FOR EE, AND UNIVERSITY OF WISCONSIN, STEVENS POINT</b>
May 21, 2004	Please complete this evaluation to help us strengthen our services to you.

**1. How would you rate the Puerto Rico Orientation meeting concerning the following?**

	Bueno ☺					Malo ☹
	5	4	3	2	1	
a) Providing additional background information concerning Puerto Rico that complement the online course.	5	4	3	2	1	
b) Preparing you for the travel program in Puerto Rico.	5	4	3	2	1	
c) Providing information about safety and health precautions in Puerto Rico.	5	4	3	2	1	
d) Offering basic information on Spanish.	5	4	3	2	1	
e) Allowing time to become acquainted with some of the other participants.	5	4	3	2	1	
f) Providing information and resources useful for your classroom.	5	4	3	2	1	
g) Offering cultural awareness information for interacting with other Puerto Rican teachers.	5	4	3	2	1	
h) The instructors helped foster an atmosphere of mutual respect.	5	4	3	2	1	
i) The time allowed for the meeting was adequate.	5	4	3	2	1	

**2. Overall, what grade would you give this Orientation Meeting?**    A    B    C    D    F

**3. What improvements would you suggest for future Orientation Meetings?**

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**4. Additional comments? (optional)**

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## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

<i>Evaluation of The El Yunque Workshop</i>	GLOBAL ENVIRONMENTAL MANAGEMENT PROGRAM, WISCONSIN CENTER FOR EE, AND UNIVERSITY OF WISCONSIN, STEVENS POINT
June 2004	Please complete this evaluation to help us strengthen our services to you.

### 1. How would you rate the workshop at El Yunque (the Caribbean National Forest) concerning the following?

		Bueno ☺					Malo ☹
		5	4	3	2	1	
a) The information provided about El Yunque.		5	4	3	2	1	
	<b>MEAN VALUE = 4.96</b>	↑					
b) The knowledge of the speakers overall.		5	4	3	2	1	
		↑					
c) Jefet Vélez on the Puerto Rican Parrot Project.		5	4	3	2	1	
		↑					
d) Blanca Ruiz on the introduction to tropical forests and the trunk.	5	4	3	2	1		
		↑					
e) Edwin Velazquez leading the hike to La Mina Falls.		5	4	3	2	1	
			↑				
f) Dr. Deborah J. Lodge on discovering the marvels of microorganisms in nutrient cycling.		5	4	3	2	1	
		↑					
g) Dr. Joseph M. Wunderle, Jr. on the day and night lifestyles of some El Yunque creatures.		5	4	3	2	1	
		↑					
h) Victor Cuevas on the forest awakens session.		5	4	3	2	1	
		↑					
i) Dr. Jeff Walker on human footprints from Taino to present.		5	4	3	2	1	
				↑			
j) The time allowed for each session and speaker.		5	4	3	2	1	
			↑				

## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

k) The instructors helped foster an atmosphere of mutual respect.	5	4	3	2	1
	↑				
	<b>5.0</b>				
l) The activities offered to involve participants at El Yunque.	5	4	3	2	1
	↑				
	<b>4.83</b>				
m) Providing information that will be useful to my classroom.	5	4	3	2	1
	↑				
	<b>4.64</b>				
n) The meals available during the three day session.	5	4	3	2	1
	↑				
	<b>4.39</b>				
o) The accommodations at La Familia Hotel.	5	4	3	2	1
	↑				
	<b>4.30</b>				
<b>2. Overall, what grade would you give the workshop at El Yunque?</b>	A	B	C	D	F
	↑				
	<b>A = 4.90</b>				

### 3. What improvements would you suggest for future programs at El Yunque?

- The day of the morning hike there shouldn't be anything else scheduled until the afternoon. Rest was needed in order to appreciate Jeff's presentation.
- Hike to the Yunque on Brittany Trail to the top to see the "elfial woods" at the top of the mountain. Let the speakers know the topics covered by the others in order to avoid repetition.
- Have more time to be on our own, to sit, reflect and journal (or explore).
- Everything went well. Dr. Walker's presentation seemed a little rushed and lots of driving for little bits of information.
- Prepare people more on what to bring each day. More time and plan for moving 30 people around.
- If possible, less packed into a short time.
- More with Victor!
- In the beginning start up a little slower as travel weariness expresses itself - otherwise magnifico!
- Visit other parts in the Yunque like towers and la coca falls.
- More time hiking/experiencing the forest - the archeological session was too much driving around and not an enthusiastic speaker.
- Slow down - plan less - give a longer forest tour on a quieter trail the 1st day.
- I love everything! I wouldn't change any of the information, I just felt very rushed!

### 4. Additional comments? (optional)

- Inform the group clearly about time frames - rushing makes me forget important things.
- Wonderful people, beautiful facility.
- I wish our lodging requirements were closer to the forest, but the lodging at La Familia was very good - I'm not sure we have many other choices regarding lodging - maybe in Luquillo but that could be more expensive!

## **APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest**

- That was a great experience!
- Loved the speakers and time in the forest.
- Excellent so far, this has been put together well, thank you!
- I have learned a tremendous amount of material in only a day and a half! It was enjoyable!
- Friday got way too long for the early Saturday wake-up. End the evening early next go-around. Suggest a "pantry" along with peanut butter and bread as a back up for interim hunger.
- You can tell how much organization went into planning this experience. All those in charge have done a great job.
- I thank God each day that I'm here. This is a trip/experience of a lifetime. Thank you!!!
- Stop at La Coca Falls. Stop at Yukaku Tower. Hike from Big Tree Trail up to the top of the mountain in order to see the changes in vegetation with altitude. Work with human impact to the forest due to development and the different orders it has. Make a short field study that can be replicated with students, for example have a transect to count trees or estimating bromelias populations in a single tree.

## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

### El Yunque Evaluation Results Comments Offered for Each Question

Question 1a	<ul style="list-style-type: none"> <li>All the speakers were very knowledgeable and fun to listen to.</li> </ul>	
Question 1b	<ul style="list-style-type: none"> <li>Good knowledge base and very receptive to questions.</li> </ul>	<ul style="list-style-type: none"> <li>Wonderful, friendly, humorous, informative.</li> </ul>
Question 1c	<ul style="list-style-type: none"> <li>Give us the option to see the parrots.</li> <li>I was really touched by his personal anecdotes.</li> <li>Fantastic - covered everything I could think of to ask.</li> <li>An excellent presentation!</li> <li>I know that we could only fill his presentation at that time but I would have liked to hear about El Yunque! First - it would be nice to tie the presentation with a trip to El Yunque's Aviary.</li> </ul>	<ul style="list-style-type: none"> <li>Very enthusiastic and knowledgeable.</li> <li>Excellent.</li> <li>Good amount of time, great information. Try to visit aviary next year.</li> <li>I learned mucho!</li> </ul>
Question 1d	<ul style="list-style-type: none"> <li>Very good but would have liked more discussion about the forest types at El Yunque.</li> <li>Very personable and made us feel quite welcome.</li> <li>Excellent.</li> <li>Maybe more time to go into the trunks.</li> </ul>	<ul style="list-style-type: none"> <li>She is a talented teacher, super knowledgeable.</li> <li>I think it would be good to work with some activities from the trunk.</li> <li>Wonderful presenter and great personality.</li> <li>Loved the no &amp; si activity and approach.</li> </ul>
Question 1e	<ul style="list-style-type: none"> <li>It was hard to hear what he was saying from the back of the line.</li> <li>Too big of groups. Offered some information we know about the PR Parrot, more time to move around the park. Nice man.</li> </ul>	<ul style="list-style-type: none"> <li>I had a hard time hearing him and he walked so fast.</li> <li>Didn't know we had already learned about parrots, dams - be sure to tell him!</li> <li>I was with the other group. (4)</li> </ul>
Question 1f	<ul style="list-style-type: none"> <li>She really made the topic interesting - would have liked to get out in the forest more and see things instead of staying in one place for a long time.</li> <li>Amazing!</li> <li>Again, I learned so much.</li> </ul>	<ul style="list-style-type: none"> <li>For some of us who weren't science or biology teachers, her vocabulary and terminology was too difficult to understand.</li> <li>Very knowledgeable.</li> </ul>



## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

Question 1g	<ul style="list-style-type: none"> <li>• We should spend more time at night at El Yunque.</li>   <li>• Very interesting man.</li> </ul>	<ul style="list-style-type: none"> <li>• Again, a very interesting talk but we needed to be             <ul style="list-style-type: none"> <li>• They should go on the road with their presentations!</li> </ul> </li> </ul>
Question 1h	<ul style="list-style-type: none"> <li>• One of the most unique experiences of the trip for a non-birder.</li>   <li>• Some parts of PowerPoint presentation were too fast to read, others too slow, but impressive info.</li> <li>• I could tell he did a lot of preparation.</li> <li>• Great man. People loved his enthusiasm. Sharpen the PowerPoint. Good amount of time.</li> <li>• We love Victor.</li> </ul>	<ul style="list-style-type: none"> <li>• Power Point great with information and calls, loved it - very well done!</li> <li>• Excellent - he had really prepared for his session and the power point was very well done - possibly more time on trail interpreting.</li> <li>• A beautiful and excellent talk.</li> <li>• Caring, fun, and a glowing personality. Great presentation.</li> </ul>
Question 1i	<ul style="list-style-type: none"> <li>• Not very impressed with his professional style. Not really excited about being there - could have had a short slide presentation on the topic.</li>   <li>• Too much, he was good but forced to rush.</li>   <li>• Seemed a little less organized than the rest, but he followed a tough group of presenters.</li> </ul>	<ul style="list-style-type: none"> <li>• Talked fast. Didn't adjust to his audience. But I liked the pictures and idea to offer historical information on El Yunque.</li> <li>• The logistics for moving were not the best.</li> <li>• Not much to work with - would have liked less on ccc, less on recent history.</li> <li>• He was great - I was sick!</li> </ul>
Question 1j	<ul style="list-style-type: none"> <li>• I'm sure everyone had a favorite and would have wanted more of one of the speakers.</li> <li>• Would have liked more time hiking in the forest and seeing the various plant/animal communities.</li> <li>• Need to improve hikes.</li> <li>• More time!</li> </ul>	<ul style="list-style-type: none"> <li>• Would have liked more time to look around El Portal and swim in La Mina Falls.</li>   <li>• Jeff's program would've been better done at a different time.</li> <li>• Slower!</li> </ul>
Question 1k	<ul style="list-style-type: none"> <li>• Yes but I don't think Jeff Walker was as good as the others.</li> <li>• You guys did great!</li> </ul>	<ul style="list-style-type: none"> <li>• All the speakers were passionate and knowledgeable about their topics.</li> </ul>

## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

Question 1l	<ul style="list-style-type: none"> <li>• Everyone was very warm and open to group involvement.</li> <li>• Offer more hands-on and time for this. Great!!!</li> </ul>	<ul style="list-style-type: none"> <li>• More time in the forest experiencing the plant/animal communities.</li> <li>Would have liked more hands-on.</li> </ul>
Question 1m	<ul style="list-style-type: none"> <li>• I can adapt to my grade level, however, was very useful to me and possibly what I could do with my Environmental club grades 3-5.</li> <li>• I am informed and that is very useful.</li> </ul>	<ul style="list-style-type: none"> <li>• Good information but maybe offer information on ways to implement it.</li> </ul>
Question 1n	<ul style="list-style-type: none"> <li>• Oh my goodness! Excelente! Better than expected!</li> <li>• Lunch at El Yunque was fabulour. Breakfasts could be done more efficiently.</li> <li>• I love Puerto Rican Mufongo!</li> </ul>	<ul style="list-style-type: none"> <li>• Meals have been good. Lunch at Palo Colorado was great!</li> <li>• Great!</li> </ul>
Question 1o	<ul style="list-style-type: none"> <li>• Very good for the value!</li> <li>• Our phone didn't work but other than that, very quaint and clean.</li> </ul>	<ul style="list-style-type: none"> <li>• Very acceptable</li> </ul>

## APPENDIX P: Evaluation Results of the Program in Vieques

<i>Evaluation of The Program on Vieques</i>	GLOBAL ENVIRONMENTAL MANAGEMENT PROGRAM, WISCONSIN CENTER FOR EE, AND UNIVERSITY OF WISCONSIN, STEVENS POINT
June 2004	Please complete this evaluation to help us strengthen our services to you.

### 1. How would you rate the workshops on Vieques concerning the following?

	Bueno ☺					Malo ☹
	5	4	3	2	1	
a) The information provided about Vieques.	5	4	3	2	1	
		↑				
	<b>MEAN VALUE = 4.32</b>					
b) The BioBay tour.	5	4	3	2	1	
	↑					
	<b>4.90</b>					
c) Participating in turtle research with Julian Garcia Martinez.	5	4	3	2	1	
		↑				
	<b>4.52</b>					
d) The excursion snorkeling (if applicable).	5	4	3	2	1	
	↑					
	<b>4.71</b>					
e) The tour of the US Fish and Wildlife Service Refuge with Gisella Burgos.	5	4	3	2	1	
		↑				
	<b>4.43</b>					
f) The activities offered to involve participants in Vieques.	5	4	3	2	1	
		↑				
	<b>4.43</b>					
g) Providing information that will be useful to my classroom.	5	4	3	2	1	
	↑					
	<b>4.70</b>					
h) The knowledge of the speakers.	5	4	3	2	1	
	↑					
	<b>4.86</b>					
i) The time allowed for each session and speaker.	5	4	3	2	1	
		↑				
	<b>4.57</b>					
j) The delivery of each session was clear and understandable.	5	4	3	2	1	
		↑				
	<b>4.68</b>					
k) The instructors helped foster an atmosphere of mutual respect.	5	4	3	2	1	
		↑				
	<b>5.0</b>					

## APPENDIX P: Evaluation Results of the Program in Vieques

l) The meals available during the four days.	5	4	3	2	1
	↑				
	4.57				

m) The accommodations at Tradewinds Hotel.	5	4	3	2	1
	↑				
	4.90				

<b>2. Overall, what grade would you give the workshops in Vieques?</b>	A	B	C	D	F
		↑			
		4.94			

### 3. What improvements would you suggest for future programs in Vieques?

- Make arrangements with a person to cook specifically with the women that live there. Be sure that the schedule was followed. No not use plastics or Styrofoam. This is an environmental program, so we need to reuse, recycle...
- Make snorkeling in red mangrove.
- Give PR teachers option to lead smaller groups, put PR teachers in every vehicle.
- More time for educational activities - coral reef, beach/tide pool, mangroves along with discussion. Some programs/interaction with Vieques Conservation Trust Program. Might be able to work out a service/learning project with the USFWS on the island.
- Post a central clipboard for reference for all. Post regular updates on times and circumstances. Use another clipboard for all to write in their names for their rooms. Maybe another clipboard as a message board for people to coordinate or offer dinner plans or activities.
- Count heads before leaving on trip somewhere. Maybe have everyone pick 1 vehicle and always travel with that driver. Driver is responsible for head count.
- More on mangroves.
- A little more time for journaling.
- Take advantage of teachable moments. Time constraints limit our PR counterparts from sharing their expertise.
- I think it would be neat to have Vieques at the end of the trip. I did feel rushed, however if you didn't keep up the pace you would lose the groups attention span.
- Visit some historical places.
- It was an amazing couple of days - I would have liked to stay on the beach turtle-watching longer though.

### 4. Additional comments? (optional)

- Once again - fabulous job planning!
- I had a difficult time hearing the speaker give directions like not using white light with turtles because the group was always talking. They are the experts and they know what is best for the environment. I would also have liked to hear more from the PR teachers! I feel that they have a lot of personal knowledge about PR that is very meaningful.
- I was at a workshop where every day we were given a sheet to 1)tell what was going well 2)tell what wasn't going well 3) suggestions for improvement. These were done anonymously and read aloud by the instructor for the rest of the participants to hear. By doing this, people were made aware of things they might be doing that kept others from enjoying the experience. Just thought I'd share this idea in case you're looking for ways to get feedback informally.
- It was great! Snorkeling and BioBay were the highlights but I learned a ton about dry forest and mangroves. Seeing the hawksbill was great!
- I really appreciated the dinner made by the PR teachers. Maybe a little more "down" time.

### **APPENDIX P: Evaluation Results of the Program in Vieques**

- I could stay a whole week on Vieques!
- Biobay was the highlight. I hope I can bring this back as a "wetlands" study along with other mangrove information.
- Nice, more relaxing pace.

## APPENDIX P: Evaluation Results of the Program in Vieques

### Vieques Evaluation Results Comments Offered for Each Question

Question 1a	<ul style="list-style-type: none"> <li>• The next time maybe have more experts from the U.S. Fish and Wildlife. Gisella was good, but is new in the town.</li> <li>• Gisella did an excellent presentation on this.</li> </ul>	<ul style="list-style-type: none"> <li>• The brief history was helpful and went well with the rest of the program.</li> <li>• More history/U.S. navy discussion.</li> </ul>
Question 1b	<ul style="list-style-type: none"> <li>• I would have liked more scientific information.</li> <li>• It was magical. (2)</li> <li>• Very excellent!</li> <li>• Keep this - would've liked a more detailed program on this topic, speaker was kind of elementary.</li> <li>• An event that I will keep in my heart and enrich my soul with.</li> </ul>	<ul style="list-style-type: none"> <li>• Fantastic information from the guide at the bay and beforehand.</li> <li>• One of the neatest experiences of my life!</li> <li>• Swimming with dynoflag. was awesome!</li> <li>• I wish we could have captured the experience on video but some experiences should just be that!</li> <li>• The gal was very good - I just suggest more chemistry in explanation for high school teachers.</li> </ul>
Question 1c	<ul style="list-style-type: none"> <li>• It was a difficult beach to gather around and hear what he told in front of group when they encountered a nest.</li> <li>• Better to split to 2 nights? Hard to hear - didn't learn much.</li> <li>• Unique!</li> <li>• I really would have liked to stay all night, but what we saw was great and I learned a ton - all of my questions were answered.</li> <li>• Very interesting, maybe sharing pictures or more emotion could have helped.</li> <li>• Too large of a group (3).</li> </ul>	<ul style="list-style-type: none"> <li>• I'm glad we saw a turtle - the discussion before the experience was a little hard to understand and time it took for translation. Although, it is so important to have the local people involved.</li> <li>• I appreciated the fact that he spoke slow. I could understand quite a lot of what he said.</li> <li>• Happy to see turtle.</li> <li>• It was good to see a turtle, but Julian's translation needed to be spoken louder and have the group more organized.</li> <li>• Translation difficult - large group. Didn't receive enough preparation before this night. Started late, very course beach.</li> </ul>
Question 1d	<ul style="list-style-type: none"> <li>• The beginner teachers were great - would have liked the guides to tell us a bit more of what we were looking at.</li> <li>• Elena's information was good, Ab was good but the amount of information lacked.</li> <li>• Wonderful experience!</li> </ul>	<ul style="list-style-type: none"> <li>• Seeing the coral reef was nice, but I was very nervous the entire time about cutting myself. Other snorkel options?</li> <li>• Equipment difficult, guides not too talkative, lady running it crabby.</li> <li>• Fun and educational!</li> </ul>

## APPENDIX P: Evaluation Results of the Program in Vieques

	<ul style="list-style-type: none"> <li>• Great day spent relaxing.</li> <li>• I was glad that I got out in a boat. It was better out there.</li> <li>• I wish we could have had some time for some basic background on coral reefs and tidal pools - the snorkeling experience was great - possibly a whole day!</li> </ul>	<ul style="list-style-type: none"> <li>• Thank you.</li> <li>• Abe great! Mid-level guides didn't point out what we were seeing.</li> <li>• I'm buying one! Sad coral reef was dying.</li> </ul>
Question 1e	<ul style="list-style-type: none"> <li>• I thought she did a good job. Loved that she gave PR teachers the floor.</li> <li>• Great ocean side setting, mangrove area good stop, PR teacher talks excellent!</li> <li>• Oscar was very passionate and inspiring.</li> <li>• The PR teachers were incredible with all their help. Gisella was also fantastic.</li> </ul>	<ul style="list-style-type: none"> <li>• She did an excellent job - making a hike in the dry forest, long ride across the island to the mangroves - could almost spend 1/2 day there.</li> <li>• Gisella was okay, but it felt more like a sight seeing tour than an educational tour.</li> <li>• My favorite time was when our Puerto Rican friends were asked to teach us.</li> <li>• Gisella needs to speak to the entire group.</li> </ul>
Question 1f	<ul style="list-style-type: none"> <li>• Bingo was great fun! Great guide.</li> <li>• More - do activities on beach – good Bingo activity.</li> <li>• Would like to hear from more Viequen citizens.</li> </ul>	<ul style="list-style-type: none"> <li>• Need more options with free time?</li> <li>• It appeared that the teachers really enjoyed themselves - find some time to do some activities along with the experience.</li> </ul>
Question 1g	<ul style="list-style-type: none"> <li>• Would've liked more of a guide on characteristics of dry forest &amp; mangroves - wasn't really sure what I was seeing.</li> <li>• The mangrove forest great for classroom.</li> </ul>	<ul style="list-style-type: none"> <li>• A lot of good resources for the teachers - background and activities.</li> <li>• Lacking some.</li> </ul>
Question 1h	<ul style="list-style-type: none"> <li>• Good choice of people!</li> <li>• Oscar was excellent!</li> </ul>	<ul style="list-style-type: none"> <li>• Their enthusiasm was also a bonus.</li> <li>• Very knowledgeable and passionate - Myriam added so much at the beach/tide pools and Luiz at the mangrove.</li> </ul>

## APPENDIX P: Evaluation Results of the Program in Vieques

Question 1i	<ul style="list-style-type: none"> <li>• We always seemed rushed, but that was because people were so engaged with the presentations.</li> <li>• A little rushed - more siesta to journal and ponder the information.</li> <li>• We want more Oscar.</li> <li>• It was hard to be on time with a large group, however everything was great!</li> </ul>	<ul style="list-style-type: none"> <li>• More time at the coral reef/beach for educational activities. It would be nice to get to the mangrove or dry forest before it gets too hot.</li> <li>• I would have liked to spend more time on the beach with the turtle research.</li> <li>• I thought this was OK.</li> </ul>
Question 1j	<ul style="list-style-type: none"> <li>• Very good but sometimes a little difficult with Julian and the turtle discussion.</li> <li>• Hard to hear what's being said from back of line.</li> <li>• Translation of turtle expert got tedious.</li> </ul>	<ul style="list-style-type: none"> <li>• Delivery OK, but lead in was lacking. Preparation before could be better.</li> <li>• Everything was great, except for Gisella interpreting Julian on the walk was difficult to keep up with.</li> </ul>
Question 1k	<ul style="list-style-type: none"> <li>• The USFWS was excellent with its interaction. BioBay presentation/experience outstanding.</li> <li>• Always</li> </ul>	<ul style="list-style-type: none"> <li>• Ten :)</li> </ul>
Question 1l	<ul style="list-style-type: none"> <li>• Use less waste. Ask for no Styrofoam. Myriam has ideas, expensive meals in Esperanza.</li> <li>• Loved those cookies!</li> <li>• Fruit.</li> </ul>	<ul style="list-style-type: none"> <li>• Good, choices were excellent - opportunities to choose dinner, lunches from the tiki hut was excellent. The meal by the PR teachers was very special - especially those tostados!</li> <li>• Expensive!</li> <li>• Would like access to more local foods.</li> </ul>
Question 1m	<ul style="list-style-type: none"> <li>• Excellent.</li> <li>• Great even without air conditioning!</li> </ul>	<ul style="list-style-type: none"> <li>• Very nice. (3)</li> <li>• The living quarters were excellent - I think the continental breakfast was not adequate, bakery was good. What about breakfast at the tiki hut?</li> </ul>



## APPENDIX Q: Evaluation Results of the Program at Mata de Platano

<i>Evaluation of Programs at Mata de Platano</i>	GLOBAL ENVIRONMENTAL MANAGEMENT PROGRAM, WISCONSIN CENTER FOR EE, AND UNIVERSITY OF WISCONSIN, STEVENS POINT
June 2004	Please complete this evaluation to help us strengthen our services to you.

### 1. How would you rate the workshops at Mata de Platano concerning the following?

		Bueno ☺					Malo ☹
a) The information provided about the area around Mata de Platano.	5	4	3	2	1		
		↑					
		<b>MEAN VALUE = 4.63</b>					
b) The bats and boa excursion with Armando Rodriguez-Duran.	5	4	3	2	1		
		↑					
		4.90					
c) Information provided by Abel Vale about karst topography.	5	4	3	2	1		
		↑					
		4.85					
d) The tour at the Arecibo Observatory.	5	4	3	2	1		
			↑				
			3.29				
e) The tour of the Camuy Caves.	5	4	3	2	1		
		↑					
		4.43					
f) The activities offered to involve participants at Mata de Platano.	5	4	3	2	1		
		↑					
		4.76					
g) Providing information that will be useful to my classroom.	5	4	3	2	1		
		↑					
		4.63					
h) The time allowed for each session and speaker.	5	4	3	2	1		
		↑					
		4.71					
i) The delivery of each session was clear and understandable.	5	4	3	2	1		
		↑					
		4.90					
j) The instructors helped foster an atmosphere of mutual respect.	5	4	3	2	1		
		↑					
		5.0					
k) The meals available during the three days.	5	4	3	2	1		
		↑					
		4.67					
l) The accommodations at Mata de Platano.	5	4	3	2	1		
		↑					
		4.37					

## APPENDIX Q: Evaluation Results of the Program at Mata de Platano

2. Overall, what grade would you give the workshops at Mata de Platano?

A    B    C    D    F

A = 4.76

3. What improvements would you suggest for future programs at Mata de Platano?

- Hands-on activities.
- We still haven't had a good tour of a forest. Even though it's hot, it's worth taking.
- Activities for my classroom (2).
- Drop the radio telescope (tour) unless a scientist leads the group behind the scenes. Drive the karst area and stop at places for good photo opportunities. Fit some culture in: arts, folk art, traditional instruments, a concert, a festival. A focus on a particular town, town life, things noteworthy about the area in daily life - some question and answer sessions with locals.
- Less time in that place and keep the group together at a hotel in Arecibo.
- Private tour of Arecibo Observatory if possible.
- Armando's presentation was hard to follow. I would have liked to have learned more specifics of each species (adaptations, etc.)
- More hikes if possible.
- Make everyone hold a bat even if they don't want to. I was too afraid to hold them and hurt their wings.
- More hiking? I am not sure if there are any nice trails to talk about flora and fauna.
- Bring in a person to cook there, improve a recycling program. Divide the group to go to the cave, or invite a member of the PR Ornithology Society as a speaker.
- Try to have the group realize the importance of "quiet" by the caves. Perhaps smaller groups would be better - go 2 nights.
- Having the group split for lodging at two places meant 2 hours traveling for one group. I would skip Arecibo Observatory unless we had a real educational/interpretive experience.

4. Additional comments? (optional)

- With a split group - the group that stays at Hacienda Verde has 2 more hours involved with travel each day - I'm not sure how to handle this one - the whole group could be at HV and drive over to Mata for the program - go to Mata early one morning around 9 AM - talk by Abel Vale in the morning - lunch and afternoon hike to see cave/karst during the daylight - late afternoon talk by Armando on bats - dinner and bat/boa experience - drive back to HV by 11 PM - it's a long day but doesn't involve 2 trips - it's about 45 minutes from HV to Rio Camuy Caves and then an afternoon stop at Caguana Indigenous site. We could spend a good part of the day at the Rio Abajo Forest - AM - PR Parrot - lunch PM - hike the karst/forest.
- Everything is good and teachers are learning many things about the island.
- Being able to hold the bats and actually observe their adaptations/variabilities was incredible.
- More variety of foods. Everything was excellent! I am very lucky to be a part of this wonderful group of people & leaders.
- Everything so far has been incredible.
- I'm glad we had a chance to talk to Armando afterward. I asked him a bunch of questions that he elaborated on.
- Very good.
- Awesome bat/boa experience - day & night.
- Really appreciated the slower pace and down time in the evening. It allowed socialization time.

## **APPENDIX Q: Evaluation Results of the Program at Mata de Platano**

- While the teachers are talking to each other about their classes and curriculum, it may be nice to have a formal exchange of classroom and curriculum teachings.
- You're doing a great job. These comments are in order to help you improve the program: There was too much time for the activities. The visit to Arecibo Radio Telescope and Camuy Caverns could be done in one single day in order to have more time to do other things and visit other places. We are spending too much time in a place with similar topography and ecosystems. Also the program should include activities to do in the field. I would like to suggest that next time you come visit many more places in the same time to know more about PR, because the karst and coastal PR is just a small part of the island it's good to visit other places in western and southern PR to have a more general view of what is our island.

## APPENDIX Q: Evaluation Results of the Program at Mata de Platano

<b>Mata de Platano Evaluation Results Comments Offered for Each Question</b>		
Question 1a	<ul style="list-style-type: none"> <li>• Good background on karst region - not sure how much information specific to Mata de Platano station was provided.</li> <li>• New for me.</li> <li>• Excelente!</li> </ul>	<ul style="list-style-type: none"> <li>• I didn't get much time to listen, but what I did hear was very interesting.</li> <li>• Karst region - Pictures to coordinate with info.</li> </ul>
Question 1b	<ul style="list-style-type: none"> <li>• Loved the bats! I wish people would have been quiet so more would have come out.</li> <li>• Awesome!</li> <li>• Very cool and interesting!</li> <li>• Excelente!</li> <li>• WOW - another miracle - the snake getting the bat.</li> </ul>	<ul style="list-style-type: none"> <li>• This experience was definitely one of the major highlights of the program.</li> <li>• Very interesting! (2)</li> <li>• Fascinating!</li> <li>• Talk too technical for our background – even H.S. level</li> <li>• Oh my gosh! I actually held a bat!</li> </ul>
Question 1c	<ul style="list-style-type: none"> <li>• The power point presentation was excellent - what a treat to get the educational posters - also important to hear from NGO's.</li> <li>• I appreciate his philosophy about our footprints being too large on the earth.</li> <li>• Fascinating.</li> </ul>	<ul style="list-style-type: none"> <li>• I would like to spend more time here given the relationship to WI topography.</li> <li>• Again, I was busy taping but he seemed to know his stuff.</li> <li>• Excellent.</li> </ul>
Question 1d	<ul style="list-style-type: none"> <li>• Toni did a nice pre-visit talk. I would've liked to have had more guidance at the observatory to know for sure how it works.</li> <li>• It's a bit touristy, but it really does show the caves and Karst topography - the introductory film is a MUST! Our guide was not very good.</li> <li>• A tour guide would be good.</li> <li>• Not sure what it was for, would have liked a tour guide.</li> <li>• I'm going to write them to encourage tours.</li> </ul>	<ul style="list-style-type: none"> <li>• A little anti-climatic. It would have been nice to have a professional tour.</li> <li>• A guided tour would have been nice. All the information was overwhelming, assuming we had certain background info.</li> <li>• Cool to see, poor interpretive portion.</li> <li>• Disappointing.</li> <li>• I was really impressed, but we probably need a specific tour/program set up for teachers. Personally I think more time needs to be spent out in the Karst.</li> </ul>
Question 1e	<ul style="list-style-type: none"> <li>• I had difficulty hearing the guide, she was too fast (walking).</li> </ul>	<ul style="list-style-type: none"> <li>• Short &amp; sweet- guide could have elaborated some.</li> </ul>

## APPENDIX Q: Evaluation Results of the Program at Mata de Platano

	<ul style="list-style-type: none"> <li>• The woman leader was knowledgeable but the caves were a magnificent site to see.</li> <li>• Very neat cave.</li> </ul>	<ul style="list-style-type: none"> <li>• Caves great/guide not so good.</li> </ul>
Question 1f	<ul style="list-style-type: none"> <li>• I stayed at HV in the evenings but all the comments from the teachers were very positive!</li> <li>• Holding bats-being by cave fabuloso!</li> </ul>	<ul style="list-style-type: none"> <li>• Please allow all people who want to handle a bat. There were some who handled a bat 3 times.</li> <li>• Relaxing-nice.</li> </ul>
Question 1g	<ul style="list-style-type: none"> <li>• Just the experience of seeing bats &amp; boas, hiking to a cave in a secluded area, and walking back at night.</li> <li>• Bought bat poster, have much to tell.</li> </ul>	<ul style="list-style-type: none"> <li>• I think that the teachers have lots of good background information on the karst region and its resources/issues.</li> <li>• But once again, I adapt to my grade level.</li> </ul>
Question 1h	<ul style="list-style-type: none"> <li>• Too much for observatory. Could have had another activity for each day, got slow.</li> <li>• Seemed fine.</li> </ul>	<ul style="list-style-type: none"> <li>• Let's hope Dennis doesn't talk for two hours - kidding!</li> <li>• I think it was very balanced.</li> </ul>
Question 1i	<ul style="list-style-type: none"> <li>• All the speakers were understandable.</li> </ul>	<ul style="list-style-type: none"> <li>• A little more translation would be helpful.</li> </ul>
Question 1j	<ul style="list-style-type: none"> <li>• Always, but at times we are treated like children about getting ready to go.</li> <li>• Especially Abel Vale.</li> </ul>	<ul style="list-style-type: none"> <li>• The instructors were very upbeat, positive, and genuine.</li> <li>• Always.</li> </ul>
Question 1k	<ul style="list-style-type: none"> <li>• So good that I bought a PR cookbook at Arecibo. Raul has spoiled us!</li> <li>• Too much!</li> <li>• Fantastic, wish there were more green veggies &amp; fruit.</li> <li>• If anything there was too much food. It was a shame to waste it.</li> </ul>	<ul style="list-style-type: none"> <li>• I heard the group at MdP really ate high on the hog! The food was amazing!</li> <li>• More veggie food!</li> <li>• Very good!</li> </ul>
Question 1l	<ul style="list-style-type: none"> <li>• Loved it - I really believe that the accommodations brought every one together.</li> <li>• Hot!</li> <li>• Surprisingly nice.</li> </ul>	<ul style="list-style-type: none"> <li>• I can't comment, I stayed at HV - it's too bad the whole group can't be at one place - I know it gets quite hot/crowded at MdP.</li> <li>• While it wasn't a five star resort, it worked fine.</li> <li>• I didn't stay there. (4)</li> </ul>

## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

<i>Evaluation of Hacienda Verde</i>	GLOBAL ENVIRONMENTAL MANAGEMENT PROGRAM, WISCONSIN CENTER FOR EE, AND UNIVERSITY OF WISCONSIN, STEVENS POINT
June 2004	Please complete this evaluation to help us strengthen our services to you.

### 1. How would you rate the workshops at Hacienda Verde concerning the following?

		Bueno ☺				Malo ☹
a) The information provided about Hacienda Verde and the area.	5	4	3	2	1	
		↑				
		<b>MEAN VALUE = 4.68</b>				
b) The speakers during the watershed management day (Friday).	5	4	3	2	1	
			↑			
			<b>4.10</b>			
c) The activities offered during the watershed management day (Friday).		5	4	3	2	1
			↑			
			<b>4.57</b>			
d) Miguel Rico during the sustainable agriculture day (Saturday).	5	4	3	2	1	
			↑			
			<b>4.40</b>			
e) The service learning project of planting a butterfly garden.		5	4	3	2	1
		↑				
		<b>4.90</b>				
f) The morning spent in Utuado (Sunday).		5	4	3	2	1
			↑			
			<b>4.35</b>			
g) The Indigenous Museum and Park.		5	4	3	2	1
			↑			
			<b>4.63</b>			
<del>h) Experiencing the forest at night led by Miguel Rico. (Sunday)</del>	<del>5</del>	<del>4</del>	<del>3</del>	<del>2</del>	<del>1</del>	
		<b>CANCELLED</b>				
i) The speaker during the tropical forest day (Monday).		5	4	3	2	1
			↑			
			<b>4.38</b>			
j) The visit to Rio Abajo. (Monday)		5	4	3	2	1
		↑				
	<b>4.95</b>					
k) The activities offered during the day of the Puerto Rico Party.	5	4	3	2	1	
		↑				
	<b>4.94</b>					

## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

l) The activities offered to involve participants throughout the week at Hacienda Verde.	5	4	3	2	1	
		↑				4.67
m) The band that played for the Puerto Rican Party (Tuesday).	5	4	3	2	1	
		↑				5.0
n) Providing information that will be useful to my classroom.	5	4	3	2	1	
		↑				4.86
o) The overall knowledge of the speakers.	5	4	3	2	1	
		↑				4.77
p) The time allowed for each session and speaker.	5	4	3	2	1	
		↑				4.73
q) The delivery of each session was clear and understandable.	5	4	3	2	1	
		↑				4.63
r) The instructors helped foster an atmosphere of mutual respect.	5	4	3	2	1	
		↑				4.95
s) The meals available during the six days.	5	4	3	2	1	
		↑				4.05
t) The accommodations at Hacienda Verde.	5	4	3	2	1	
		↑				4.00

**2. Overall, what grade would you give the workshops at Hacienda Verde?**

A	B	C	D	F
	↑			
		A = 4.47		

**3. What improvements would you suggest for future programs at Hacienda Verde?**

- Focus learning on a topic or goal for the week – the whole thing is very scattered. We never had time to focus on anything long enough to think about how to use it in the classroom. I would much rather spend time doing field work and delivering in-depth information.
- Make a proposal to the Department of Education of PR to use their facilities by students of public school.
- They need to improve the meals. Be sure that they have the materials when they are going to cook.

## **APPENDIX R: Evaluation Results of the Program at Hacienda Verde**

- Do not spend more than 2 or 3 days.
- Need more support at HV - staff/personnel at breakfast - Raul a little overwhelmed - really need to clean the bathrooms well every day. Need to work on showers - primarily water flow and some temperature. Need to talk about menus more. Possibly a short introductory session on birds.
- More hands on workshops - we could have made our own "watershed model" or more investigating of tree leaves, bark, fruit, coffee.
- I liked the build-up of knowledge from the speakers. I would've liked more ideas on how to utilize in my class.
- Longer time at Ponce exploring.
- I think that we could have spent less time here to give us more time in the Rainforest. One day more in the rainforest would have been better, but overall this was an incredible experience.
- Try to have activities at early or late parts of the day with speakers in the middle. Having the water and a snack trucked to the top of the mountain on Monday's hike would have helped.
- I'm sure you already know, but outside activities in the morning when it is not rainy or as hot and we are not as tired.
- When it was our social/cultural time, make sure time changes or schedule changes are OK with everyone. Maybe a compromise. I understand if its class or speaker time, that's different.
- Arrange that the participants are scheduled for jobs like kitchen prep/bedroom clean/bathroom clean etc. So we all help keep Miguel's place lovely.

### **4. Additional comments? (optional)**

- It was a lovely informative learning experience of a lifetime for me, thank you.
- This has been a life-time experience for me, one that I will never forget. I can't tell you how much I appreciated this trip! Thank you for all of the effort, planning, sweat, and tears that went into this class.
- I liked how our busy week was 1st and our 2nd week was more relaxing and visiting/interacting with PR teachers.
- Wow! To meet someone with the foresight and passion of Miguel and his group was exciting. To see the private/government agency pieces cooperate and develop is an important piece of the process of hope for the future and respect for our past.
- Me gusta Medalla!
- I truly appreciated all you've done to arrange all the first-hand experiences. This entire program has been a life-changing experience.
- Miguel needs to be more involved with the daily program - too many things on his plate, stay on top of the schedule. Not sure we need as much time at Hacienda Verde - could probably cut one day and use it at another location. I know we had some time with all the teachers at HV to debrief - do we still need some time just with the WI teachers in San Juan to debrief?
- Don't spend as much time at HV, get to the west, southwest, and southeast parts of the island.
- There were a few verbal comments made concerning the way Miguel handled the situation with the speaker from Rio Abajo. One of the teachers overheard Miguel send the speaker away. It is very unfortunate because this builds very bad relations with the organization. The teachers would have been happy to hear from the young man, and he drove all the way to Hacienda Verde to speak. It was felt that the man should have been allowed to speak but was instead disrespected and sent away. This was a great concern of one of the teachers so I wanted to bring it to your attention.



## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

### Hacienda Verde Evaluation Results Comments Offered for Each Question

Question 1a	<ul style="list-style-type: none"> <li>• Passion</li> <li>• I think Miguel did a good job providing the philosophy and overview of Hacienda Verde.</li> </ul>	<ul style="list-style-type: none"> <li>• Miguel's passion is inspiring.</li> </ul>
Question 1b	<ul style="list-style-type: none"> <li>• They are technical and I don't understand the topic and too long.</li> <li>• One had a lot of graphs which made it difficult to understand.</li> <li>• Speaker from NRCS was very good, speaker from USGS was too technical.</li> <li>• 2nd speaker way too technical, 1st one so-so</li> </ul>	<ul style="list-style-type: none"> <li>• Edwin-informative, very good! Fernando too technical.</li> <li>• The USGS guy was very much over my head.</li> <li>• One speaker was good, the second gave too much information that was hard to take in.</li> </ul>
Question 1c	<ul style="list-style-type: none"> <li>• The trip to the stream was a neat idea and activities would have been good.</li> <li>• A good idea that I can use in the classroom.</li> <li>• Unfortunately we got rained out, but the river was wonderful.</li> <li>• I'll use the newspaper idea in my classroom.</li> </ul>	<ul style="list-style-type: none"> <li>• Too bad about the rain, beautiful setting, good spots.</li> <li>• Do stream hike again!</li> <li>• We had good intentions but the water cycle caught up with us. Do something with soils while the NRCS resource people are there.</li> </ul>
Question 1d	<ul style="list-style-type: none"> <li>• Information overload.</li> <li>• It was a great tour of the Hacienda and its sustainable agriculture.</li> <li>• Wish he had been around more, some appearance, not available much, good content.</li> </ul>	<ul style="list-style-type: none"> <li>• Such vision and enthusiasm he has!</li> <li>• He is a bit repetitive, more information available over time?</li> </ul>
Question 1e	<ul style="list-style-type: none"> <li>• Good to give back - not told all we were planting. I wish we could have done more! (2)</li> <li>• Very fun! And hopefully it lives.</li> <li>• Important component!</li> </ul>	<ul style="list-style-type: none"> <li>• I think it worked out very well with the conditions- Miguel could have played a more active part - more organized for the activity.</li> <li>• Didn't participate, but liked the idea.</li> </ul>

## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

Question 1f	<ul style="list-style-type: none"> <li>• Great! Spend more time in plaza area - lunch on our own next time.</li> <li>• I think we didn't have a real program for that day.</li> <li>• Wish we could have spent more time there.</li> </ul>	<ul style="list-style-type: none"> <li>• Would have liked an overnight and a full day there, historical museum very good.</li> <li>• Very rushed, more time in town (3).</li> <li>• Good to see the city with Puerto Rican teachers.</li> </ul>
Question 1g	<ul style="list-style-type: none"> <li>• Not much to see.</li> <li>• Excellent.</li> <li>• I know the group went to Ponce, but I think we could still do the Caguana indigenous park while were at HV - only about 15 minutes away.</li> </ul>	<ul style="list-style-type: none"> <li>• Very interesting, our guide was one of a kind.</li> <li>• Too long!</li> <li>• The Taino museum was pretty good, though I sense more than a little conjecture about the culture.</li> </ul>
Question 1h	<ul style="list-style-type: none"> <li>• I know I was being cautious about the weather conditions but those teachers that went with Raul had a great night hike.</li> </ul>	<ul style="list-style-type: none"> <li>• Nice experience.</li> </ul>
Question 1i	<ul style="list-style-type: none"> <li>• The USFWS person was very good however it really didn't fit the forestry theme. Maybe change it to a biodiversity theme. Need to get Puerto Rico DNR forestry program involved.</li> <li>• Miguel at the sites was good.</li> <li>• Carlos was excellent - could have listened to more from him.</li> </ul>	<ul style="list-style-type: none"> <li>• I still feel we never got to know the forest well - too rushed, no investigations done.</li> <li>• Interesting.</li> <li>• Fish &amp; wildlife were good.</li> </ul>
Question 1j	<ul style="list-style-type: none"> <li>• It was a real experience to see the PR parrot aviary and the captive breeding program - the Rio Abajo forest also has a visitors center with trails.</li> <li>• Not a birder, interesting, but could skip.</li> <li>• We saw the Puerto Rican Parrot! (4)</li> <li>• Ricardo was outstanding - so was the facility.</li> </ul>	<ul style="list-style-type: none"> <li>• Awesome opportunity to learn first-hand about parrots.</li> <li>• Very good.</li> <li>• What an opportunity!</li> <li>• What an honor! I give it a 10 plus!</li> </ul>
Question 1k	<ul style="list-style-type: none"> <li>• The fiesta was wonderful - the local band was excellent.</li> <li>• Very fun!</li> </ul>	<ul style="list-style-type: none"> <li>• Great visit to the parrot facility!</li> </ul>
Question 1l	<ul style="list-style-type: none"> <li>• The educational hands-on activities would work but right after breakfast - temperature is cooler, less chance of rain.</li> <li>• Everyone socialized well and talked about curriculum.</li> </ul>	<ul style="list-style-type: none"> <li>• Quite a variety to get to know one another and to bring to the classroom.</li> <li>• Night activities and discussions very valuable.</li> </ul>

## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

- Very relaxing & exercise provoking!

Question 1m	<ul style="list-style-type: none"> <li>• Excellent.</li> </ul>	<ul style="list-style-type: none"> <li>• I'm sure it will be (2).</li> </ul>
Question 1n	<ul style="list-style-type: none"> <li>• Many activities were cross curricular and adaptable to grade level.</li> <li>• I'm looking forward to planning my PR unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Lots of good activities and background information was provided.</li> <li>• Yeah!</li> </ul>
Question 1o	<ul style="list-style-type: none"> <li>• Most were informative, respectful, and passionate about their topics.</li> <li>• Very good!</li> </ul>	<ul style="list-style-type: none"> <li>• All very knowledgeable.</li> </ul>
Question 1p	<ul style="list-style-type: none"> <li>• No comments</li> </ul>	
Question 1q	<ul style="list-style-type: none"> <li>• Not the USGS graphs, just got some sense of concepts.</li> </ul>	<ul style="list-style-type: none"> <li>• All were very good, but the water overview by the USGS was way too detailed/technical.</li> </ul>
Question 1r	<ul style="list-style-type: none"> <li>• No Comments</li> </ul>	
Question 1s	<ul style="list-style-type: none"> <li>• Food was good - need to zero in on approximate meal times. Food sometimes sat around wasn't warm - expecting some more beans/rice dishes.</li> <li>• We ate a lot of plantains.</li> <li>• Sometimes felt like there wasn't enough (amount).</li> <li>• MMMM!</li> </ul>	<ul style="list-style-type: none"> <li>• We ate all the time it seemed. I do have a plantain &amp; root overload.</li> <li>• Raul helped everyone with their diets!</li> <li>• Fun to try new foods.</li> </ul>
Question 1t	<ul style="list-style-type: none"> <li>• Sleeping was good - bathrooms need to be cleaned thoroughly every day - the plumbing needs some work.</li> <li>• I liked staying here for a while.</li> <li>• Great!</li> </ul>	<ul style="list-style-type: none"> <li>• Garbage should be emptied every day in bedroom.</li> <li>• The beds are so small and tight.</li> </ul>

**APPENDIX S: Post-trip Assessment**  
**Wisconsin Teacher Assessment – Post Experience**  
**International/Global Education and Environmental Education**

Name: \_\_\_\_\_ (During the research analysis, your name will be coded to respect confidentiality.)

**Directions:** In May, you were asked to complete a similar assessment. Not all the questions are the same. Please read carefully and answer each question below to the best of your knowledge. There is no time limit, so please take your time to think about each question carefully before answering.

**Purpose:** The purpose of this assessment is to gather thoughts and feelings about the Puerto Rico-Wisconsin Teacher Program.

Assessing Your Environmental Education Instruction:

*Definition: Environmental Education is a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions. By these actions, environmentally literate citizens will help ensure an ecologically and economically sustainable environment.*

*(WI DPI, A Guide to Curriculum Planning in Environmental Education)*

1. Since participating in the PR-WI Teacher Program, do you believe that there has been change in how

much you teach about the environment? (Mark one)

\_\_\_\_\_ Yes, there has been a **decrease**.

\_\_\_\_\_ No, there has been **no change**.

\_\_\_\_\_ Yes, there has been an **increase**.

a) If you indicated that there is an increase, approximately how much time per week has your classroom instruction about the environment increased?

\_\_\_\_\_ less than 15 minutes.

\_\_\_\_\_ 16 minutes to 30 minutes

\_\_\_\_\_ 31 minutes to 45 minutes

\_\_\_\_\_ 46 minutes to 60 minutes

\_\_\_\_\_ more than 60 minutes

b) Please explain how the nature or quality of your instruction about the environment has changed.

2. To gather your general attitudes and information regarding your teaching as it relates to EE, use the

key to indicate your opinion on the following statements.

1 = Strongly agree    2 = Agree    3 = Undecided    4 = Disagree    5 = Strongly disagree

\_\_\_\_\_ a) Relative to other subjects I teach, environmental education is important.

\_\_\_\_\_ b) I believe my instruction is effective in developing environmentally literate citizens.

\_\_\_\_\_ c) As a result of attending my classes, students are more aware of environmental concepts and issues.

\_\_\_\_\_ d) I am effective at teaching students the skills needed to resolve environmental issues.

\_\_\_\_\_ e) As a result of attending my classes, students are more knowledgeable of ecology.

## APPENDIX S: Post-trip Assessment

### Assessing Your International/Global Education Instruction:

*Definition: International Education (or Global Education) teaches about the lives and the natural and social contexts of people living in other countries and cultures and actively promotes immersion experiences in other cultures. International education is an approach that creates awareness of political, economic, scientific, and cultural interdependence that exists across national and cultural borders. It acknowledges the complexity of the world's peoples including their difference, similarities, conflicts, and connections.*

(WI DPI, Planning Curriculum in International Education)

1. Since participating in the PR-WI Teacher Program, do you believe that there has been a change in how

much you teach about Puerto Rico's environment? (Mark one)

\_\_\_\_\_ Yes, there has been a **decrease**.

\_\_\_\_\_ No, there has been **no change**.

\_\_\_\_\_ Yes, there has been an **increase**.

a) If you indicated that there is an increase, approximately how much time per week has your classroom instruction about Puerto Rico's environment increased?

\_\_\_\_\_ less than 15 minutes.

\_\_\_\_\_ 16 minutes to 30 minutes

\_\_\_\_\_ 31 minutes to 45 minutes

\_\_\_\_\_ 46 minutes to 60 minutes

\_\_\_\_\_ more than 60 minutes

b) Please explain how the nature or quality of your instruction about Puerto Rico's environment has changed.

2. Since participating in the PR-WI Teacher Program, do you believe that there has been a change in how

much you teach about the environment in other countries? (Mark one)

\_\_\_\_\_ Yes, there has been a **decrease**.

\_\_\_\_\_ No, there has been **no change**.

\_\_\_\_\_ Yes, there has been an **increase**.

a) If you indicated that there is an increase, approximately how much time per week has your classroom instruction about the environment in other countries increased?

\_\_\_\_\_ less than 15 minutes.

\_\_\_\_\_ 16 minutes to 30 minutes

\_\_\_\_\_ 31 minutes to 45 minutes

\_\_\_\_\_ 46 minutes to 60 minutes

\_\_\_\_\_ more than 60 minutes

b) Please explain how the nature or quality of your instruction about other countries has changed.

### APPENDIX S: Post-trip Assessment

3. Since participating in the PR-WI Teacher Program, do you believe that there has been a change in how

much you teach about Puerto Rican culture? (Mark one)

\_\_\_\_\_ Yes, there has been a **decrease**.

\_\_\_\_\_ No, there has been **no change**.

\_\_\_\_\_ Yes, there has been an **increase**.

a) If you indicated that there is an increase, approximately how much time per week has your classroom instruction about Puerto Rican culture increased?

\_\_\_\_\_ less than 15 minutes.

\_\_\_\_\_ 16 minutes to 30 minutes

\_\_\_\_\_ 31 minutes to 45 minutes

\_\_\_\_\_ 46 minutes to 60 minutes

\_\_\_\_\_ more than 60 minutes

b) Please explain how the nature or quality of your instruction about Puerto Rican culture has changed.

4. Since participating in the PR-WI Teacher Program, do you believe that there has been a change in how

much you teach about cultures in other countries? (Mark one)

\_\_\_\_\_ Yes, there has been a **decrease**.

\_\_\_\_\_ No, there has been **no change**.

\_\_\_\_\_ Yes, there has been an **increase**.

a) If you indicated that there is an increase, approximately how much time per week has your classroom instruction about cultures in other countries increased?

\_\_\_\_\_ less than 15 minutes.

\_\_\_\_\_ 16 minutes to 30 minutes

\_\_\_\_\_ 31 minutes to 45 minutes

\_\_\_\_\_ 46 minutes to 60 minutes

\_\_\_\_\_ more than 60 minutes

b) Please explain how the nature or quality of your instruction about cultures in other countries has changed.

5. To gather your general attitudes and information regarding your instruction related to international/global education, use the following key to indicate your opinion on the following statements.

1 = Strongly agree    2 = Agree    3 = Undecided    4 = Disagree    5 = Strongly disagree

\_\_\_\_\_ Relative to other subjects I teach, international/global education is important.

\_\_\_\_\_ I believe my instruction is effective in building students cross-cultural competency.\*

\_\_\_\_\_ As a result of attending my classes, students learn about other countries and cultural issues related to those countries.

\_\_\_\_\_ I am effective at teaching students the skills needed to relate to people of other cultures.

\_\_\_\_\_ I believe my instruction is effective in developing culturally sensitive citizens.

*\*Cross-Cultural Competency is defined as having the ability to interpret and evaluate inter-cultural encounters with a degree of accuracy and to show cultural empathy.*

## APPENDIX S: Post-trip Assessment

### Assessing Your Teaching Methods:

The purpose of this section is to gather information of your teaching methods you have used as it relates to environmental education and/or international/global education since participating in the PR-WI Teacher Program. This section is divided up in three categories: Cognitive Teaching Methods, Affective Teaching Methods, and Action Strategies.

**Directions:** Take a minute to think about your classroom instruction and the teaching methods you have used since your participation in the PR-WI Teacher Program to teach about environmental education and/or international/global education. If you have never taught environmental education or international/global education, then leave this section blank and go to the next section.

*Cognitive teaching methods can be used to encourage awareness about environmental and global issues and increase the knowledge about these topics in order to develop skills to help resolve issues related to the environment and the world.*

1. Please mark each of the cognitive education methods you used since the beginning of the school year or plan to use in your classroom to teach about environmental education and/or international/global education. Mark an "X" by the skills you used since your participation in the WI-PR Teachers Program and mark a "W" by the ones you plan to use.

- |  |   |
|--|---|
| <input type="checkbox"/> Outdoor teaching strategies       | <input type="checkbox"/> Self-directed learning       |
| <input type="checkbox"/> Guided discovery                  | <input type="checkbox"/> Cooperative learning         |
| <input type="checkbox"/> Lectures                          | <input type="checkbox"/> Computer-oriented activities |
| <input type="checkbox"/> Experiments                       | <input type="checkbox"/> Writing, art, and music      |
| <input type="checkbox"/> Role playing and dramatizations   | <input type="checkbox"/> Independent projects         |
| <input type="checkbox"/> Problem-solving/critical thinking | <input type="checkbox"/> Group projects               |
| <input type="checkbox"/> Case studies                      | <input type="checkbox"/> Community resource           |
| <input type="checkbox"/> Data gathering and analysis       | <input type="checkbox"/> Observations                 |
| <input type="checkbox"/> Audiovisuals                      |   |
| <input type="checkbox"/> Issue investigation               |   |
| <input type="checkbox"/> Simulations                       |   |

*Affective Teaching Methods can be used to examine attitudes and values inherent to environmental and global issues.*

2. Please mark each of the affective teaching methods you used since the beginning of the school year or plan to use in your classroom to teach about environmental education and/or international/global education. Mark an "X" by the skills you used since your participation in the WI-PR Teachers Program and mark a "W" by the ones you plan to use.

**Please note:** For clarification on some of these terms, turn to the last page.

- Sensory or awareness activities
- Action learning
- Behavior modification
- Moral development activities
- Inculcation
- Values clarification
- Values analysis

*Action Strategies can be used with individuals or groups to help resolve issues related to the environment or the world.*

### APPENDIX S: Post-trip Assessment

3. Please mark each of the action strategies you used since the beginning of the school year or plan to use in your classroom to teach about environmental education and/or international/global education. Mark an "X" by the skills you used since your participation in the WI-PR Teachers Program and mark a "W" by the ones you plan to use.

Please note: For clarification on some of these terms, turn to the last page.

- Persuasion
- Economic action
- Political action
- Ecomanagement
- Legal action

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#### Continued Communication:

Directions: This section asks questions regarding communication strategies and resources you have used since participating in the PR-WI Teacher Exchange.

1. Following the travel course to Puerto Rico, have you been in contact with any of the Puerto Rican participants (either teachers or speakers) that you met?  Yes  No

If no, continue to the next section (Question 2)

- a) If yes, how have you communicated with them?

- Postal Mail
- Email
- Phone
- Video conference
- Chat room
- Other \_\_\_\_\_

- b) Please comment on the methods you used to communicate with the Puerto Rican participants.

Which methods of communication do you feel were the most effective and why?

2. How many persons from Puerto Rico overall have you had a least one correspondence with since participating in this program? \_\_\_\_\_ (Indicate a number)

If you answered one or more contacts, how frequently have you had contact with persons from Puerto Rico since participating in this program?

- Once or twice since my return
- Monthly
- Weekly
- Daily

3. How frequently have you referenced or utilized resources and information about Puerto Rico provided to you throughout the program?

- Never
- Once or twice since my return
- Monthly
- Weekly
- Daily

4. As a result of participating in this program, have you added any supportive resources to use in your classroom?  Yes  No

If yes, please explain.

5. Additional comments regarding communication with Puerto Ricans since June 2004:
-



## APPENDIX S: Post-trip Assessment

### General Course Evaluation:

**Directions:** The questions below ask you to rank or rate each statement in a scale from 1-5. Under each section, there is an area available to offer additional comments if you wish.

How would you rate the PR-WI Teacher Program meeting its objectives? Helping you...	Strongly Disagree		No Opinion		Strongly Agree
increase your awareness about environmental education in Puerto Rico.	1	2	3	4	5
gain hands-on experience with environmental education in Puerto Rico.	1	2	3	4	5
become familiar with environmental issues in Puerto Rico.	1	2	3	4	5
integrate information about Puerto Rico in your curriculum.	1	2	3	4	5
form relationships and network with environmental educators and professionals in Puerto Rico.	1	2	3	4	5
increase skills to teach about environmental education.	1	2	3	4	5
appreciate the need for global environmental education.	1	2	3	4	5

**Comments:**

How much did you know about <u>Island Ecology</u> ...	None		No Opinion		A Lot
before participating in the program.	1	2	3	4	5
after participating in the program.	1	2	3	4	5

**Comments:**

How much did you know about natural <u>history in Puerto Rico</u> ...	None		No Opinion		A Lot
before participating in the program.	1	2	3	4	5
after participating in the program.	1	2	3	4	5

**Comments:**

How much did you know about <u>environmental issues in Puerto Rico</u> ...	None		No Opinion		A Lot
before participating in the program.	1	2	3	4	5
after participating in the program.	1	2	3	4	5

**Comments:**

How much did you know about <u>Puerto Rican culture</u> ...	None		No Opinion		A Lot
before participating in the program.	1	2	3	4	5
after participating in the program.	1	2	3	4	5

**Comments:**

## APPENDIX S: Post-trip Assessment

How much do you agree or disagree with the following statements regarding the program? The program....	Strongly Disagree		No Opinion		Strongly Agree
provided a variety of resources useful to my classroom.	1	2	3	4	5
was an effective way to learn the information.	1	2	3	4	5
had a reasonable workload for three graduate credits.	1	2	3	4	5
made me feel safe and secure at all times during our travels.	1	2	3	4	5
was reasonable priced.	1	2	3	4	5

**Comments:**

How much do you agree or disagree with the statements below concerning the leaders on this program (Dr. Dennis Yockers and Susan Ermer) The leaders...	Strongly Disagree		No Opinion		Strongly Agree
expressed subject material clearly.	1	2	3	4	5
were well prepared and organized throughout the program.	1	2	3	4	5
helped foster an atmosphere of mutual respect.	1	2	3	4	5

**Comments:**

### Future Programming:

**Directions:** Please answer the questions below to help GET with their future programming.

1. Would you recommend the PR-WI Teacher Program course to colleagues?

- Yes, definitely  
 Yes, probably  
 Maybe  
 No, probably not  
 No, definitely not

2. What suggestions do you have to improve this program?

3. Are you interested in future programs with China? \_\_\_\_\_ Yes \_\_\_\_\_ No

4. Are you interested in future programs in Africa (Tanzania/Kenya/South Africa)? \_\_\_\_\_ Yes \_\_\_\_\_ No

5. If there is another area(s) of the world you would be interested in participating in a teacher exchange,  
please indicate the country(s) here.

\_\_\_\_\_

6. Additional comments, suggestions, or recommendations:

***Thank you for completing the assessment.***

**APPENDIX S: Post-trip Assessment**  
Glossary of Terms

Action learning	Often associated with service-learning, this method takes students into the community to learn from real-life experiences. Examples include working at a center that helps immigrants learn English, helping to plant trees at a nursing home, etc.
Behavior modification	This process uses external reinforcement both positive and negative to control the desired behavior. Examples include awarding students who recycle, punishing a student with a time out if they said a racial comment in class, etc.
Ecomanagement	The process of taking physical action toward the environment for the purpose of either maintaining a good environment or improving a weakened environment. Examples include picking up litter, conserving energy, planting trees, etc.
Economic action	The process of using economic pressure to support or oppose a business or industry. Examples include buying environmentally friendly products or fair trade products, boycotting, raising funds for a group, etc.
Inculcation	The method of teaching values through moral lectures, stories, modeling or positive/negative reinforcement. Examples include biking to school as a model to students, researching role models in society or history, etc.
Legal action	This action involves using legal processes to alter the behavior of an individual or a business or industry that is damaging the environment or using unfair treatment of global citizens. Examples include reporting inhumane offenses, bringing suit against polluters, etc.
Moral development activities	Knowing a student's level of moral reasoning, this method challenges the student to theorize on a higher stage of cognitive thinking. Examples include discussions on moral dilemmas, role playing activities, etc.
Persuasion	The process of trying to convince others that a certain source of action is correct. Examples include letter writing, debates, posters, etc.
Political action	Any action that brings pressure on political or governmental agencies. Examples include writing letter to representative, lobbying, voting, etc.
Values analysis	A systematic approach taken to investigate an issue. Logical and rational processes are used to work through a dilemma. Examples include data collection and analysis, hypothesis testing, etc.
Values clarification	A process that allows students to compare and contrast ideas or opinions about an issue freely. This allows them to choose for themselves and speak their thoughts freely. Examples include group discussions, sharing opinions, etc.

## APPENDIX T: Participant Profiles

NUMBER: 1  
NICKNAME: Molly

### DEMOGRAPHICS:

AGE: 29  
SUBJECT TAUGHT: Spanish  
GRADE: 6-12  
EXPERIENCE: 6 years  
ED. LEVEL: Masters in Education – Professional Development  
TRAVEL EXPERIENCE OVERSEAS: Yes, 4 experiences including a semester in Mexico. Less than a year abroad. She feels her experiences abroad influences her curriculum very much.

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

#### PRE-ASSESSMENT:

EE PLAN: Yes  
FREQUENCY: no comment  
EE CURRENTLY IN CURRICULUM: Yes  
FREQUENCY: Once a year  
PRESERVICE EE: No  
EE TRAINING: No  
COUNTRIES: Yes  
FREQUENCY: Once per semester  
CULTURES: Yes  
FREQUENCY: Once each semester  
MOTIVATION: To travel, to learn about a different culture, to meet people, to have another cultural and language reference in the curriculum.  
BARRIERS: Not having a science background, Employment Obligations, Safety Concerns, Knowledge.  
EXPECTATIONS: A whole new me, new friends, and professional growth.

#### EE ATTITUDES:

#### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT	PRE-ASSESSMENT	POST-ASSESSMENT
2	2	1	1
3	3	3	1
3	2	3	2
4	3	2.5	2
3	2	1	2

#### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	1	5
History of Puerto Rico	1	4
Enviro Issues in PR	1	4
PR Culture	1	4

#### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
15	30	15	30	No

PR CONTACT: Yes, 3 people  
FREQUENCY: Monthly  
METHOD: Email with a video conference being planned for December  
RESOURCES: Yes  
FREQUENCY: Weekly  
ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5

## APPENDIX T: Participant Profiles

E ISSUES IN PR:	5
PR IN CURRIC:	5
RELATIONSHIPS:	5
SKILLS EE:	5
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	5
SAFTEY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Yes
AFRICA:	Yes

### QUOTES FROM JOURNAL:

Journal notes: “I was surprised at the similarities Puerto Rico has as compared to the US.”

“I really think that adding this science aspect into my classroom will grab other students’ attention. I can’t wait to start planning.”

“Traveling really is the best education ever.”

“Up until this trip I really didn’t know what I was missing until now concerning nature. There are so many things to enjoy, to relax and appreciate, and to be amazed by.”

“God, I didn’t even know what a ‘coqui’ was 6 months ago.”

“I do feel very close to our group. It’s not like we’ve just been in class for wk, but we are seeing some of the most beautiful pieces of nature ever, sharing rooms, eating together, and all in a foreign country! I know that I will hate to say good bye to everyone! I hope that the Puerto Rican teachers will be able to visit Wisconsin next summer! My family in Mexico and friends haven’t been able to see my home and meet my husband and it’s almost like if the Puerto Rico teachers come it would make my dream come true. I love sharing my culture with others from different countries!”

Most memorable moment “I had to mention the turtle night.” She continues on to explain the night. “It was incredible!”

Reflection activity “It was a great activity to help us process the tons of info and sights we absorbed last week.” “Reflection should be applied to all areas of my live/or in a student’s life.”

“Something exciting happened to me today. Frances and Daniel greeted me today with a kiss on the cheek which is the traditional way of greeting someone in a Spanish speaking country. That means that I’m closer to them or they consider me a friend, which makes me feel so good!”

“I had some really nice personal talks with XXX and XXX today. I’m glad that they felt comfortable enough to open up to me. As I get older, you learn so much stuff about people and their lives and it just makes you all the wiser with life and finding yourself.”

After 1<sup>st</sup> dancing night “It was fun! It really touched me! His voice was very nice and he is just such a happy person. What a friend to have in your life! I even got teary-eyed.”

“It is really going to be hard to leave this place. I’m going to miss everyone. All of us have grown and changed forever.”

“I played one game of ‘full of shit/está cagado(a).’ I was fun. Of course XXX was the goofy one and XXX. had his laugh going again – played XXX, XXX, XXX, XXX, XXX, XXX...☺”

“This is just such a fun group.”

“This is more than just the Spanish. I’ve learned and experienced so many interesting and adventurous activities. I feel proud to say that I took this step to go to the Puerto Rican tropical forest and suffer in the heat, try new foods, meet new people, see boas, and thousands of bats fly over our heads, BioBay, snorkeling on the coral reef, and seeing the sea turtle! What an amazing 2 weeks! It’ll be hard to say ‘adios’...”

June 28<sup>th</sup> Molly shares her insecurity about her Spanish. She explains her experience.

## APPENDIX T: Participant Profiles

"Party was unforgettable! So are my new friends!"

"I know that I will be in touch with them. XXX drove the van for the last time on the trip. ☹️ Out of everyone, he looked the most emotional with me. 😊."

About XXX: "She is just such a beautiful, nice person. I don't remember how I talked or what I all said, but XXX was my main support for and cheerleader on this trip." She continues by giving examples.

Value of this Journal: "A daily account of what I did, how I felt...what a souvenir to have from this incredible trip! I did record all my notes on science stuff that I will be able to use in my classroom. I think that the notes and DVD of trip footage will be the best tools. Even using the DVD to explain the trip is a great seed to plant in my students to travel, to learn the language, the culture, and to show that learning a foreign language can be expanded into any academic area—in this case – Science! I'm excited to dabble in this and to reach students' interest levels in another way."

-She relates a lot to her experience in Mexico

-A quote from XXX that was said to Molly: "Preserving the environment relates to one's culture. The roots go very deep."

-She got tired of plantains after a while.

-She plans to use her pictures in a PowerPoint for class.

-Great exchange and fun moment was sharing.

### QUOTES FROM INTERVIEW:

(Researcher) We asked what do you expect to gain? And, you had said, "A whole new me, new friends, and professional growth." Do you feel that these expectations were met?

(Molly) "Definitely, personally I'd say that I think that the trip changed my life just because traveling abroad I think changes a person's life, so, the only country I had been to was Mexico and so going to Puerto Rico was awesome, too. I can compare both cultures and it's bettering my Spanish. And, although I couldn't understand the lady from Burger King. But, yeah, just the friends, and a teacher contact leading into professional development. I mean, the Puerto Rican teachers; I'm so excited to have a video conference and take my students from a small school of a K-12 building and bring them here, and actually use that technology and share with a class and meet people from another country. And, that doesn't, you know our area is not very diverse, so that's a real positive I think.

And just having the Puerto Rican teachers and Wisconsin teachers and you guys for contacts for information. I mean I'm a Spanish teacher. I want to check out the science resource center and just, I really, I think it really is important. You know, because lot of students can relate to the nature and then you can leave the Spanish in there, and grabbing their interest. A second, if they're interested in Spanish, they're interested in science and pull that together. What was the other?"

Friends, and you know, the whole trip, there was a bonding between all of us, and everyone hugged. And even at the end of the trip, which we had been sick of each other, she annoyed me, or he did this and that. We'd see each other and open our memories. Just really happy. "

### Personal Affect:

(Molly) "Just the chance of traveling abroad, awareness of nature. I guess I, just, you know I'd never really been a real outdoorsy person. But, I went kayaking this summer, I was just like look at that. Ah, the bald eagle, and the sandhill crane, and the, the deer. I'm just, I'm really learning to value it and think about nature.

I mean, my parents have a landfill over just past our house. Every time I throw anything away, I think of, you know, saving and conservation and can I reuse that? And, you know, I think a lot more than some other people would. Thinking about different animals from here, like the tropical, especially the sea turtle and something that's so foreign with us, and the Darlittles turtles. And the students, they really love them. They really latched on; they want to know more about the turtles."

### Professional Affect:

(Molly) "I'm just, I'm really proud of myself, for having, already having my masters. I just needed to do this, knew people who thought this would be a great thing for me. I just feel like it really added to my class. And, I think traveling, any teacher of any subject, just the travel abroad and be able to bring those experiences back into the classroom. I mean that's stuff that kids can, you're going to grab their curiosity and your enthusiasm hopefully passes onto them."

## APPENDIX T: Participant Profiles

“And, that’s what I hope most for my classes is how excited I get, and wide-eyed, and you know, telling funny stories. Some of the kids in the essays I have them write, said ‘Your stories are always funny,’ and I’m like, ‘Really?’ And, you know, so I feel like I really touched the kids. I just started with the Puerto Rico stuff. But, just my experience living in Mexico, and this, I think it, traveling is such an education, no matter where it is. And, unfortunately a lot of kids where I teach have never even left Wisconsin, or even, you know, the central part of the state. And so, at least I can bring that to them.”

(Researcher) “How do you feel that this program has affected your curriculum?”

(Molly) “I would say more vocabulary on science. Usually, in our textbook, there are some, some spots where they talk about camping and nature and animals. But it’s real general, real short. So I, of course, would be introducing more, and I’m rewriting my curriculum this year so I can start putting this in. Culture, introducing culture. Different aspects from other countries, instead of just one in particular.”

“And also, it’s kind of sparking the travel abroad with my school. I’d really like to get a travel abroad program going or at least share with another school. And my school is really dragging their feet on it, pretty conservative about it. But, with the time that I am there, I hope to get that established because like I said, just their experiences. I think traveling really is the best education. That’s where they’re going to learn Spanish the best. And right now, I’m just saying you’ll get your opportunities once you go into college, but someday I hope to get it going.”

### International Education:

(Molly) Definitely more, just because, I think, we tend to stick to fewer teaching the subject, and what we can relate to. And, because we can relate to the things in Puerto Rico, now it’s so much easier to infuse into what we’re talking about. And, putting it into curriculum.

### Environmental Education:

(Molly) More, more. Like I said, I have my bulletin boards full of pictures and posters relating to flip turtles, and maps and rainforests. We’ll be doing a lesson on this. I mean I am doing quite a bit more. I mean, from pretty much nothing to a lot. So that’s pretty cool.

It’s good to integrate the subjects I think. And, I even have talk of correlating with a sixth grade teacher who talks about the rainforest, who teaches a lesson on the rainforest. And she said maybe we can work together a little bit more. Even the high school teacher whose biology class they have little sea turtles. A year before, so a lot of students in their essays. And really, I know pictures of turtles, just talking about it. You know, I’d love to see that and learn more about the turtles and oh cool. And he, I know he had also snorkeled in a biosphere area, not in Puerto Rico, but somewhere, I forget where else. And, he, you know, he can relate with that. I learned in that class and now this class. You see it’s just not just in one little world. It’s all together.

(Molly) I thought it was wonderful. I would do another one, I really would. Even, not even having the science background, I would go again because nature is something that you can, that everyone can relate to. It’s our world and we need to protect it and enjoy what’s been given to us. And, I would love to go to another country and not really for Spanish, just traveling in general. You know, having that opportunity and having the science. Through the online course I’ve really benefited. It’s very interesting too.

### OTHER:

Post Assessment: “Since I teach Spanish, I usually only refer to the environment when we talk about the weather or reach a unit on the environment in Spanish III and IV. Now I have a full wall of bulletin boards filled with pictures and other memorabilia that the students can look at and enjoy/learn!”

“I will actually take time this year to go into specifics on Puerto Rico’s island species. Students are really interested!”

“Wonderful program even for non-science teachers.”

“Fantastic! It changed my life personally and professionally!”

“Wonderful people, forever friendships.”

“Even though I am not a science teacher, I think that a trip like this not only offers an experience to travel abroad and meet people, but also to learn about the environment which is a global interest (the care of and general nature education).”

Online Course: “The website connections through the online Puerto Rico course gave me a whirlwind of ideas that I can modify for each grade level that I teach.”

## APPENDIX T: Participant Profiles

Researcher's Journal: Before leaving for Puerto Rico, Molly seemed very excited with some nervousness about how technical it will be. Knowing Spanish well, she was able to form bonds with the teachers from Puerto Rico very quickly. She handled situations well during the science components of the program and even made connections applicable to her curriculum.

### UPDATE:

In December, Molly and a teacher in Puerto Rico participated in a video conference set up between UW-SP and InterAmerican University in Bayamon, Puerto Rico. A Spanish III/IV class participated from Rosholt High School in Wisconsin with a high school class in Puerto Rico. There were about 50 students participating. Some quotes from the event are the following:

Molly: "It was great meeting and seeing everyone! My students loved the experience and would love to do it again!"

Counterpart teacher in Puerto Rico: "My students, the school principal, the teacher, and me are so happy and excited of what we did that we came back to Maunabo talking about the experience all time in the van during the trip. The students want to do it again and they have some ideas."

Student in Wisconsin: "I thought it was really cool that we'd have an opportunity to speak with people who speak Spanish."



## APPENDIX T: Participant Profiles

NUMBER: 2  
NICKNAME: Linda

### DEMOGRAPHICS:

AGE: 51  
SUBJECT TAUGHT: All  
GRADE: Kindergarten  
EXPERIENCE: 20 years  
ED. LEVEL: MS – Environmental Education  
TRAVEL EXPERIENCE OVERSEAS: Yes, 9 experiences that amounted to less than 3 months, this has had some influence over her curriculum.

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

Essay: “All of my travels have benefited me, enriched me and widened my eyes.” “These experiences make up the fabric of who I am; they are reflected in my personality and, as a teacher who stands everyday before 20 kindergartners, they influence my instruction.”

“I have become a leader instead of a follower, at least when it comes to my passion for our environment. I believe that a commitment to my passion enriches not only myself, but also those I teach.”

Just from the application of Linda’s you can tell that she is a leader in environmental education in her school. She has extensive experience with EE and has shared her knowledge with her school, community, and other school districts.

### PRE-ASSESSMENT:

EE PLAN: Yes  
    FREQUENCY: Weekly  
CURRENT EE IN CURRICULUM: Yes  
    FREQUENCY: Weekly  
PRESERVICE EE: No  
EE TRAINING: Yes, a masters in EE  
COUNTRIES: No  
    FREQUENCY:  
CULTURES: Yes  
    FREQUENCY: Monthly  
MOTIVATION:  
BARRIERS: Financial, Safety, Culture, Knowledge, Language  
EXPECTATIONS: To learn more about Puerto Rican culture and natural diversity. To improve some of my Spanish. To learn about schools and environmental education in Puerto Rico.

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
1	1
2	1
N/A	2 -- they are only 5-6 yr olds but they are aware of enviro. issues
2	2

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	2
4	3
4	2
3	3
3	2

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	1	4.5
History of Puerto Rico	1	4.5
Enviro Issues in PR	1	5
PR Culture	2	5

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30	No*	Yes-somewhat	No-not yet	30

## APPENDIX T: Participant Profiles

\*I will be doing more Puerto Rican Environment in the spring

PR CONTACT: Yes, 4 people

FREQUENCY: once or twice since the program

METHOD: email and phone

RESOURCES: Yes

FREQUENCY: Monthly/weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5
E ISSUES IN PR:	5
PR IN CURRIC:	4
RELATIONSHIPS:	5
SKILLS EE:	4
APPRECIATE NEED EE GLOBALLY:	4.5
RESOURCES:	4
INFO LEARNED:	5
WORKLOAD:	4
SAFETY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Maybe
AFRICA:	Maybe

### QUOTES FROM JOURNAL:

Thoughts before departure: "I feel different about this trip than others. Maybe because I'm not traveling with my family or friend, but in a group. I'm not much of an extrovert."

1<sup>st</sup> Impression: "So far it reminds me a lot of Mexico; tropical, Spanish billboards, etc. But how discouraging to see so many US chains (Burger King, McDonalds, Wal-Mart, KFC...) US influence has obviously taken over and stifled the native 'flair' and 'flavor.'"

"What an exciting opportunity!"

"For two days I have been riding in the Puerto Rican van. They practice their English with me and I practice my Spanish with them. The truly are so thoughtful and patient with me."

"I can't describe in words how I felt this morning walking in the canopy before daybreak."

"Everywhere I look, I am curious; looking under leaves, above my head, touching, smelling."

"I'm so thankful to be here."

Snorkeling: "I could have spent the day here. I literally was with the 'flow.'" "I am so glad that I came out in the boat. I was double what I saw earlier."

"What a wonderful, fun group to explore and travel with."

BioBay: "Dinoflagellates. The woman compared her dog 'Snoopy' to the 1 celled creatures. It certainly held my attention! This would be a good idea to do something similar in my classroom especially when I do my living and non-living unit. I could use our guinea pig and make comparisons with the Hibiscus tree in our room."

## APPENDIX T: Participant Profiles

“Once we got on the boat and pulled out into the bay, it didn’t take long before we could see splashes of light in the water. It looked at 1<sup>st</sup>, like someone was flashing lights on and off underwater. Before long it was like fireworks going off in the water. Flashes of lights, streaking large and small throughout the water. Then if a flood light was shone, fish would jump right out of the water. The most incredible part of this adventure was getting IN the water ourselves. It was nothing short of magical. A feast for the soul. Words can’t simply explain this experience. It was fun to spin, swerve, splash... I used Kathy’s snorkel mask and it looked like the beginning of STAR WARS! The best was when you lifted your hands to the night sky and little sparkling orbs sprinkled on my arms. They looked like tiny fireflies jumping down my arm. This was truly an opportunity of a lifetime. I’m glad I read about it before I came here. In fact all of our experiences have been enhanced by the knowledge gained ahead of time. It sure helps with conversations and questions.”

Turtle: “A tortuga! She had come ashore and was looking for a good place to dig. I scooted way up front to see. We had a brief light on her to see where she was. She looked so pre-historic. (but then again, I guess she is!) She was flipping sand so hard, that it was landing right in front of me. (We were all kneeling in the sand.) She kept crawling around looking for a good spot, but it was pretty rocky. While waiting for her to dig and lay, I pulled out my beach towel and laid on my back to enjoy the stars. I barely stretched out when someone tapped me on the leg and said, ‘Get up’ She’s coming down the hill. Little did I realize how close she was to me. I could have touched her! Boy was she moving! Some of the guys grabbed her to measure her. She was dragging them right along with her. How strong! They measured 36”x28.” When they let her go – did she hustle! What a fantastic end to a long night. Our walk back seemed to go faster and easier with the thought of the blessing we were given tonight.”

On the ferry ride back: “Poor XXX got very seasick. When we got off the ferry, she needed help. I felt awful for her but we sure have a lot of caring, kind, and thoughtful people on this trip.”

Bats: “We got to the site, picked our ‘seats’ and listened and learned...Incredible, fantastic, exciting! 300,000 bats of 6 different species were all flying out of the cave. You could feel the breeze that they made and hear the wind that they produced. We counted 4 Puerto Rican boas (endangered) waiting for dinner. One was hanging on a limb right out in the middle, dangling like a limb. We set up mist nets and caught a number of bats! (3 different species). I borrowed leather gloves so I could hold one. She was pregnant and will give birth to 1 bat. When we flooded the hole again with light, we watched the boa eating a bat!! Can you believe this? Never in all my life will I have experiences like this all in one trip!”

“XXX and I talked a lot while on the trip. She is so funny. She said, ‘There are 3 sports in Puerto Rico; soccer, baseball, and politics.’”

Her thoughts/reflections: “We have been to the mountains, under the sea and inside the earth (caves). We have experienced hot/cold, wet/dry, morning/night. With all of these diverse experiences, it still comes down to one thing... we all share the passion and love of the natural world.”

“It was so nice to relax tonight, talk to our friends. The more we talk to them (Puerto Rican friends) the more I see we have in common.”

“I woke to the sound of many birds chirping. Come to think of it, we have been going to sleep with the sound of nature and waking to the sound of nature, Nice!”

“Again the more we are together, the more I see that we share the same philosophies, concerns, and passions about the environment.”

Linda wrote down several ideas she received at Hacienda Verde to use in her classroom.

Linda recorded her sound for the day as “Laughter of friends.”

“XXX had a very informative presentation on Latin dancing. She gave us all lessons and what was intended as a lesson turned into a frenzied fiesta!!”

Comment on the Puerto Rican Parrot Trip: “What an exceptional treat...” “We had a live band here tonight. 5-6 players. I found a smile on my face the entire night.”

“As I look at the window tonight I see a moon that’s almost full, music in the air, coqui’s answering back and a feeling in my heart of sincere appreciation and a renewal of my commitment to the earth.”

“We had our last breakfast together. Our Puerto Rican friends left before us. It was really hard to say good-bye. Lots of tears were shed between us all. I sincerely hope that we get to see them next summer.”

“I’m not sure how our \$1,700 paid for all the things that we’ve experienced.”

The sound from Linda today was XXX’s voice saying “I will miss you.”

## APPENDIX T: Participant Profiles

“Not only did we have to say good-bye to our Puerto Rican friends yesterday, but today our Wisconsin friends. Just think... we’ve been together 24/7 for 2 weeks. What started out as a questionable, apprehensive endeavor, has ended in very moving, enriching, and phenomenal experiences and friendships. I’m sure we will keep in touch. We all share a common thread and passion...our natural world.”

Final Words: “As I lay in bed I wonder ‘And now what?’ What is to come from this trip? Everything happens for a reason. But...a seed of some sort has been planted and will be nurtured. I hope in some way, I can play a part in this exchange of ideas, culture and friendships. All I know right now is I will be eternally grateful for these last 2 weeks... it will enrich my life and my perspective. I’m anxious to bring these qualities to my classroom.”

Thoughts about food:

“The food here isn’t what I expected. I don’t know why I thought it would be spicy but it’s wonderful! In some cases garlic-y too ☺”

“I thank the Lord each day for this experience. I am blessed.”

A statement that Abel Vale said stuck with her, “Homosapians’ footprints are too large.”

I liked Linda’s idea to arrange her journal so that she is recording something everyday that she saw, smelled, heard, tasted, and touched.

There was a statement I liked that she had in her journal. I don’t know if it was hers originally:

“Conocer para amar,

Amar para conservar.”

### QUOTES FROM INTERVIEW:

(Researcher) And, your expectations were to learn more about Puerto Rican culture, and natural diversity, and to learn how schools and environmental education in Puerto Rico; to learn more about schools than environmental ed in Puerto Rico. Do you feel these expectations were met?

(Linda) Absolutely, on all three counts. Although as far as the schools themselves, I know we had mostly junior high and high school teachers involved. I would have liked, being at the kindergarten level, I would have like to have seen and heard what more goes on at a primary level. But, the others, absolutely, I mean, there’s no doubt. I didn’t know much of anything about Puerto Rican culture. Didn’t ever know anyone who had gone to Puerto Rico and I guess I never really had, and I’ve done lots of traveling, but never thought of Puerto Rico as being an option. I can’t wait to go again, and I’ll take my husband. But, yet I’d like to pursue it and actually go into the schools. I think that was one thing I’d like to have done. And I know we couldn’t because it was summer. But, to get; and I can adapt a lot of this stuff, I mean, to my kindergarten level or lower elementary I can do that. But, I guess I would have like to have seen or heard more of what they do at the elementary level as far as environmental ed.

(Researcher) Sure. Did you feel, did your expectations change any time during the program?

(Linda) Did they change? My expectations, no, I kind of, can you clarify that?

(Researcher) Some, as you learn more about it from the online course and the orientation, and then actually going down there and coming back, sometimes having, not knowing what to expect, and then realizing ‘Oh, we’re going to Puerto Rico. I’m expecting to go into schools or not.’ And I’m wondering.

(Linda) I didn’t know if we would be able to go into the schools, so once were down there, I changed that expectation, but what I did was, I talked to the Puerto Rican teachers. You know, if they knew of any elementary school teachers or even if, and now like XXX had worked with younger kids. So I talked with her about some of the activities she’s done with kids, and I saw some that night she presented some things. So even though I didn’t get to go into schools, I have somewhat of an idea. I know a little bit. And, XXX, she would hook me up with someone, too. Though I tried to email her like three times. She’s called me.

## APPENDIX T: Participant Profiles

### Personal Affect:

(Linda) Personally, and educationally, I see things more globally. And I get in that tendency when I travel a lot, but I think with all the information I got beforehand and down there made a huge difference in how I perceived things once I was there. Because I understood, you know, if I saw a ----, and after reading about it, I understood why it was there, how it got there. That was huge for me, it made it a much more enriching trip for me because I knew so much more about it. And coming back, I haven't done it yet with my kids, my lessons I wrote because I'm infusing that with a, we have a session in spring on the five senses. And, that's what my whole lesson is based on. So I'm going to, I don't know, I haven't done much with my kids other than the music and the Moroccans, but I'm going to do my lesson in the spring. But I think that whole, from beginning to end, from me learning so much about it, experiencing it and then teaching it to someone else, just made that trip so enriching. More fulfilling than any other trip I've ever had.

### Curriculum Affect:

(Linda) Yep, definitely. And again it's because, that whole focus that I picked up while I was down there, focusing on the five senses. And, I did that because that's part of our curriculum, our kindergarten curriculum. But, boy isn't that how we really, all of us learn is by seeing things, smelling things. I mean, we're infusing every bit and incorporating all these different aspects of learning. Not just by seeing or hearing, but being much more dimensional. And, by doing that, when I came back, I thought well why don't I do that. You know, more in my education.

I mentioned in the form we filled out, we get "Time for Kids," which is a social studies newspaper put out weekly by Time Magazine. And, they will talk about other cultures, or another country or region. And, so just taking it superficially, then I'll start to look at what do they eat there? Or what kind of music do they have? And, so I've been changing, I've been bringing that into my social studies unit more.

(Researcher) You're doing that more than?

(Linda) Oh definitely!

### International Education:

(Linda) Yeah. It's kind of weird because in kindergarten our focus is only like me, my classroom, my neighborhood, and we don't really go much beyond that. But, these Time Magazines that we get for kindergarteners, does go beyond even our state. So, I'm using more of the tools, like getting out the globe and getting out a map, and I see a difference in them because they have pointed out things on the map that I don't know, I have never had kindergarteners do that before. So I don't know, maybe it did make a difference.

### Environmental Education:

(Linda) It's a global thing again, because I got my Masters in environmental ed, it was building an outdoor site out the back of our school. And I got involved with, at our school forest, I'm on that committee. But I think once I was down there, you know what really impressed when I was there, was when we were leaving the ategase, and there some of us went up to that old fort, and it was sandy, windy, and when they said those were the sands from the Sahara. It just hit me, like "Oh my gosh!" You know; you read about it, you hear about it, but when you see it, it's like we really are more connected than you thought. And why not tell kids that when they are young? They're not stupid. They can understand. It may be a little abstract, but I think if you bring in those five senses things to make it more real to them. So I see things much more globally.

(Researcher) Oh good. And do you think it was because of this program, because you have been on other trips?

(Linda) Yeah, but I think it was the whole education of that online class and being there and all the speakers we had down there. And, then coming back and reflecting on all that and putting it into use. It definitely, without a doubt.

### Additional Comments:

(Linda) It was awesome. It was really awesome. I can't think of a week that goes by that something doesn't come up about that trip. And, you know, in our conversation, or haul my pictures back out, or go back into, you know, the readings we had, or think of something and go back. And after the election, my husband and I decided we would move there. And he's an environmental consultant. For clean-ups for the EPA. And I thought, perfect, there's a mess down there for him to work. Find a school down there or work with Juan and the turtles.

### OTHER:

My journal 6/27/04: Linda said, "This is what it is all about, looking at things in a different perspective."

Observation Notes: Linda comes to the program with a lot of environmental education experience, leadership skills, and several travel experiences abroad. She captures thoughts and feelings well and has a talent in for words. I feel she really embraced the experience having the teachers from Puerto Rico there.

## APPENDIX T: Participant Profiles

NUMBER: 3  
NICKNAME: Kate

### DEMOGRAPHICS:

AGE: 33  
SUBJECT TAUGHT: Biology  
GRADE: 9-12  
EXPERIENCE: 7 years  
ED. LEVEL: Masters in Science Education  
TRAVEL EXPERIENCE OVERSEAS: Yes, 9 experiences amounting to 1-2 years overseas

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

Essay: "I find that each trip, in addition to reinforcing my prior knowledge, creates incredible opportunities to build on my past experiences. Even if I return to an ecosystem that is familiar to me, every research or education program approaches learning from a new angle, triggering fabulous questions and endless opportunities for me and for my teaching."  
"I want to incorporate personal experience as much as possible into the curriculum because I know the students respond better when there is a direct connection."

### PRE-ASSESSMENT:

EE PLAN: Not Sure if there is a plan but she currently infuses EE in her classes.  
FREQUENCY: Weekly/monthly  
EE CURRENTLY IN CURRICULUM: Yes  
FREQUENCY: Monthly/weekly  
PRESERVICE EE: No  
EE TRAINING: Yes, about 10 workshops/courses  
COUNTRIES: Yes  
FREQUENCY: 2-3 times a semester  
CULTURES: Yes  
FREQUENCY: Monthly  
MOTIVATION: Desire to travel to a new tropical country  
BARRIERS: Financial, Employment Obligations  
EXPECTATIONS: Increased knowledge on tropical ecosystems, improve Spanish, learn about Puerto Rican culture. I want to Bomba!

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
1	1
2	2
2	2
1	1

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	4
2	3
4	2
2	3
3	2

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	5	5
History of Puerto Rico	2	4
Enviro Issues in PR	2	5
PR Culture	4	5

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
No	15	No	No	No

PR CONTACT: Yes, 1 frequently and another teacher once  
FREQUENCY: depends on the discussion – monthly, weekly, daily  
METHOD: email and mail

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: 1-2 times since the program

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	4
HANDS ON:	2
E ISSUES IN PR:	4
PR IN CURRIC:	1
RELATIONSHIPS:	4
SKILLS EE:	1
APPRECIATE NEED EE GLOBALLY:	1
RESOURCES:	4
INFO LEARNED:	2
WORKLOAD:	2
SAFETY:	5
VALUE:	2
MATERIAL CLARITY:	4
ORGANIZATION:	4
RESPECT:	5
WOULD GO AGAIN:	Maybe
CHINA:	No
AFRICA:	Yes

### QUOTES FROM JOURNAL:

1<sup>st</sup> Arrival – “Driving in San Juan was like driving in strip mall USA – good roads all chain stores and Condom World. The first food we ate was Wendy’s. I ate off the 99 cent value menu – bacon cheeseburger and frosty. Too American but made moods improve.”

“Another example, I think, of how similar Puerto Rico is to US compared to Central America. People don’t work in out of doors very much, nor do they exercise enough/eat well. A lot of overweight people here. I guess it goes with the States showing how use of natural resources has increased so much here – increase trash, increase water use, etc.”

“For some reason this kind of stuff fascinates me.” In response to learning about how Miguel plants coffee on his plantation.

Her observation of mixed races in Puerto Rico. “Puerto Rico more racially mixed, less prejudiced country than US. Color doesn’t seem to matter as much. Evidently there are a few coastal areas that are still very black. Mountainous areas tend to have pockets of whiter/blond, blue eyed people because foreigners settled in cooler mountainous areas.

Her surprising comment about the importance of the Puerto Rican parrot. It seems to me that she doesn’t completely understand. “We went to see the Rio Abajo Puerto Rican Parrot aviary today. Again, not my favorite use of time down here, but it seems important to everyone else.”

“Overall this was a good trip—no major personality issues – conscientious group. I think XXX and XXX were ready to go earlier than others.”

--What she didn’t realize is that XXX was intimidated by Kate because of her Spanish. I wonder if Kate has had troubles with groups before. She commented that there weren’t any personality issues. It makes me wonder if she has had problems in the past. She didn’t bring up her experiences in Costal Rica, working with teachers much. I would have expected that that trip was similar to this one and to hear more about Costa Rica.

In her journal, Kate complained some like she did on the trip. She offered many suggestions for improvement. She always found something to improve. In the end, she was ready to go. I feel that she draws preconceived conclusions about people. She gives herself a bit more credit than deserved.

### QUOTES FROM INTERVIEW:

(Researcher) You wrote that you hoped to receive increased knowledge on tropical ecosystems, improve your Spanish, and learn about Puerto Rican culture. Do feel these expectations were met?

(Kate) I mean as far as culture, probably yes, because the Puerto Rican teachers, they were pretty good about taking us places and, you know, outside of class answering them, our questions. That, that I think was good learning about the political situation. Statehood. That was really good.

## APPENDIX T: Participant Profiles

As far as the environmental, I didn't feel that I learned that much that I didn't already know from my experiences in Costa Rica, Peru, and Brazil. I was a little disappointed on that. I thought that they were, we sometimes felt the walking tours that we did was just going through as fast as we could and it was a very generic tour for, you know, just anybody, and I didn't learn that much. And some of the talks that were given were so incredibly detailed that I didn't understand anything that was going on. Like you'd have to have a background knowledge that I didn't get it.

So, that, that I was disappointed in. You know, the mangroves I knew every single thing that was said already, you know, so I didn't learn anything new. And, seeing the different kind of driving force there was interesting and I did learn something from the Puerto Rican teachers, but not from, not very much from what was set up otherwise.

Yeah, I learned some things that I shouldn't say there. Yes, my Spanish is better.

### Personal Affect:

(Kate) Oh, I don't think it had a real big impact on me personally. I mean I have so much experience already with travel and so long that I kind of had an idea what to expect going. I mean I learned new things and I met new people, and they were great people that I can keep in touch with so I guess a personal change is that I know more people in different places and communicate with them, but I don't think my philosophies have changed at all or my understanding of the world has changed.

### Professional Affect:

(Kate) I mean it gave me new ideas to start my advanced biology labs on. I started it a different way than I have before. It's my second year teaching it, so that changed. It didn't work out very well, but I'm still working on it. I'm trying to get the Dynoflagellites to glow. And, they worked fabulously before school started, and then they wore out before I could show them to the kids. And, they don't show up very well in the classroom at all. You have to have a completely dark space and have two kids at a time come look at it. So, it's still kind of fun to have, but after I showed it to three or four kids, nobody else could see it, and half of them didn't know anymore. But, my kids are experimenting on it right now. I have two sets of two groups of experiments going on on diaflagellism. We get to improve how we work on them. So that changed, that was good.

Other than that, I may incorporate a couple things about Puerto Rico, but I'm not going to change a whole lot, probably about what I did. As far as my colleagues, they were all, you know, 'Oh, how was your trip this summer? And, where are you going next summer?' You know that kind of continues, like the professional relationship with other people. Yeah, very jealous.

### Curriculum Change?

(Kate) I think the only thing I'll probably do next semester with my regular biology class is I already do, I already have a unit where I go through Costa Rican forests, and show how if you go on the mountain, how the forests changes. The main thing is I already do that. With my kids. And the only thing I'll probably do is take one of the packets that they gave us on showing Puerto Rico and use it as an assessment. So after we talk about Costa Rica, then they'll use the Puerto Rican assessment and see if they can figure out where the forest would be in Puerto Rico. So I'll probably slightly change how I analyze what the kids learn.

(Researcher) Did you, did this experience make your curriculum or your lessons deeper, do you think?

(Kate) I just think it will give me a different way to analyze with my kids.

### International Education:

(Kate) It's probably about the same, because again I already did it. So this is, I'll just throw out some of this to include some of this, so it's not; it's more just a juggling. So maybe I'm covering more regions now, because I actually mention Puerto Rico unlike I did before, but I tended to do that anyway. But, but I did start my mass biology class with Puerto Rico like the first, the second day was a little slideshow on, you know, some of where we went. So there is one more day where I talked about it where I wouldn't have had otherwise.

### Environmental Education:

(Kate) No, there's already a big focus upon it, so it's very important to me already.

(Researcher) Good. And is there anything else you want to add?



## APPENDIX T: Participant Profiles

(Kate) No, I mean just the same thing I said before. I still would hope that next time, and maybe even this summer that we can do more research-based activities because that for me has been, I always pull more out of that than anything else. At this point in my career, I already have so many ideas of how to teach, I just need data and I want to learn how to analyze data. For where I am, that's what I need more than anything. I mean the lectures are interesting, but what I'm going to end up telling my kids and being able to pull back to the classroom would be research techniques and bringing them actual data we've collected.

### OTHER:

Post-Assessment: "Disappointing – 2 teachers (in Puerto Rico) said they wanted to do an exchange with students but never communicated with me after we left."

"Focus-the trip was too scattered-too much random information given-too quickly without time to digest and discuss what we want to do with it-do more research and work in one place."

"Allow teachers to sit and discuss what we are doing at various points of the trip – small groups."

"Correlate internet course better with the trip – bring things together."

"Give a better idea of course assignments before registration – internet course was ridiculously easy, Puerto Rico portion far more demanding – uneven."

Researcher Journal/Records: Kate at the airport was very comfortable. She didn't show any anxiety about traveling. She didn't seem to have any concerns or worries. She expressed her excitement. She asked questions about the teachers and schools in Puerto Rico.

One thing about Kate is that she has no worries about sharing her opinion on things. Her experience traveling in Latin America and past work developing a similar teacher exchange in Costa Rica has made her very familiar with the process of these exchanges. Her comments were sometimes critical but at the same time insightful. She easily and comfortably shared what was working to her and what she would change.

During a lesson at El Yunque, she was able to learn about another lesson she said she wants to use in her classroom in regards to tropical forests.

In a conversation with her, she expressed her concerns for all the work she had to do for this course, including the journaling and the curriculum assignment. She felt it was too much. She suggests that next year we include this in the expectations of the course earlier in the application process.

During a conversation with Kate on 6/24/05, she asked about my research. I explained that I am trying to observe if people's cross-cultural competency appears to be increasing. In response she felt that this was great. She continued to add that she felt that there has been an increase in her. She felt that learning more about Puerto Rico has helped her learn more about Latin America. She is able to compare with other Latin American areas and says that Puerto Rico is much different.

Kate led a session where she taught everyone to merenge. You could tell her enjoyment taking a leadership role. She came across as confident and proud.

During the verbal group evaluations, Kate offered good comments to improve the program. Do more field work; use a different trail in El Yunque where it is less crowded, if possible; in the future, think about having field guides and sampling equipment at Hacienda Verde.

### UPDATE:

After Kate returned to her hometown, she went on and received her Spanish certificate to help with translations at the hospital or clinic.

## APPENDIX T: Participant Profiles

NUMBER: 4  
NICKNAME: Lisa

### DEMOGRAPHICS:

AGE: 34  
SUBJECT TAUGHT: Math/Science  
GRADE: 5<sup>th</sup>  
EXPERIENCE: 12 years  
ED. LEVEL: MS - EE  
TRAVEL EXPERIENCE OVERSEAS: 1 Experience with some influence on the curriculum. Less than a month overseas.

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

In essay she shares her interest to learn more about Puerto Rican culture, history, environmental issues, and study island ecology. She talked about the importance of bring experiences back and sharing them with others. Her letters of reference express Lisa as a leader in the community and at the school of which she teaches. Both letters were very strong.

### PRE-ASSESSMENT:

EE PLAN: No  
FREQUENCY:  
EE CURRENTLY IN CURRICULUM: Yes  
FREQUENCY: Monthly  
PRESERVICE EE: Yes – 1 class at UW-SP  
EE TRAINING: Yes – MS in EE  
COUNTRIES: No  
FREQUENCY:  
CULTURES: No  
FREQUENCY:  
MOTIVATION: I want to become a better teacher by giving my students real-world environmental/cultural experiences that support my curriculum.  
BARRIERS: Financial, Family, Culture, Knowledge, Language  
EXPECTATIONS: I expect to have a better understanding of myself of the environmental issues facing Puerto Rico and be confident and well-organized to incorporate it in my curriculum with my students.

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
2	1
2	2
3	2
2	1

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	1
4	2
4	2
5	2
5	2

### KNOWLEDGE MEASUREMENT:

BEFORE EXPERIENCE	AFTER EXPERIENCE
2	5
1	4
1	5
1	4

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30	30	None	15	None

PR CONTACT: Yes  
FREQUENCY: 2 people 1-2times  
METHOD: email

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: Weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5
E ISSUES IN PR:	5
PR IN CURRIC:	5
RELATIONSHIPS:	4
SKILLS EE:	5
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	5
SAFETY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	No
AFRICA:	No

### QUOTES FROM JOURNAL:

6/17/04: She expresses her anxiety—"I have had much anxiety about leaving on this trip over the last week. I really struggled this morning with leaving my home and husband for two weeks. I'm anxious about the conditions under which we will be traveling. I am nervous about the people I'm going to be traveling with...I'm hesitant to use the little bit of Spanish I've picked up on over the past month...On the other hand...I'm sure this is going to be an experience of a lifetime."  
"Overall, I know the positives outweigh the negatives and I will become a better person because of this trip."

6/18/04: "I really liked the way Blanca did the slide-show to introduce us to the rainforest. I think I'm going to use this same idea in my classroom."

After Snorkeling: "After relaxing the rest of the day in the shade and talking more to XXX, I knew I needed to be on this trip."

After BioBay: "Words can hardly express how awesome this experience was!"

After Turtle: "I laid on my back and looked up to the stars thinking God I've been given the chance to witness this miracle...Another of life's dreams has come through."

Fiddler Crabs: "It's great seeing them (the teachers from Puerto Rico) share their knowledge and expertise of their native ecosystem is awesome! Although the language is a bit of a barrier, their enthusiasm for sharing nature with us is refreshing. I am going to make better effort to learn their language and try to hold conversation in Spanish."

6/22/04: Lisa shared some thoughts that showed her making connections with what she learned during the online course concerning a conservation ethic on islands. She realized that not all islanders have an automatic conservation ethic. She talks about the need to spread the internal value to protect the environment. "We need to share it (the internal value we hold for nature) with others and become a magnet to attract others to our effort...infect them with our passion...let them see the twinkle in our eyes; joy in our smile, as we share our knowledge of the environment with them."

Bats: "Never in my life would I have thought of doing this – dreamed of it...imagined it...but never thought it would happen." "Bats were always thought to be yucky and scary. But now that I've learned about them, actually held one, I have a much better appreciation of their unique look and features. I have been a prime example of what raising a person's awareness, and their gaining the knowledge of something triggers an appreciation and value for something not held before. What an incredible experience!"

Day at Mata: "I will never forget XXX! What an extraordinary woman!...Thank God that our paths have crossed. She is a peaceful, calm, and energetic woman!"

1-2 day Hacienda Verde: "I'm speaking a little more Spanish. Sure would like to use more."

## APPENDIX T: Participant Profiles

6/25/04: “What a day! The highlight had to be when we were listening to Miguel play his guitar and all the Puerto Rican teachers were singing their traditional songs.” When going up the river to study macroinvertebrates. “It was incredible!” “This was awesome!”

Conversation with XXX: Finding commonality-“I’m glad I’ve been giving this chance to connect with him.”

6/30/04: Saying Good-bye—“I feel I’ve been made a better person by having met them (the teachers from Puerto Rico) and shared their land with me. I will never forget the impression they’ve left upon me.” “The rest of the day just didn’t seem to be the same. We were missing our other half!”

7/1/04: Value of Journal- “I think there are many levels of value in this journal.” She continues to explain 3 levels: general knowledge, cultural experience, and personal growth. Concerning cultural experience—“This is something that only can be gained and learned by directly experiencing the people and nature found while on the trip...It is obvious to me that I have been blessed to have encountered all these individuals (the teachers from Puerto Rico). Their passion and excitement to share with us their island and all its beauty is something that has left a lasting impression on me.” Personal Growth- “The highest level of value I give this journal is a testament of my personal growth these two weeks...This trip has produced the last missing piece in my character. For this reason, I will say that it truly has been a life-changing and rejuvenating experience for me.” Teaching ideas-“I’m going to sprinkle Puerto Rican lessons throughout all my units and subjects taught during the year. This is really how environmental education should be done anyway.” Conclusion-“I am very grateful to have been part of this project. Susan, Dennis, and Carol have done an excellent job of making this happen.”

### QUOTES FROM INTERVIEW:

Lisa’s written expectations for this trip- to have a better understanding of myself, of the environmental issues facing Puerto Rico, and become confident and well organized to incorporate it into my curriculum with my students.

When asked if these expectations were met. “They were exceeded. Just the experience that I got through the program totally, I mean, I’m not afraid to bring it up. And, I feel very confident and knowledgeable about everything that’s going on there and I can very easily bring it up without having to pre-plan it and prepare it. Whereas, before I was totally clueless and had no idea.”

#### Personal Affect:

(Lisa) Well, the biggest thing I think it did was it reignited my passion for environmental ed. And, it only reassured me that cultural education has to become part of the curriculum all the way through. I always knew it was important, but I didn’t really know how important or even how to go about putting it into the curriculum. And, that right there was the big thing from the trip. Just, I loved the online course; I’m kind of a geek that way. Looking to share it with anyone who is interested in hearing it, just the knowledge of how the whole island culture works and how everything is connected. That type of thing.”

#### Professional Affect:

(Lisa) Well, as far as teaching, I feel more confident in bringing things up to the students. Not necessarily planned lessons, I just, I got the planned lessons, but what I think usually ends up coming up is I read “50 Simple Things You Can Do Every Day,” and I can’t believe the number of connections I can make to the kids. You know the Styrofoam in the water, how about the sea turtle? And, I can pull that kind of stuff in. I would have never pre-planned something like that--the experience of having done that.

I have approached my science staff on getting copies of my lessons, and they’re all interested in taking it. I’m hesitant in just giving them copies, so I’ve applied for in-service hours in the district to give them like an hour-and-a-half training and take them through each of the lessons I’ve designed. So I have permission for that, I have the go-ahead, but right now we’re in job action so that prohibits us from doing anything after the school day. So, until that gets settled, I’m not quite sure what time I’ll be able to do it, but when I gave my spiel at the science curriculum, they were like “you should be teaching the environment. You should be teaching the ecology unit all year, Lisa, and just rotating, because you know it.” Just giving the application, the real-world application from Puerto Rico is really good. I had a nice time.

Another thing that just happened out of the blue, I’m working with a team of four teachers in language art to write a non-fiction reading unit. And, we started out by tracing your heritage, but its kind of turned into more of its journey. And, so through learning how to read a website and learning how to read non-fiction text to go to another culture and explore it, so the Puerto Rico experience, the teacher model that the teachers will be using to share that, you know, as an instruction for the kids to do their own exploration. So, that really totally wasn’t anywhere near what I had anticipated. It just kind of came up as I shared my scrapbook.

(Researcher) So far this semester have you been able to use anything that was provided about Puerto Rico in your curriculum?

## APPENDIX T: Participant Profiles

(Lisa) The Puerto Rican parrot, the endangered species, the whole hurricane thing was awesome. It's a terrible thing, it's a terrible teachable moment, but yeah, it really kind of worked out really well. I used the book Morning Girl that XXX, XXX had talked about it too. So, I've been able to, like I said dabble stuff for, like I said when I read things, you know what, in Puerto Rico I went to an ice-cream place and it was this and then I wrote my persuasive, or you know my descriptive piece on the ice-cream story now. They think it's not science, but it totally has the culture in it and a different experience. The kids loved the bat story, and how'd you hurt your arm. Oh, a Puerto Rican boa constrictor. And then it's like fact or fiction; could it have happened or could it not? So even tying it in with the writing and the language arts has been really cool.

(Researcher) Do you feel this program has helped you incorporate more international education into your curriculum?

(Lisa) Yeah. Before this it wasn't anything of substance, it'd be just be "Oh, how about this" or "This is interesting." And, then it would go. You know, there wouldn't be any follow-up or meaningful application or that type of thing.

(Researcher) You do have a background in environmental education, but do you feel that this program has helped you even increase it even more?

(Lisa) Oh yeah. Yeah, it just makes it even more important to, like, the fact that they don't recycle there is just, and my students don't know anything but recycling. So, for them, for me to say, "Well, you know, not everybody does this," and they can't possibly imagine that. Or, you know right now, we're in the middle of one of the kids is designing experiments and "Well, if we save all of our recycled paper from one week, how much would we use?" You know, how much are we throwing away? And we could experiment, "But if the people in Puerto Rico don't do any recycling, you know, for how many years." And, I mean so it's cool to see those connections being made with the kids.

(Researcher) I was just wondering if you have anything else you want to add, comments about the program.

(Lisa) No, no. I felt my limited Spanish was a bit of a hindrance on the project, and if I continued to be involved in the project, I certainly would prepare better. And, really that class that I took wasn't quite enough to get me, to able to hold conversations. And, I felt uncomfortable with that because I didn't want them to feel that they always had to accommodate me. But yet, I felt like I'm not catching on quick enough to do it myself. And, if I were to have been involved with any of them coming to Wisconsin I certainly would plan to take Spanish class that I could help them.

### OTHER:

Observations Notes: Lisa seemed to have a lot of anxiety coming into the program. She embraced the experience. It seems the program had a great and positive affect on her personally and professionally. She was quiet and very kind. I am glad she tried snorkeling even though she became scared. I can sympathize. She really opened up by the end of the trip and really seemed to enjoy her time with the others. She fell and chipped a bone in her elbow. Throughout the whole incident, she was very calm.

### UPDATE:

As Lisa said in the interview, she was approved to give an in-service training to the staff to train them in the lessons she created through the program.

## APPENDIX T: Participant Profiles

NUMBER: 5  
NICKNAME: Tina

### DEMOGRAPHICS:

AGE: 53  
SUBJECT TAUGHT: All  
GRADE: 5/6  
EXPERIENCE: 20 yrs.  
ED. LEVEL: BA +63 credits  
TRAVEL EXPERIENCE OVERSEAS: Y, 10 experiences, less than a year abroad, influences curriculum “very much.” She says it fulfills her need to keep learning and then translate it to sharing and teaching others.

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

In the essay Tina shares a number of environmental education programs and activities that she has been involved in. Her experience is extensive.

### PRE-ASSESSMENT:

EE PLAN: In the process of writing one  
FREQUENCY:  
EE CURRENTLY IN CURRICULUM: Yes  
FREQUENCY: Daily  
PRESERVICE EE: Yes  
EE TRAINING: Yes – 8 courses/workshops  
COUNTRIES: Yes  
FREQUENCY: Weekly  
CULTURES: Yes  
FREQUENCY: Weekly  
MOTIVATION: I like the experience of working with teachers from other areas. I like to travel/experience other cultures/natural areas.  
BARRIERS: Language, Medical, Family, Financial, Timing of the trip  
EXPECTATIONS: Experiences to share with other teachers and my students. More networking with WCCE and its resources.

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
2	1
2	1
3	2
2	1

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	2
2	2
2	2
3	2
3	2

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	4	5
History of Puerto Rico	2	4
Enviro Issues in PR	2	4
PR Culture	2	4

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
60+	60+ (over 3 wk period)	45	60+	45

PR CONTACT: Yes  
FREQUENCY: 2 people 1-2 times  
METHOD: email

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: Weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5
E ISSUES IN PR:	5
PR IN CURRIC:	5
RELATIONSHIPS:	4
SKILLS EE:	5
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	2
SAFETY:	
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Yes
AFRICA:	Yes

### QUOTES FROM JOURNAL:

La Familia: "I really wish I knew more Spanish." "Already it's been great traveling together. The mix of ages is good for both groups. I'm sure we'll share a lot of adventures in the next 2 weeks."

6/29/04: "It'll be hard to leave this place." "It seems that many have a communal vision and a need to heal. It's peaceful and optimistic." "Knowledge of people is important along with the science of the earth."

Date?: "Dancing showed just how our camaraderie has grown over the past 2 weeks. I haven't had so much fun and laughter in just too long." "The good news is that we can invite them to Wisconsin next summer!"

### QUOTES FROM INTERVIEW:

(Researcher) You wrote that you expect to gain experiences to share with other teachers and my students, more networking with the WCEE and its resources, and taking advantage of the local community of resources and the people. Do you feel that these expectations were met?

(Tina) I think they're on the way; they're on the way. Number one, I've been aware of the WCEE resource in the library, as well I've accessed it. But, we get busy and sometimes forget that it's here. So I've been using that again, and have also been working with the other teachers in my area, making them re-aware because we all were told of it, and some of us went to visit it, but again, wow, this place is excellent. And, specifically for the bat trunk. And using, using that. And, it's in our backyard, it's right here. We don't have to re-invent the wheel, but we do have to support one another and what people have done. So, that part of it. Plus, also within my own school community we were each assigned to do something that now we've called social science, rather than just having a strict science lesson, a strict social studies lesson. We're integrating our E.E. things; we've found out that so many of them blend naturally that we just call them social sciences. And, it's, the more you work with it, the more beautifully you can see how it fits.

And, having a specific topic helps us to accomplish the skills, the teaching of the skills. No matter what the subject matter, it's the skills that are bottom line. So if you find a subject area in which you, personally as a teacher, are interested, and confident, and feel somewhat knowledgeable about, but still curious, I think that enthusiasm also comes to the kids.

#### Personal Affect:

(Tina) Definitely. It's given me that direct approach of how I am going to work my infusion this year with some of things I enjoy and have been familiar with, but yet giving myself a freshness because I have been an experienced teacher; how to add that freshness.

(Tina) Personally, I want to do more exploring. More, I'm anxious to interact with the Puerto Rican teachers and to share part of my knowledge base up here, you know, my backyard, versus looking in theirs because how excited we were to see and experience something that's out of our realm, I also want to share that with them. I think that exchange was one of the things that interested me in the program as much as the going itself. That, that wasn't just a one shot deal, the fact that that could be an ongoing experience.

## APPENDIX T: Participant Profiles

(Researcher) How do you feel this program has affected your curriculum in the classroom?

(Tina) I was able to take two of my favorite topics and enrich them. One of my favorite books always was Morning Girl. Now I have background on the Taino people. The cultural resource people of Puerto Rico that I feel more confident teaching about. That was the highlight. That was the highlight when I looked at the ---?, that was the highlight while I was there.

And, furthermore the resources that are out there, available from PBS, available from things like Discovery Channel that kids who are very visual learners can pick up these things on TV when they're being couch potatoes at least might be more than just sponge couch potatoes, and somewhat more intellectually active. And, that they can share some of things they've learned at school with their own backyard which reminds me that the more tie-ins we can make.

I'm lucky to come off a year when they've taught Wisconsin, so I can build on the background what the kids have of Wisconsin and then use the compare and contrast, which is a very hierarchical thinking process, so building on that skill is the comparison with the rainforest, and not just, "Oh, I'm teaching rainforests."

(Researcher) As compared to others, you've traveled abroad before. Compared to other programs you were on or trips abroad, how has this program, is it any different or have you been able to use it more or incorporate more about Puerto Rico?

(Tina) Most of my travel has been personal, for myself. The other travel that I did was for Russia and that was the language and reaching, using some of that English skills. So, this is the first one that I've taken that's been specifically environmental-based. And, teaching at an environmental-based school, it's given me the tools to enrich my curriculum as well as personal interests.

### International Education:

(Tina) Definitely. One of the things that's happening is that we will pick up a program called "Assignment: The World," where things, current events are happening. And, so one of the studies that I did was compare latitude and how it affects your climate. Wisconsin's versus Puerto Rico's and several other kids then tying in on what happens in a tropical versus temperate areas. And, if they can get specific it helps them to know what's going on. And, the next step then is, "Okay, let's explore some of the other areas around the world and how; there's a program and I forget the name of it, but it's children about their age, and how their lives are. And, the kids can connect with how, similarities because of their age, but differences just because of their cultural heritage. And, continually emphasizing the fact that it's different, not better.

### Environmental Education:

(Tina) I feel more secure in taking them out more often, doing more things that, just that second step of an experience and being very specific that they are getting skills they need, that meet the standards, because so much of what we have is standard-based and becoming more so. And, yet having fun with it. Even if we're not pencil and paper or worksheet, the enthusiasm that the kids show, and the kind of assessments that when we come back, the sharing, the circle time, or in their writing or in their drawing, it just comes out.

### Comments or Suggestions:

(Tina) That it's overwhelming when, when you're in the middle of it. There's just so much, that when you come back, you need time to, just a little bit of down time to let it settle in. And, just to, to make people aware that your summer isn't too packed. Eventually what will happen. And that when you're writing up the lessons, it's kind of like, oh my, I just came from, I just came from school, finishing off that. I just jumped into this, which was intense. More than your twelve-hour day with that, and then coming back to write up your curriculum because you want to have the rest of your summer. But, do you know that when fall comes and you've got that completed project in your hand, it's kind of like, "Wow, I really can use this."

(Researcher) Have you used the activities yet?

(Tina) Oh, yes. Besides that one. It's been a really good fall focus.

### OTHER:

Researcher's journal: Tina started right out of school. She showed immediate relief when she was able to sit back and relax a little bit. Tina is a kind, outgoing, and creative person. She likes trying and experiencing new things. She led a wonderful Nature Journaling activity that was well received by everyone. Tina is easy to talk to and gets along with everyone well. During the verbal group evaluation she commented that she enjoyed the cross-curricular exchange during the program. She also said that the conversational topics (the teacher led topics Wisconsin teachers were required to do) were good because it helped them with instruction preparation before and background. "Everyone gave a piece everyone can use in their classroom." She also felt the service-learning component was very important.



## **APPENDIX T: Participant Profiles**

UPDATE:

Filmed her class implementing lessons adapted to infuse information on Puerto Rico. She said that she has used the lessons that she created or adapted.

## APPENDIX T: Participant Profiles

NUMBER: 6  
NICKNAME: David

**DEMOGRAPHICS:**

AGE: 49  
SUBJECT TAUGHT: All  
GRADE: Grade 3  
EXPERIENCE: 27 years  
ED. LEVEL: Masters in EE  
TRAVEL EXPERIENCE OVERSEAS: Yes, 20+ experiences amounting to over 2 years abroad. Has had a great influence over his curriculum.

**PRE-ASSESSMENT:**

EE PLAN: Yes  
    FREQUENCY: daily/weekly  
EE CURRENTLY IN CURRICULUM: Yes  
    FREQUENCY: weekly  
PRESERVICE EE: No  
EE TRAINING: Yes, MS in EE  
COUNTRIES: Yes  
    FREQUENCY: daily  
CULTURES: Yes  
    FREQUENCY: daily  
MOTIVATION: What a wonderful opportunity to learn more people and natural geography! I am interested in comparisons of Puerto Rico with Central American countries.  
BARRIERS: Financial, language?  
EXPECTATIONS: A sense of living within island confines. What problems do people face, and how do they deal with them? Do people yet realize the importance of living within environmental means?

**EE ATTITUDES:**

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
1	1
1	1
3	2
1	2

**IE ATTITUDES:**

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
2	1
2	1
2	2
2	1

**KNOWLEDGE MEASUREMENT:**

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	2	4+
History of Puerto Rico	1	4
Enviro Issues in PR	1	4+
PR Culture	1	4

**POST-ASSESSMENT:**

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30	Still to come	60	15	60

PR CONTACT: Although David has been in contact with 2 people from Puerto Rico but they were not teachers who he met during the program.

    FREQUENCY: once or twice since his return

    METHOD: Although he did contact any of the teachers, he says that email would be best

RESOURCES: Yes

    FREQUENCY: once or twice since returning with more to come

    ADDITIONAL RESOURCES: Yes

## APPENDIX T: Participant Profiles

INCREASED AWARENESS EE IN PR:	4
HANDS ON:	4
E ISSUES IN PR:	5
PR IN CURRIC:	4
RELATIONSHIPS:	4
SKILLS EE:	4
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	4
SAFTEY:	5
VALUE:	4
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Yes
AFRICA:	Yes!

### QUOTES FROM JOURNAL:

At El Yunque he noted similarities to Wisconsin and liked how the acting forest supervisor linked our two homelands to water issues – flooding.

David noted that he was happy not to see too much litter in El Yunque.

Coqui frogs remind him of spring peepers at home.

He starred items in his journal that he plans to use in his class.

Video tapped part of the trip to share with his class.

He wasn't impressed with the activity of waking at 4am to watch El Yunque awake

He really liked Ponce.

First Impression: "About to land; saw Puerto Rico's shoreline closer: looks like Miami, from the plane, Aeropuerto: tried calling card – worked!...Drive from airport: looks like US with all the commercial enterprises that one based in the states. The first establishments though looked like Central America with all the fenced in and barred windowed businesses."

El Yunque Visitor Center: "Informative. Had to take some pictures of some features/exhibits to share with class. Would like to get the video segments shown in the display on environmental degradation. While illustrative, it seemed subtly 'progagandish.'"

Karst region realization and things to bring back: "People in Puerto Rico keep 'drawing from the well. There are early indicators that this cannot continue, particularly the drop in aquifers' levels. When people are blessed with such an abundance of water, then it seems oblivious to its expenditure. It's like taking an endowment principle and not only taking out payments from the interest, but then enjoying the 'luxury' of withdrawing from the main fund. Wouldn't it be good to relate to natural resources in similar ways to how we intentionally plan with money: deposits, withdraws, financial planning, retirement funds?"

Reflection: "The dinner provided on Monday evening by the Puerto Rican teachers was special, another way of connecting colleagues across the water."

Hacienda Verde: "More than once has come the notion that educators are the catalyst to awaken awareness – through children, who would then take this awareness to parents – children, will one day be policy makers themselves, as leaders, as citizens, and students are an avenue that can cut through levels of bureaucracy and politics."

Night Hike: "Raul invited folks to go on a night hike. XXX, XXX, and I joined him. I was surprised at how well I could see without light, although I was unsure of footing at some points. Raul emphasized a night hike as a way to turn up the senses other than sight. After a half hour walk we stopped at an open ridge to take in the environs. So many coqui frog voices in all directions, and I imagined the continuation beyond and beyond, over the hills and miles beyond – dimension. Distant flickering lightening and intermittent thunder added their ambience attributes to the experience."

## APPENDIX T: Participant Profiles

Dance Lessons: “The music and movements have an energy that is just to the subdued side of ‘snappy.’ I continue to be struck by the universal familiarity of the Puerto Ricans with music. It seems there are many ‘standards’ that, when played, draw most people into song and/or movement. There is quite a connection in this way that fits so well as one more element that ties Puerto Rican culture together.”

“I’ve appreciated the opportunity to mix with people in the group. I’ve heard so many experiences from participants: Tanzania, fossil explorations, interesting individuals, surfing Puerto Rico, Puerto Rican music, Puerto Rican problems, Puerto Rican education.”

“A coqui climbed up my shirt during the evening, What a nice visitor!”

The Band: “Once the music started, we all kind of got distracted with taking pictures of each other. Fun. At the same time, we lost a bit of the music opportunity.”

“Oh, the music...mountain music. Catchy, pulled me in. I’d have liked to have recorded the whole repertoire they played to pull out at home to relive the ambience. I did record sections of pieces I especially liked. Outstanding, the ensemble was tight – little ragged edged.”

“Then, the dancing began. XXX’s constant stepping got the movement going. Then a few got feet moving, in pairs, or just stepping out in groups. Invitations by the women in the group coaxed men to their feet. Even the sluggish, self-conscious ones, me included, opened up to the point that they/we initiated dancing. FUN! Revelry in a happy wholesome way, feeling. Feeling moved by the music and by humanity.”

“The band packed up but the festive atmosphere did not. It continued with boom box music sections and more dancing. From XXX, the baton seemed passed to XXX as her feet kept the evening’s momentum going with gentle encouragement.”

“Great Evening!”

Last night Hacienda Verde: “To sleep the, one more time, to the backdrop of the coqui frog chorus. I savored it.”

“The wrap-up, reliving the days, the slide show, and the certificates, compliments and suggestions – sure enjoyed the overview. Also appreciated Researcher’s emotion – touching.”

Saying Good-bye: “Good-byes: Sweet and sad. Parting the attachments during the workshop with Puerto Rican teachers were quite apparent in heartfelt embraces, slaps on the back, and misty eyes. So long XXX, XXX, ‘Papa Bear’ XXX, XXXMyriam, Luis, Luis, Edwin.

“One last time winding down the mountain. The views of the topography still captivate me, particularly the depth of the steep drops.”

### QUOTES FROM INTERVIEW:

(Researcher) You expect to gain a sense of living in island confines; what problems do people face and how they deal with them, and do people yet realize the importance of living within environmental means?

(David) Yes, the first one was living within the confines of an island? Okay, I don’t know if I got that because, it’s just because Puerto Rico is so connected to the United States. I got in there that first night and there’s Wal-Marts, there’s all this stuff and the connections, so it’s not so much isolated in some ways, but it’s apparent in other ways. It’s kind of an artificial situation. It’s convenient for the people on the island that they’ve got proximity and their connection to the United States.

(Researcher) So has this question been answered: What problems do people face and how do they deal with them?

(David) Yes. I picked up some of that also. I think they’re living on borrowed time there. And, the circumstances haven’t gotten dire enough for them to realize how precarious things are.

(Researcher) Right. Yeah. And, then do people yet realize the importance of living within environmental means?

(David) No.

(Researcher) Was this answered, was this answered for you?

(David) Yeah, it was answered for me. No, they don’t realize.

Personal Affect:

## APPENDIX T: Participant Profiles

(David) Why yes. How, right? I like, every experience I've had it just adds more elements that I can make ties with other things. That's certainly the case here. Going, about to go to Puerto Rico, I thought, well isn't it kind of an average between what Mexico is like and the United States I think? Yeah, I think so, and that kind of bore out. Getting back on track here again. Personally, dismayed at how life goes on there, in some ways. Very much a consumer society. And, I would have thought more people being more in touch with their environment and I think we in Wisconsin are really lucky because we do have a sense of things, and environmental education is a part of our curriculum. And, a lot of attention paid to it, just the outdoors in Wisconsin. And, people there don't.

There's that part, the Caribbean Forest. You know, well there's not much space maybe to camp. Well, maybe you could put campgrounds in, in some ways. But there's not, they don't have the luxury of space in some ways, but more than that, it's more they don't have a cultural sense of that kind of thing. And, so we're lucky. Yeah, personally it just; I don't know if I'm answering these questions at all.

(Researcher) You're comparing, are you making comparisons with any other places you've been. You've traveled a lot. How does Puerto Rico, how is that program different than what the other experiences you've had abroad. Are you saying that in Puerto Rico specifically, they're not coming to this realization? Or is it in other places that you've been. Is it the same for other places, like Mexico?

(David) I've been just briefly to Mexico. The other places that I've been that aren't as developed. I think there is a, I think people are more in touch with their natural environment.

(Researcher) In other places?

(David) Yes. Appreciating it, sometimes maybe not having the means to follow the best environmental practices. But, I think more in touch with traditional kinds of ways of doing things that I think have worked pretty well. Agriculture in India; I mean, it's a real basic thing, you get a hand plow behind an animal. In Belize, they're realizing the value of eco-tourism. There's some of that, but on the other hand, there are some places where things can get pounded pretty hard. Let's see, Ecuador, yeah I think there's a sense of attention to the environment and realizing the importance of conservation. Certainly there are commercial interests and things. But to me, it's a fast and fun life in Puerto Rico, I don't know.

(Researcher) Is that an eye-opening experience for you to see?

(David) Oh yes. It was good to see in that, well, it's a warning where things can go. And, the United States gets the luxury of space.

### Professional Affect:

(David) It's inside, but I haven't had a chance to realize things this year yet. I've been so hit-and-miss with school, even the survey; I can't speak to it well because I've missed a lot of school. And it's been start-stop, start-stop. I'm just trying to keep my head above water. But, it's a foundation for getting to a lot of things. One thing comes to mind is the water. The water is all impounded or directed. Is it two rivers or something that are free-flowing or something?

(David) That was neat. The Vieques experience. There's a lot of things happening. The military reservation and what was a public outcry, just a lot of pieces there are interesting, and it adds a lot of possibilities for connections.

(Researcher) Have you used any of those? Have you shared the experience in your classroom?

(David) I have some. Oh, yes I have. But have I gotten out and really gotten into some substance? Not at this point yet. And the videotapes, I mean, there's a story that I want to relate. I will shortly, about sea turtles. But that'd be a possibility for a lesson. I don't know, be one of my assignments. Okay. But I've shown clips of videotapes in the classroom from any place I've been. There's a real interest in it because it's much more immediate and it's nothing glossy or anything. And, I can talk about it personally, and that has a lot of meaning.

And, professionally, one thing I love to do is I try to open kids to the world. And, I express I hope you get out there and see some of this. And, it's another piece. The parrot, yeah, the reserve there. That effort, and talking about, I talk about habitat fragmentation. That's a wonderful piece to get an example of that kind of thing.

And, this sea turtle, I don't know enough about the situation from Puerto Rico. There isn't, there's not very many, I guess, that come in. But there's other places in the world where there's a lot of turtles that can help them ashore. What, professionally. Oh, culturally. Personally and professionally. Right now, I've got beans and rice in the refrigerator. The black beans, I think that's good stuff, and I remember Louise saying, "You know."

### International Education:

(David) Yes.

## APPENDIX T: Participant Profiles

(Researcher) You use more?

(David) Oh yes. But, I think I have been all along, and this is another piece that furthers that. I wrote down my evaluation on the Peace Corps calendar. I just got the new one, new and improved are really different. And, today's Panama has something. I start the day in the morning, write on the board, what's special place in the world today. Iran had something today, and the United Kingdom had Chi Fox Day. And that's education. That's where these things come in. I have world reference atlas from DK, Dorling-Kindersley, and it has, it talks about basics like population, language, and the monetary system, but then the geography, the economy, education, it talks about the literacy rates. There's a section on the environment. A lot of countries of the world, deforestation in Asia, or fisheries being depleted. They also talk about resources that are available. So along those lines, I do that, but Puerto Rico, is another element to add to that. In context, we're talking about some other kinds of islands too. There's a lot of Caribbean islands that are nations. So it's nice to do that.

### Environmental Education:

(David) Oh yes. And something I wish I'd learned more about on the trip; maybe I could have put this in the remarks, but I'll say it here, just it would have been neat to go to, I don't know, water treatment facilities, or to see what they do, if they flush that out to sea. Where they get the water, from wells, or they treat it from rivers, or I guess they get it underground. Dams, that. But also, from under the ground, the rivers. And regard for water. I don't know, talking to water managers, perhaps and saying, "Do you have concerns? Do you have education programs out there, talking about water conservation? Technology, you know that waterless toilet? Are you familiar with those? But that kind of thing. And, how much the water table's dropped and as far as salt water separation and that kind of thing. What was the question again?"

(Researcher) I was just talking if you increased your environmental education in your classroom through it.

(David) Oh, okay. It's provided more foundation for things and raised more questions. Waste disposal, that would've been neat to see their landfill areas, and are they running out of space? And, what are some of the problems associated with that? Recycling programs I already talked about that.

(David) But I think teachers in general in this state are pretty aware of a lot of initiatives and how to teach things fairly effectively, but I don't know about Puerto Rico.

### OTHER:

Researcher's Journal: David had a good attitude throughout the program. Several observations were made of him interacting with others positively. He took a great interest in the information that we were learning. On one or two occasions he expressed his concern for the condition of the environment in Puerto Rico.

David makes some excellent comparisons to other places and things he has seen in his life. His journal often talked about comparing and contrasting different ecosystems, living situations, or environments between Puerto Rico and Wisconsin.

### UPDATE:

During the fall school year, David was dealing with some personal issues. He missed some school and was very preoccupied. He was still working on his unit plans when we interviewed him.

David submitted his unit plans in the spring semester. He outlined his plans for implementation.

## APPENDIX T: Participant Profiles

NUMBER: 7  
NICKNAME: Bill

### DEMOGRAPHICS:

AGE: 34  
SUBJECT TAUGHT: Biology/Earth Science  
GRADE: HS  
EXPERIENCE: 4 years  
ED. LEVEL: Nearly a MS (1 course away) in EE  
TRAVEL EXPERIENCE OVERSEAS: None

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

Essay showed a lot of enthusiasm to bring new information about other places into the classroom. He hopes to increase knowledge of environmental issues, culture, and ecology of Puerto Rico. Hopes to gain another perspective on life to bring into the classroom.

### PRE-ASSESSMENT:

EE PLAN: Yes  
     FREQUENCY: Weekly Reference  
 EE CURRENTLY IN CURRICULUM: Yes  
     FREQUENCY: Weekly  
 PRESERVICE EE: No  
 EE TRAINING: Working on a MS degree in EE  
 COUNTRIES: Yes  
     FREQUENCY: Monthly  
 CULTURES: Not sure  
     FREQUENCY:  
 MOTIVATION: Learn more about environmental issues in other countries.  
 BARRIERS: Financial, family, language, culture, knowledge  
 EXPECTATIONS: A better understanding of culture in Puerto Rico and a way for my students to make a connection with other parts of the world.  
 "My major goal is to take the firsthand knowledge of the environmental practices of the island of Puerto Rico and add them to the ecology portion of my class." –Online course Unit 4 Assignment

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
2	2
2	2
2	2
2	1

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	2
3	3
3	2
3	3
3	3

### KNOWLEDGE MEASUREMENT:

BEFORE EXPERIENCE	AFTER EXPERIENCE
3	5
2	4
2	4
2	4

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30	30	30	N	N

PR CONTACT: Yes  
     FREQUENCY: 1x  
     METHOD: email

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: Weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR	5
HANDS ON	5
E ISSUES IN PR	5
PR IN CURRIC	4
RELATIONSHIPS	4
SKILLS EE	4
APPRECIATE NEED EE GLOBALLY	5
RESOURCES	5
INFO LEARNED	5
WORKLOAD	5
SAFETY	5
VALUE	5
MATERIAL CLARITY	5
ORGANIZATION	5
RESPECT	5
WOULD GO AGAIN	Yes
CHINA	X
AFRICA	X

### QUOTES FROM JOURNAL:

6/18/04: "Today was a day of learning for me, and everyone involved with this trip. The presenters were extremely knowledgeable and also very approachable and willing to answer questions about their topics."

6/19/04: "What an incredible experience to hear the crescendo of sounds in El Yunque in the morning from the coqui to the birds, it was something that I have never experience before." "The waking of the colors of the forest to my senses going from total dark to wonderful array of colors is hard to put into words."

Snorkeling: "I am glad I took this attitude (willing to try but a bit worried about swimming ability) because it is something that I will never forget and will never truly be able to put into words."

Bats/Boas: "Just the hike at night was enough for me. It is amazing to hear all of the sounds that the forest has to offer at night. It gives you a very relaxing feeling to be there. The bats were even more amazing then we were told. To hear them fly past your ear was truly something that I will not experience again." "We are truly lucky to see the things that we have so far. How many people can say that they have seen a hawksbill, the bats, a Puerto Rican Boa, and a coqui. What a trip!"

Service Learning: "This was very important for me because it allowed me to help out with what is trying to be accomplished here."

6/30/05: "This morning was time to say good-bye to our new Puerto Rican friends who we have learned so much from over the last two weeks. It would have not been the same without them on this trip. We are very lucky that this worked out. This will hopefully lead to many contacts here in Puerto Rico so that we can both exchange lessons and ideas to make both of our classes a more global learning environment. I hope to add lessons on Puerto Rico into every one of my units and these teachers will be a large part of this plan."

7/1/04: "Well today is the last day on the island of Puerto Rico. It has been a very fast two weeks and a very informative two weeks. I feel that I have learned much more than I thought because of the informative speakers and the great hands on activities that have been offered. The real bonus of this trip is the friendships that have been built over the last two weeks." "The goal after this trip is to incorporate Puerto Rico into all of the units I teach. As far as this journal is concerned, I usually do not like to do this sort of thing. But as I write my thoughts down each night, I found out how useful it really was. I like to observe what is going on and not talk much, the journal helped me put this info into something that will be easy for me to remember. I am looking forward to using a journal for my teaching as well as my next journey, wherever that may be."

### QUOTES FROM INTERVIEW:

(Researcher): In the pre-assessment you wrote that through this experience you expect to gain a better understanding of the cultures of Puerto Rico and a way for my students to become more connected to another part of the world. And so I'm wondering now do you feel these expectations were met?



## APPENDIX T: Participant Profiles

(Bill) “Oh definitely. I think that they exceeded what I expected and it has allowed me to take a view of environmental, more of a global aspect than just focusing on Wisconsin or the United States. And I think it gives the island, it gives the experiences I had firsthand, gains the students’ interest also. So it’s been a huge benefit.”

“...seeing different things there made me realize that we are only just a very small part of the global aspect of the whole earth. And, it’s made me want to really experience more. It’s been an incredible experience. It’s hard to put it into words.”

(Bill) “It’s definitely made me want to make my curriculum more environmental, and I’ve been trying to tie in every lesson I teach something on Puerto Rico and something more globally. I’m taking more, like I said, I’m taking more global look at the environment and exposing my students to it.”

(Bill) “I’ve drawn on our experiences from Puerto Rico, brought those into those lessons.” “...it’s really helped me to get excited about teaching it (biology) also.”

(Researcher) “Do you think that you teach more international education more or less?”

(Bill) “Definitely more. Definitely more.” I really didn’t touch on it as much in the past. I’m bringing more of the international aspect to every subject that I teach.”

(Researcher) “Is your curriculum deeper?”

(Bill) Definitely.

(Bill) “To experience something firsthand like we have, it makes you want to bring it into the classroom. But what I’ve learned throughout the whole program here is that this trip has really brought the whole two, well three years that I’ve had, this program, I mean it, really brought it altogether. So it was great.”

(Bill) “Yeah, it was organized great. So, you guys did a great job. I hope it continues. I’m definitely recommending people to it.”

### OTHER:

Notes from researcher’s journaling documenting observations. Bill started off very quite which came across as shy. Starting off he had some questions and a lot of excitement for the program. Maybe this was because he has never left the continental US prior to this program. Part of it is also because of his personality. He is quite, very easy going, and relaxed. He doesn’t swim well and had to overcome a fear of the water when snorkeling. In his journal he expressed his nervousness but was very happy he went in the water. He enjoyed the activity. Several times throughout the two weeks I would check to see how Eric was doing. He always answered with a smile and a positive comment like, “This is great!” “An experience of a lifetime.” I like to call him the “observer.” He likes to sit back, watch people, and learn. It seems he is a very insightful person. When he stood in front of the group for a talk, he really showed his extroverted side that no one had seen in the week before. He did a great job of speaking slow and clear. It seems his cultural competency has increased. One comment he said during a group evaluation on the last day was that he felt that the biggest strength of this program is in the future. Looking in his journal you could see how he was planning to keep in contact with the teachers he met during the program. He had a good suggestion for next year to make a 3-D topo map of Hacienda Verde.

### UPDATE:

In January 2005 Bill gave a presentation to his school on Puerto Rico. He shared his experience, talked to the school about our program, and shared his knowledge gained about Puerto Rico with students and staff.

## APPENDIX T: Participant Profiles

NUMBER: 8  
NICKNAME: Megan

### DEMOGRAPHICS:

AGE: 29  
SUBJECT TAUGHT: Astronomy/Earth Science/Environmental Science  
GRADE: 9-12  
EXPERIENCE: 1 year  
ED. LEVEL: BA  
TRAVEL EXPERIENCE OVERSEAS: None

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

Megan's essay expressed her excitement, curiosity, and eagerness to participate in this program. She was drawn to this program because of travel outside the continental U.S., the online course before traveling, and meeting other teachers both in Wisconsin and Puerto Rico.

### PRE-ASSESSMENT:

EE PLAN: Yes  
    FREQUENCY: Yearly  
EE CURRENTLY IN CURRICULUM: Yes  
    FREQUENCY: Monthly  
PRESERVICE EE: No  
EE TRAINING: No  
COUNTRIES: Not sure  
    FREQUENCY:  
CULTURES: No  
    FREQUENCY:  
MOTIVATION: To be exposed to a new culture and learn hands-on about the rainforest.  
BARRIERS: Financial, Language, Culture, Knowledge, Family  
EXPECTATIONS: I expect to build relationships with other Wisconsin and Puerto Rican teachers

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	1
3	2
1	2
4	3
2	2

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	1
2	3
4	3
4	3
3	3

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	2	5
History of Puerto Rico	1	4
Enviro Issues in PR	1	5
PR Culture	2	4

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30	15	30	No	15

PR CONTACT: Yes  
    FREQUENCY: 2 peop/1-2 times  
    METHOD: email  
RESOURCES: Yes  
    FREQUENCY: monthly  
    ADDITONAL RESOURCES: Yes

## APPENDIX T: Participant Profiles

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5
E ISSUES IN PR:	5
PR IN CURRIC:	4
RELATIONSHIPS:	5
SKILLS EE:	5
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	5
SAFETY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	No
AFRICA:	Yes

### QUOTES FROM JOURNAL:

First Day: “It was nice to get re-acquainted with the group and share our excitement for what is to come.” “We met our Puerto Rican counterparts who, as I expected, were extremely friendly. I was intimidated at first because I didn’t know if some of them were telling me their name or greeting me.”

“The ferry ride was fun. XXX and I talked to XXX and XXX a lot.”

“So far the trip is great; the group gets along and there is so much diversity. We all have a lot to learn from each other.”

“It is so much fun learning from the Puerto Rican teachers.”

After Snorkeling and BioBay: “This is definitely an experience I’ll always remember. It was so fun and amazing. Today was a great day.”

“The Puerto Rican teachers have really been an asset to this trip. They are so knowledgeable and helpful. It has really been great to get to know them.”

Turtle Research: “I learned a ton today, once again!”

Mata: “This place is full of live and biodiversity. I can’t believe we’re sleeping in the middle of it!”

“I am anxious for this next week because it sounds like our visit is changing a bit.”

“I had a wonderful meal last night prepared by Raul.”

“Miguel and Nani are so welcoming.”

“Today I learned something about myself. I realized that I really need to become more aware of my own state’s resources and environmental issues. As a new teacher, I have felt somewhat ignorant or naive at times during this trip. That means that in terms of knowledge about environmental issues, I feel that I have a lot to learn. This trip has opened my eyes to what to know more about my hometown, my state, and global issues.”

“It was great to have someone from the NRCS speak. XXX did an excellent job showing data but making it easy to understand. As an Earth Science teacher it is so important to understand what a watershed is (a place that collects water), how it affects places around it, and how to manage and conserve these areas. It was good to solidify what I already knew and understood plus learn more!”

“I noticed it was difficult to come up with a conservation plan with the language barrier.”

Wrap up session: “A couple of us got choked up but not for too long because we had a fiesta to get ready for!”

“So when we put on dresses and did the slightest fixing up, we got quite the reaction.”

“The party was a blast!”

## APPENDIX T: Participant Profiles

"I had a hard time saying goodnight to the 2 XXX's. But I was glad I did because the next morning I only got to give XXX and XXX hugs. It definitely was a tear jerker!"

"I also learned that in just 2 weeks you can really form a special, strong bond with people."

"Thinking about this trip, I have had such a wonderful experience."

"I learned that very different people can come together, learn from each other, and become very close."

"I have thought about things I want to work on to better myself as a science teacher. I realized that I need to learn more about my surroundings here in Wisconsin and become more conscious of the environment. I also would love to learn more Spanish before our exchange takes place next year!"

"On this trip I always felt safe, inspired, interested, and at times entertained. I learned so much about the ecology of Puerto Rico, political issues and specifics about bats, boas, endangered species, and all types of tropical forests."

"I know that this experience has aided in my growth as a person and as an educator. I will be able to refer to this trip many times with my students. I will be easy to show enthusiasm for environmental ed, earth science, astronomy and biology by incorporating this awesome opportunity!"

"I learned a lot about myself. I realized my strengths and weakness. I surprised myself at times with patience I don't always have and fears I could overcome. Thanks for opening the door to more travel!"

Megan had a lot of encounters with the teachers in Puerto Rico throughout the 2 weeks.

She made a lot of comparisons: Cave of Mounds in Wisconsin to Camuy Caves in Puerto Rico, San Juan to other cities in Wisconsin, and wildlife differences.

She liked the hike in El Yunque.

"I think this assignment was very beneficial in that it kept me aware and focused on what we were learning and our interactions."

### QUOTES FROM INTERVIEW:

(Researcher) You wrote that you expect to build relationships with other Wisconsin teachers and Puerto Rican teachers. And I'm wondering now do you feel that these expectations were met?

(Megan) Yes, yeah definitely. And I feel like I have, through email because it's so easy, I feel like I can get a hold of any of those teachers and not that I've necessarily kept an on-going chat report with them, I know that I could email anyone of the Wisconsin or Puerto Rico teachers and ask them questions or information and stuff like that.

#### Personal Affect:

(Megan) Oh yeah, it definitely has. Because, you know, I hadn't traveled before out of the country, so just getting that travel experience was a big, I guess, just a big learning experience for me. It's just broadened my view of things, I guess. And, so it's definitely made me more open-minded. I thought I was open-minded before, but it's just made me open-minded, I think.

(Megan) I think that, well, I know for sure when we first met the Puerto Rican teachers, I was really intimidated because of the language barrier, and I assumed they would be nice and everything, but I didn't, you know, I just didn't know if I would be able to relate to them. What would we possibly have in common? And, so that really changed. Even the next day by the time we left, I was one of the people crying, you know, that they were leaving. So, that was a huge eye-opener, just that we're all people. You know, I still didn't know the language, but it didn't take long for me to be really comfortable around them and not feel stupid that I didn't know their language.

#### Professional Affect:

(Megan) I think I can, I think that with my students, I can relate, try to relate things to outside, for sure outside Wisconsin and outside the United States. It's just, I feel more knowledgeable about that particular part of the world. Obviously, I have a lot to learn, there's still a lot more I could learn there, but just at least having experience of being there, being able to relate certain ideas that I would have never had any background before that I could think of.

Like in earth science, you know, with the hurricanes we've followed that. And, then to be able to tell them, you know, we've heard from some of our. You know I'd share the whole experience as far as the background of what went on or why I went there and who I was there with. So it was nice to have a personal experience to tell them. You know, this is what they said and this is what they experienced. And, even just telling them their view of here and how, I can't remember their names now, but the two people that were going to, and their little boy.

## APPENDIX T: Participant Profiles

(Megan) Yeah, like about them talking about him maybe having to move to Texas for a job, and how they were terrified of tornadoes. And, you know, my students couldn't believe how they could be terrified of tornadoes, but not afraid of hurricanes. And, you know, just being able to share that kind of stuff, some of those conversations that we had on the trip, just about, like differences, that, those things I learned a lot from.

(Researcher) I was just curious; did you talk about hurricanes in your class this year, the hurricanes that happened in Puerto Rico?

(Megan) Yeah, this year I did. In earth science actually, I could easily talk about tornadoes and hurricanes. Unfortunately, with the curriculum like last year, I didn't spend a lot of time on that just because we had to keep moving forward. This year I spent like a little more time, I mean, you know I definitely made it a point to spend time on hurricanes and more on tornadoes, too, just so we could kind of look at both sides. But, especially following, I'm lucky to have a projector that's connected to my computer to show things that were going on with the weather and show the actual progression of the hurricanes and talk about earth hurricanes and talk about what was going on, where it was, and what it was, switching from a tropical storm to a hurricane.

(Researcher) And, then this is about your, referring to your curriculum, and how do you feel this program has affected your curriculum and the way you use your experience in Puerto Rico in your classroom.

(Megan) I, well, as much as I didn't want to do a lesson plan, because this summer I was just like, ah man, I didn't want to make all of them, but got some of them back, so then when I did them and I haven't used them yet, but I was just talking about one of them, I can totally see myself using them. It's just bringing more environmental into my curriculum, because this year I'm not teaching a specific environmental class, so I'm teaching earth science and biology, astronomy, but particularly biology and earth science I've already noticed I'm incorporating environmental ideas into things that we're talking about, and relating a lot more than I was aware of last year. So, I definitely feel like that is an enhancement to my curriculum. And, I have specific plans that will tie in Puerto Rico and environment into the curriculum, so I didn't have that before.

(Researcher) And, you think it was because of this program.

(Megan) Yes. Yeah, I know it was because it forced me to do it.

(Researcher) Since you've returned from Puerto Rico, have you used this experience in the classroom? You explained some of this already.

(Megan) Yeah, more. I haven't used those structured lesson plans I've made, but I've definitely incorporated my experience there, or gotten, you know, seen what ideas students have of issues that we experience here, environmental issues here, or if they are familiar with other places that they've traveled to and try to connect as a global issue.

(Researcher) I'm wondering, do you use more international education in your classroom because of this program?

(Megan) Yeah, definitely. The focus is definitely global, globally instead of just locally. Because, I've always thought that every ----? should try to relieve things locally, and I still do so that the kids can understand that, but trying to get them to think of the bigger, the whole system instead of just where they live. So, that's just a mindset I guess I've kind of changed my thinking, and hopefully that comes across to them as well.

(Researcher) And, then environmental education, do you use more environmental ed in your classroom now?

(Megan) Yes, I definitely do. I'm definitely more aware of it myself and try to make them more aware of it too, so it's definitely increased.

(Researcher) Good. And is there anything else you want to add?

(Megan) Oh, I know that we had gotten all those materials in May, and if I, like if I were going to tell someone who was going to go through the program again, I would just, at the time, it was nice and I, it was great to get all that stuff, but I didn't appreciate it until I came back.

### OTHER:

Quote on Post-assessment: "I learned so much on this trip about environmental education, another culture, and myself. It was organized and educational and fun!" "The price was a steal!" "The program was well put together. I felt comfortable with the environment."

Group Evaluation Transcription: "It's not a particular thing we did but having the Puerto Rican teachers with us I think made a huge difference in how much we learned and so much more information we got."

## **APPENDIX T: Participant Profiles**

Researcher Journal: When observing Megan, she appeared to be most nervous about traveling to Puerto Rico than anyone else. She has never left the continental US. This could be why she showed more anxiety and had more questions than others. She gave a talk to the group on the Arecibo radio telescope in Puerto Rico. During her talk she spoke slowly so everyone could understand. This was really good to see.

By the end of the second week in Puerto Rico, Megan was very comfortable in the group. She was connecting well with several of the teachers and really seemed to be enjoying herself.

UPDATE:

## APPENDIX T: Participant Profiles

NUMBER: 9  
NICKNAME: Jill

### DEMOGRAPHICS:

AGE: 33  
SUBJECT TAUGHT: All basic subjects and environmental education  
GRADE: 2nd  
EXPERIENCE: 5+ years  
ED. LEVEL: BS + 23 graduate credits  
TRAVEL EXPERIENCE OVERSEAS: Yes, 3 experiences abroad amounting to less than 3 months overseas, has had a lot of influence over the curriculum.

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

Essay: Some of my greatest personal learning experience that have assisted me in becoming a more effective educator have been through multifaceted first-hand experiences, including traveling to another country and learning about their environment while being immersed in their cultural community. Through these first-hand experiences I am able to bring back real tangible information to my students, in addition to enhancing my own teaching skills and generating an environmental curriculum that is more global and cultural.

### PRE-ASSESSMENT:

EE PLAN: Yes  
    FREQUENCY: Monthly  
EE CURRENTLY IN CURRICULUM: Yes  
    FREQUENCY: Daily  
PRESERVICE EE: Yes, 3 credits  
EE TRAINING: Yes – 4courses/workshops  
COUNTRIES: Yes  
    FREQUENCY: 2-3 times a semester  
CULTURES: Yes  
    FREQUENCY: 2-3 times a semester  
MOTIVATION: To bring back new ideas and issues to the classroom, curriculum. To be able to work collaboratively with others learning about environmental issues.  
BARRIERS: Financial, Language, Knowledge, Employment obligations  
EXPECTATIONS: I hope to gain a more awareness and understanding of island ecology to be able to integrate this information to Wisconsin and/or North America's ecology. I hope also to learn how a culture is infusing environmental ethics into their community and culture. To also bring back a learning experience to my students so that they can learn vicariously as well.

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	2
2	2
3	2
2.5	2
2.5	2

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	2
2	2
2.5	2
2.5	2
2	1

## APPENDIX T: Participant Profiles

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	2	5
History of Puerto Rico	1	5
Enviro Issues in PR	2	5
PR Culture	2	5

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
60+	15	15	15	15

PR CONTACT: Yes

FREQUENCY: Once or twice since returning

METHOD: email with 2 teachers

RESOURCES: Yes

FREQUENCY: weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5
E ISSUES IN PR:	5
PR IN CURRIC:	5
RELATIONSHIPS:	4
SKILLS EE:	5
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	5
SAFETY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Yes
AFRICA:	Yes

### QUOTES FROM JOURNAL:

First Thoughts before trip: “I am very excited about this trip! I am looking forward to seeing and exploring all of the different regions. I am a little nervous about meeting the Puerto Rican teachers. I am curious about what grade levels they teach, how much environmental education do they have.” “My expectations of this trip are that everything goes successfully and that I will be an active participant. I know that no matter what – the trip will be a learning experience. My worry is that I do not have enough of an environmental background to keep up with every one else. I am hoping that we will be able to see a sea turtle! I am also hoping that we will be able to come across endemic endangered species (or at least learn more about the recovery efforts).”

Upon Arrival: “The drive was super – I loved looking at different buildings and businesses comparing to home. I was very excited to meet the teachers from here. The introductions and gatherings was a nice ice breaker.”

“Great beginning and looking forward to many more adventures.”

El Yunque – Victor: “I have never been a bird person. Though listening to Victor and other Puerto Rican teachers, I am now finding a new interest in birds and their migratory patterns.” “Victor’s hike allowed me to peacefully discover birds and nature in the morning. Victor’s enthusiasm for birds at El Yunque made me want to look more at birds than I had ever done before. When we came back, we had a slide show about all the birds in the forest. Victor’s love of the forest was inspiring. I am glad that we were able to have lunch with him. El Yunque seems to be a forest that people are passionate about and dedicate their lives to.”



## APPENDIX T: Participant Profiles

BioBay Guide: "Our guide for the BioBay was very passionate about the importance of taking people to the bay. He felt that if you have an exciting and positive experience in nature you might open your mind to conservation." "This experience bonded the group more sharing and learning altogether."

Vieques: "I have felt so lucky that XXX and XXX and XXX have been so helpful in interpreting Vieques and Puerto Rico! I am looking forward to more interpretation from them in the future on this trip."

US F&W Visit: "I learned more of the internal conflicts of the naval occupation and the impact that has had on the island and the culture. This talk so far has impacted/changed my view of Vieques in many ways."

Reaction to Biodiversity Activity Dennis did: "This activity helped me to refresh my mind about all of the words and concepts that are related to biodiversity and the healthy environment. Once we presented the activity – more ideas came out, ideas I had."

6/26/04. "...impacted everyone's thinking about the island's environmental issues."

Hacienda Verde: "I have been completely impressed by the passion and commitment all of the Puerto Rican teachers have had...I can see a cultural pride that goes along with their work. Not only are they excellent teachers, they integrate environmental issues the directly affect them. The island is small, therefore much of the island environmental issues directly affect everyday life and survival of the people. The preservation of the island is the preservation of the Puerto Rican culture."

Dancing "I feel like I was part of their family celebrating and dancing."

Closing: "Being in Puerto Rico allowed me to have a more comprehensive understanding of endangered species." "It seemed from all of the events and activities we lived and experienced a month in Puerto Rico instead of 2 weeks."

Last night: "The fiesta was a wonderful way to say good-bye. We all celebrated our friendship and time together leaving our experiences together." "Dancing with everyone made me feel more a part of their families." "At the end of the evening I gave the two Luis's a big hug goodnight and they both said that tomorrow will be the hardest and saddest day."

Saying Good-bye: "I feel so sad that they had to leave and I wished we all had another month together." "Our group seemed so much smaller and I kept looking for the Puerto Rican teachers. They were such a major part of our existence." "I felt sad, however not like the loss I felt when the Puerto Rican teachers left. They were truly magical people with an incredible sense of community."

About the Journal Assignment: "I can say that this journal has been very valuable." "I am glad that this was an assignment with structure. Having structure ironically has helped me to be more creative and organized." "I was so grateful to have the opportunity to hear from so many experts – I did not want to take that lightly." "This journal has made me more reflective about the people and events, and has made me apply new knowledge to old knowledge. This has been an amazing trip and I would like to say 'thank you.'"

Other ideas she wrote about in her journal:

- Compared the 1<sup>st</sup> drive to La Familia to places at home.
- She made comparisons to growing up with a native Americans she related to issues on Vieques.
- She thought up an idea to sell Miguel's coffee as a school fundraiser someday.

Jill really grew during this program. She learned more about EE and has been turned on to the EE masters program at UW-SP.

### QUOTES FROM INTERVIEW:

(Researcher) You had written that you hoped to gain more awareness and understanding of island ecology and be able to integrate this into Wisconsin and North American ecology. I hope also to learn about a culture, how a culture's influencing an environmental ethic in their community and culture. I hope also to bring this back, bring back a learning experience to my students so they can learn precariously as well.

(Jill) Absolutely. The on-line course was a great start for me. The time frames were hard for me, but I did it. I got it all in, and it really gave me the background knowledge to walk into something that I really didn't know. I mean, I knew a lot about ecology, but not specific island ecology. So I really, I walked in, I'm like I knew all this information about this stuff, and then when we got to Puerto Rico, that just played itself out, hands-on in everything that we did."

"And then the lessons at the end too, even the assignments were about how we could tie in what we learned in Puerto Rico to the lessons, which is a little more challenging than I guess the rest of the project, but that's still really nice to bring that down to the Wisconsin level and compare and contrast the environment."

## **APPENDIX T: Participant Profiles**

(Researcher) Were you able to bring this back to your classroom as you were expecting?

(Jill) Yes, but not entirely yet because like I stated that I kind of fell apart. We had a budget crisis, so we're either going to close or re-organize, and they gave us \$50,000 extra just to re-organize so we had to let teachers go, so a two-three split. So things kind of had to stop so I could get the third graders on track, moving forward, and ready for testing and now testing ends Tuesday, so we're going to go back.

But, I did say when I talked about my lesson in the meeting, there's so many interesting aspects that have brought up conversations that even since, and we primarily we started with second graders, and now the third graders are very curious. They're like, "Well, what do they keep talking about?" So, I'm going to try to pull them in. A lot of it was really good social, the way the lessons were set up. It was a good way to teach proper learning, just the basic classroom management in the beginning: proper learning, social, discussion, you know all the ways that you want to communicate as a scientist or environmental scientist.

And, then as we progressed and got through two lessons I had written, all of a sudden, the kids that are in my school are the minorities, because you know we're predominately African-American, but the Latinos and Hispanics are like, they had a voice, which was not something I expected. You know, I just kind of thought I'd be like doing environmental, compare and contrast water, whatever, and all of a sudden now, this very small group, these three kids in my classroom, are actually leading the discussion, or are elaborating in more detail than what, of course, I have.

So it's really brought them up to a level that they're the experts and kids look to them, and they share a lot more and they talk to each other a lot more now. So I'm like, when they keep asking, "Can you bring it back?" So I always throw it into discussion while talking about science when we're doing our habitats and things like that. Right now I'm touching back to when I went to Puerto Rico, all of these things. Well, just wait, we're going to get as soon as we're done with testing, then we're going keep bringing it on.

### Personal Affect:

(Jill) Yes, I guess, yeah like I didn't want to come back; I wanted to stay there. So I have a lot of like, you know, I was very homesick for Puerto Rico, I wanted to, you know it took me a long time to come back to reality when we came back. It was just being somewhere different for so long with a whole group of people, you know.

And, also just in how my perspective on environmental education, and what more could I be doing? Because, basically when I do integrate environmental education, it's Wisconsin. Sometimes, I'll go to red forest, sometimes we'll go here. We'll talk about the rainforests, but that's very abstract. We don't talk about location, where these two are, and so what was nice about that was that you could say, "Look at this picture, this is." So it was very concrete, and made me more confident that I could take what my main goal always is to make them global learners and thinkers. And, so I'm hoping to take one more step into that direction.

### Professional Affect:

(Jill) Well, the prestige. I mean, honestly, the prestige of being part of this program. It's, people, when they see my, I did a PowerPoint for the beginning of the year with the pictures, just because Mrs. Abraham was there.

(Jill) With the staff, yeah. Not that everybody was totally interested you know, but I mean she wanted to show that Jill was here and look at these pictures. And, we're hoping to do like a whole school. So there's a little prestige that came along with coming back with this information. And, professionally just continuing to remind myself that there's so much more out there that I could be working on, and I guess it's just made me look into more avenues for research. Is that professional?

### Affect on Curriculum:

(Jill) Yeah, absolutely. I mean I have the map. I have all the posters up. You know, I don't have a lot of wall space because I've already filled my wall space up in the last five years. But, there's this one area in the coatroom that is all just like Puerto Rico. It's kind of like with the posters and we're always pulling out the maps. And, I have a map for each group so when we talk about that, we're always referring back. And, you know, a little space, need space. And, second grade to third grade, you know I'm hoping to get them to have more contests, but it's been a really rough beginning of the year. So I'm hoping that, I was expecting that it would be a quiet little year, but nope.

### International Education:

(Jill) I think more. I mean I could say that well, you know, I could speak of it I guess because of the confidence of the information that I have. And, I wrote this in the evaluation, I said that I could teach about a country or I could relate environmental issues, and tell me if I'm going off-topic, but this is how I perceived it. I could relate environmental issues based on my own research, but to be there, and that's my big thing with my urban education, is that when I started doing this, that there's somebody tangible that really went. I mean there's a reality; this place exists. I have pictures of being there.

## APPENDIX T: Participant Profiles

Assemble that and also being able to have them learn curiously through these everyday, these relative experiences that I've been to that I can tell, teach to them. And so I, again my, I really want kids to have a very wide perspective and have sensitivity and understanding. And, especially in our environmental school we try to do that, but very global. So I think having more international experience has really brought me to say, enhance that more instead of just through, here's what I read about. You know, it's like I actually did this, and my kids are so much more interested in that.

(Researcher) And, have you traveled abroad before?

(Jill) Yes.

(Researcher) Do you use those experiences more or less, or the same as you did with the Puerto Rico?

(Jill) I guess I did, not the same at all. It was more like we talked, like when we were talking about, I did a little thing on rainforests, and then I showed them pictures. And that was pretty much, and then we did a little school thing. Now, I'm starting to see what I've learned through making this a college course and making it be from the expectations that now I'm really focusing on how it's relating to the curriculum, the standard curriculum that we have and how I can expand on it. And, before it was more like rainforests, ah the rainforests, here's a bug, here's this, here's a that, and the kids were very interested and we looked at. And, then if they were interested, they could get rainforest books. They didn't do like pictures. The nice thing about this is that it made me make it into a lesson and now because of that I can relate, I use it all the time. We talk about Puerto Rico all the time.

### Environmental Education:

(Jill) I would think more because we're already integrating a lot of environmental education into our curriculum, but in relating, you know, now the kids are more curious about like Puerto Rico. It's like Wisconsin, we know so much. It's kind of like we know what deciduous trees and so I can say, "So, now we know all of this. Let's take this and compare it to this little space that all of these things are happening on." And, then there are, so now I think it's brought the environmental levels higher, the thinking, the critical thinking or whatever, that they're comparing and contrasting, instead of just comparing and contrasting like a bug and a spider, you know. And, they, in Wisconsin, they're going this is a cup, this environment in environmental issue to this environmental issue, which is really what you want to do in environmental education, you know. You're not just saying that's a tree. A tree has roots. You're teaching them to be environmental citizens, so it truly helped.

### OTHER:

Post Assessment: "I am integrating more environmental topics/issues into the regular education curriculum." "I have many Hispanic/latino students. I am able to now engage more through discussions about their culture – compare/contrast to that of Puerto Rico's."

"This was a truly wonderful and educational experience. I am able to relate more to students about issues and culture because it was hands-on and not just learned through books."

Email 7/24: "This trip was an exceptional experience and I hope many more teachers will be able to have similar experiences in the future with you."

Researcher Journal: In a conversation with Jill on the 3<sup>rd</sup> day of the program I had a conversation with her. She explained that she came on this trip because it was of interest and she wanted an adventure. She is having some difficulties at the school she teaches because it is an environmentally based school but the philosophy of the principal doesn't match the goals for the school. This often frustrates Jill. She deals with a high number of students in her classroom in a school near Milwaukee. There seems to be higher ethnic diversity there.

Jill seemed to get along well with everyone. She is easy going and fun. She seemed to really enjoy her time with the teachers from Puerto Rico. I think that really enriched her experience.

### UPDATE:

Upon returning Jill applied for a Fulbright Program in Venezuela. She will participate in a year program starting fall 2005.

## APPENDIX T: Participant Profiles

NUMBER: 10  
NICKNAME: Nikki

### DEMOGRAPHICS:

AGE: 25  
SUBJECT TAUGHT: All Subjects  
GRADE: 2nd  
EXPERIENCE: 3 years  
ED. LEVEL: BS-Elementary Education  
TRAVEL EXPERIENCE OVERSEAS: Yes, 4 experiences, less than a year

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE

Very strong letters of recommendations.

### PRE-ASSESSMENT:

EE PLAN: Not for district  
FREQUENCY:  
EE CURRENTLY IN CURRICULUM: Yes  
FREQUENCY: Weekly  
PRESERVICE EE: Yes  
EE TRAINING: No  
COUNTRIES: Yes  
FREQUENCY: Monthly  
CULTURES: Yes  
FREQUENCY: Monthly  
MOTIVATION: Interaction with Puerto Ricans and get ideas for summer school environmental education program.  
BARRIERS: None  
EXPECTATIONS: Information to integrate in my teaching

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	2
2	2
2	3
2.5	3
2	3

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	3
3	3
2.5	3
2.5	3
2.5	3

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	2	5
History of Puerto Rico	1	5
Enviro Issues in PR	1	5
PR Culture	1	5

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30	No*	No	No*	No

\*Not yet, my lessons fall into place further into the school year.

PR CONTACT: Yes with all 8 of the Puerto Rican teachers

## APPENDIX T: Participant Profiles

FREQUENCY: Monthly  
 METHOD: Mail, Email, Phone  
 RESOURCES: Yes  
 FREQUENCY: Weekly  
 ADDITIONAL RESOURCES: No

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	4
E ISSUES IN PR:	5
PR IN CURRIC:	5
RELATIONSHIPS:	5
SKILLS EE:	4
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	5
SAFTEY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Yes
AFRICA:	Yes

### QUOTES FROM JOURNAL:

Meeting the teachers from Puerto Rico- “We finally arrived there and met them all – so exciting! I am pretty intimidated though – they are all in the science fields of teaching and I’m a 2<sup>nd</sup> grade teacher.”

More on the teachers from Puerto Rico: “I love them already and am so looking forward to getting to know them better.”

Victor Cuevas, speaker at El Yunque: “He did an awesome job of ‘pointing’ out different bird calls and frog calls, as well as identify the birds we saw and showing us some bird homes. He was very excited about what he was doing and that was contagious.”

Snorkel and BioBay: “Wow! Is the best word to describe today.” “I started out afraid and now want to go snorkeling many more times.” “When you moved slowly it was as if stars or glitter was falling off of us.”

After the bats night: “Another fascinating experience to say the least!” “The whole time thinking about how amazing this place is and how lucky I am to be able to experience it – sitting at the edge of a cave, boas readying themselves for a hunt, and hundreds of bats flying all around me on their way out of the cave – never touching me, gliding by. ‘Wow!’ is the word that comes to mind.”

Map Activity: “I really enjoyed this activity, but regret that I didn’t use any Spanish in it.”

Reflection Activity: “I really liked this activity because I never stop to look back in such a thorough way to recall what has passed moment by moment – it was very special and eye-opening to take part in.”

“I realized that there was something bigger that took place. First of all, in telling people back home about this trip, the most exciting thing to me was that we would have Puerto Rican teachers with us. I was very excited about what we could learn from them. When we first got here they were extremely hospitable, but we mostly listened to guest speakers tell us what they knew. A few days into the trip some of the Puerto Rican teachers opened up and shared much of their knowledge with us – Starting with XXX and under water plants and animals, followed by our day with Gisella at the dry forest, mangrove forest, and looking for turtles. They know so much! The XXX asked me later what I thought about them sharing with us – I said it was fantastic – they add so much information and enthusiasm – it’s amazing! I think they were being polite, not wanting to steal the thunder of the speakers at first, but became comfortable answering our many questions and sharing anything they think of with us. I am excited to return the favor when they come up to Wisconsin next year. It will be a sad day when we have to leave here – I am becoming attached to the Puerto Rican teachers and their personalities.”

## APPENDIX T: Participant Profiles

“I am feeling so attached to Puerto Ricans and many of the teachers that I am already sad to be thinking of leaving them – I will have tears for sure next week – as I am holding them back now with a fight. They are so hospitable, sharing, caring, thoughtful, fun, I could go on forever. What an amazing experience.”

The dance: “I talked with XXX... He is so fun to talk with –like a big kid- always with a spark in his eyes.” “I feel so at home and at peace here.”

“Both XXX’ got tears in their eyes as we all said good night and went our separate ways. I was going to walk XXX to the house before going to bed, but she, the tall lady, Nani, and Raul and I went for a walk in the forest (only after convincing the ladies to not serenade the teachers). We found a big rock to sit on by one of the ponds and just watched the stars, moon, clouds, silhouettes of the trees – and felt the power of nature all around us. On our way back we stopped to hug the cieba tree overlooking the Hacienda and hugged goodbye to the ladies at the house – they are really amazing to be around. I sat and watched the stars in silence and listened to the coquis calling, already missing this place even though I did not leave it quite an imprint it has left on me.”

“What a sad day – time to say goodbye to all of the lovely people I spent the past two weeks with. I feel so frozen – I don’t know what to say and I’m trying not to feel pain. The friendship and community that we shared here is not easily described in words. I thought that we would have a little of the morning to visit – but as soon as I got to the porch, everyone has saying goodbye already! We all hugged quickly and said a few departing words and then the Puerto Rican teachers were driving off, leaving us with an empty feeling all around.”

“XXX and I stuck together in Old San Juan and had our own debriefing of the trip – talking about our amazing experiences, the great opportunities, wonderful people, etc. We both seemed out of energy and a bit depressed to see the end. As we wandered around Old San Juan I kept seeing and hearing people that reminded me of the Puerto Rican teachers – I had to do many double-takes to be sure it wasn’t them.”

“As I look back through this journal, I see so many things that I would (and have) already forgotten. There are so many things that I learned that are in this journal that I can use in my classroom and presentations – it is amazing how fast we can be introduced to information and even faster it can be forgotten. We had so many valuable speakers and interactions on this trip that I would like to share with others and am now able to. At the time I always think that I will remember most things and am disappointed when I don’t but this time, having a required journal, made me do that I couldn’t have made me do if that makes any sense. I think an experience you can share is worth much more than just an experience itself. I have learned a lot from all the people involved in this course and I hope to pass the passion, knowledge, love, and experience of it all on to others – we have to show what we want others to know.”

Nikki, like many other Wisconsin teachers, connected with XXX first.

Nikki’s journal said what she did and saw. She recorded short informal conversation she had with people and often explained how good of a time she was having. He recorded many moments and conversations she had with people. The teachers from Puerto Rico really touched her. The reflection activity was very good for her.

### QUOTES FROM INTERVIEW:

(Researcher) You had written that your expectation for this trip was that you want more information to integrate into my teaching. Was this expectation met?

(Nikki) Yeah, I feel they totally have. I haven’t had much time to go through all the information we’ve gotten, but I feel like that if there’s been anything, it’s definitely been true with that.

#### Person Affect:

(Nikki) I think it was really neat to be with the Puerto Rican teachers and to get to know kind of their culture and stuff like that. It made me want to do more of that, and its, like, it’s nice, it’s neat to show people my pictures, but it’s hard to explain my feelings, I guess. It really meant a lot to be able to, I guess, get to know everybody and it made me want to go back basically.

(Nikki) I plan to go back!

#### Professional Affect:

(Nikki) I’d say yes. I would like to, I guess, as of yet, I haven’t done any of my lessons. They’re just now working into my curriculum. But it has made me a lot more aware how much more often I can take advantage of teachable moments. When things come up, I bring in Puerto Rico or just kind of other cultures and other ideas. So, it has definitely made me more aware of that.

(Researcher) I’m wondering if this program has affected your curriculum at all? Throughout the year so far, have you noticed that your curriculum has changed at all?

## APPENDIX T: Participant Profiles

(Nikki) I guess just besides bringing up Puerto Rico and different things I have learned or saw there that I could just bring into a topic we were talking about, but not doing an actual lesson on it.

(Researcher) How often do you think in a month or week?

(Nikki) By golly, I don't even know. You know, when we do like math lessons for example, we do story-problems. So I'll make up a story-problem about the Puerto Rican parrot or about bats, or hurricanes or different things like that. So, just here and there, they hear little bits about it and we talk about where it is located and just things like that. I don't really know how often, as often as things come up.

(Researcher) Okay, that's good. That's exactly what we want in our environmental education, international education. A lot of times people think that it has to be a direct lesson or something. And, actually the goal is just to have it infused and in part.

(Nikki) When we went last year to New Zealand, I guess, you know, it was the same kind of idea. The kids were really excited about where I had been and to learn about a lot of the different things there and just some children's stories. So, it's the same.

(Researcher) Do you think it impacts the students at all, to have their teacher travel?

(Nikki) It does because, well they all say, "I want to go there. That's awesome." You know, just different things like that. And, right now they're not even really aware of their placement, as far as city, states, and our country goes. So it's a really hard concept, in a way, for them to understand. I mean, you could say you got on a plane and I flew all the way over to here, but I still don't think they know exactly what's going on. When you asked, like in the beginning of the year, when we talked about what they did in the summer. How many of you went to a different state? They raised their hand, and it was like Eau Claire or something like that.

### International Education:

(Nikki) I guess just from talking about it, yeah. Otherwise I wouldn't know, I wouldn't know anything about Puerto Rico because I wouldn't have been bringing it up at all. We do, basically the only thing we usually talk about other countries is, we have Christmas around the world, and we talk about how other countries around the world celebrate their Christmas. Otherwise, that was about all we kind of do in second grade as far as that goes. So, it has broadened quite a bit more now.

### Environmental Education:

(Nikki) It's kind of hard to, you know, as far as, it's hard for me I guess when I think of environmental education, I think I have to do this big lesson just on environmental education. So, little things come up about recycling, wasting water, and stuff like that.

(Researcher) Do you use that more now that you've been to Puerto Rico?

(Nikki) It's probably about the same, I guess, because I was aware of those things before.

(Researcher) Sure. Okay, is there anything else you want to add?

(Nikki) I'm excited about doing my new lessons. When I was showing my kids my pictures at the beginning of the year when we shared what we'd done during the summer, and they were really excited about the bats and the snakes, just everything is pretty new to them. I think the age that my kids are at, they're really interested in non-fiction kind of things. Like when we go to the library, they're checking out non-fiction books on animal and plants and planets, and all kinds of things like that. So, I think it's a really good age to start getting them interested in that, but, kind of at the same time a hard level to do a lot of research kind of things.

(Nikki) Cultural concepts they can understand to a certain point, but they still don't understand countries and stuff like that.

### OTHER:

Post-Assessment: "I am more aware of 'teachable moments' and take advantage of those in regard to the environment more."

Researcher's Journal: Before this program, Nikki has traveled to different areas throughout the world. She has a strong interest in Hispanic cultures and would like to learn more Spanish. After two weeks observing Nikki, she can be described as a quiet and somewhat shy individual with a keen sense of adventure. By the end of the program, she seemed to become very comfortable with the group and formed many bonds/friendships with participants.

An observation was made after a week into the trip in Puerto Rico. "As I watch her interact I can tell she is becoming more of a participatory individual in the group. She is starting conversations with Puerto Rican teachers more. She is more comfortable jumping into the experiences."

### **APPENDIX T: Participant Profiles**

On the last day during the group verbal evaluation when asked what the biggest strength of the program was, Nikki said, "I have traveled before but this is by far the best place I have been because we feel more a part." She liked the aspect of having the teachers from Puerto Rico with us.

#### **UPDATE:**

Hannah finished up the school year and on June 23, 2005 will go to Puerto Rico with her husband to volunteer at Hacienda Verde for at least one year. They are enthusiastic about this decision and are looking forward to helping them.



## APPENDIX T: Participant Profiles

NUMBER: 11  
NICKNAME: Liz

### DEMOGRAPHICS:

AGE: 43  
SUBJECT TAUGHT: All  
GRADE: 4<sup>th</sup> Grade  
EXPERIENCE: 19 years  
ED. LEVEL: MS in EE  
TRAVEL EXPERIENCE OVERSEAS: Yes, 2 experiences amounting to less than a month. This has had some influence over the curriculum.

### COMMENTS ON ESSAY, APPLICATION, & LETTERS OF REFERENCE PRE-ASSESSMENT:

EE PLAN: Yes  
    FREQUENCY: Never  
EE CURRENTLY IN CURRICULUM: Yes  
    FREQUENCY: Daily  
PRESERVICE EE: No  
EE TRAINING: Yes, MS in EE  
COUNTRIES: Yes  
    FREQUENCY: Monthly  
CULTURES: Yes  
    FREQUENCY: 2-3 times a semester  
MOTIVATION: To have the adventure and then bring the adventure to my class.  
BARRIERS: Motion Sickness, Knowledge, Language, Medical, Safety  
EXPECTATIONS: A renewed love of adventure in travel that I can share with class and friends and family.

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
1	1
1	1
2	2
1	1

### IE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
2	2
2	3
2	2
3	3
3	3

### KNOWLEDGE MEASUREMENT:

	BEFORE EXPERIENCE	AFTER EXPERIENCE
Island Ecology	2	
History of Puerto Rico	1	4
Enviro Issues in PR	1	5
PR Culture	1	4

### POST-ASSESSMENT:

ENVIRO	PR ENVIRO	OTHER COUNTRIES	PR CULTURE	OTHER CULTURES
30*	30	30	15	No

\*Will increase more as I adapt curriculum ideas.

PR CONTACT: Yes  
    FREQUENCY: About 5-6 times  
    METHOD: Email

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: Weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5
E ISSUES IN PR:	5
PR IN CURRIC:	5
RELATIONSHIPS:	5
SKILLS EE:	5
APPRECIATE NEED EE GLOBALLY:	5
RESOURCES:	5
INFO LEARNED:	5
WORKLOAD:	4
SAFETY:	5
VALUE:	5
MATERIAL CLARITY:	5
ORGANIZATION:	5
RESPECT:	5
WOULD GO AGAIN:	Yes
CHINA:	Yes
AFRICA:	Unsure

### QUOTES FROM JOURNAL:

Her first thoughts are excitement in her journal. She was visiting a rainforest for the first time. She expressed her concern for over population and how that will affect the rainforest.

Quote about the USFS speakers: “The speakers today were so personable and informative that my brain is charged with information.” “I marvel at the patience, diligence, and commitment it would take to study one animal so thoroughly.” “Victor was a really likeable tour guide, always smiling and making his knowledge of the birds and their habitats seem so unique and fascinating.”

During her journal, Liz would make comparisons to her trip to Australia.

El Yunque: “Although I am not an avid birder, the excitement of the morning captured my heart as we listened to the coqui, the screech owl, the red legged thrush, the Puerto Rican Tody, and many other animals create and call out their territories as the sun rose to meet the morning.”

“Victor’s twinkle, wit, and humor made for a lovely morning in the rainforest.”

Snorkeling: “Snorkeling at the beach was the treat of a lifetime.” “XXX, XXX, and XXX helped me to discover the ocean life occurring in the shallows of the beach. ... My favorite part of the day was being with XXX, XXX, and XXX and learning about ocean invertebrates and sponges.

BioBay: “Wow what a trip!”

“The speakers in Puerto Rico seem to have a great passion for their topics and also a great desire to please all the teachers.”

Written as she reflects on the first week together. “..the contact and friendship of the Puerto Rican teachers..”

“One of my favorite statements made by the speaker who discussed a PowerPoint presentation about the Karst Region at Mata de Platano said, ‘We (humans) make too big of footprints on the Earth, we need to make smaller footprints.’ Another dream from the director of the US Fish and Wildlife on Vieques – his dream was to live to see the beaches of Vieques back to their original beauty when he can walk on the beach and swim in the waters before he dies.”

Playing Music: “The best part of the night was when Miguel took out his guitar and they all serenaded us with Puerto Rican music. The music moves through you and there is no other way but to dance! Puerto Rican music has such soul!”

Hacienda Verde: “I have really enjoyed some of the teacher led night activities that create very interesting and sometimes very passionate discussions.”

Night Walk Led by Raul: “...it seemed we were in a cave and the fireflies were salsaing all around us! Raul caught 2 different species of lightning bugs so we could see the difference.”

Dancing: “XXX floated on air when he danced. XXX and XXX had smiles as wide as the ocean as they danced the night away.”

## APPENDIX T: Participant Profiles

Speakers: “At least 5 of our passionate speakers actually ‘thanked us’ for the opportunity to speak to us! That’s what’s so lovely and amazing about our Puerto Rican friends and speakers.”

Rio Abajo Aviary: “The Parrot Aviary in Rio Abajo was just amazing.” “Ricardo has such a close connections and love for his parrots and his job, this love expresses itself in every story both serious and funny that he told.”

Party: “We were all energized to make our last moments together terrific ones!”

“The band ‘made the evening’ with the authentic Puerto Rican music, bongos, gourd, and special type of guitar. This night was definitely worth every sneaky penny that was spent on them!”

“As Susan reviewed the events of 2 weeks I really felt an awe of how much work Susan, Dennis, and Carol had done on the Wisconsin side – all the phone calls – resource collections – planning that made this trip the incredible – valuable experience it was. XXX spoke to thank our leaders ‘jefes’ because all of the Puerto Rican teachers felt great gratitude for the experiences that were created here!”

“Without our Puerto Rican teachers our learning curve and opportunities would have been so much less! The language barrier broke down each day we spent with them – until we tied together like the anchoring roots of the mangrove tree! The teasing and joking of XXX, Dennis, Me, Michael, by the Puerto Rican teachers made our bonds so much stronger.”

Good-bye: “Saying good-bye to our lovely Puerto Rican friends – we part with heavy hearts but look forward to e-mails and next summer.”

Journaling: “This journal has its good memories – where I had the time and energy to reflect...” “As I look back in this journal, even at the poorly written pages, I am thankful for the memories I will recall so much more vividly for writing about them.”

Reflection: “I leave Puerto Rico with a strong home that people like our speakers and our Puerto Rican teachers will continue to work for a healthier Puerto Rico – they work with the passion they need to make changes in a society that is forgetting the real attractions of their island – the coral reefs – the rainforest, the karst forest, the case, the ocean, the lagoons, the mangroves, the tropical forests, Bioluminescent bay, the dry forest, and most of all the Biodiversity that is narrowing each day.”

“We all leave having pushed our limits in some way, having experienced the joys and sorrows of the island places and the joys and sorrows of the island’s people.”

“If anyone had organized a trip through Wisconsin with super speakers and trips to our natural places – we would feel even more honored to discover how much further ahead Wisconsin is in the EE education and protection of our beautiful areas.”

“Thank you Dennis, Susan, Michael, and Carol for this wonderful opportunity to:

- learn about islands as well as to learn from islands
- snorkel in a tropical ocean and see what only the discovery channel has shown me – a tropical reef.
- Swim in the Caribbean ocean
- Be with 24 people for two weeks and not get crabby!
- Walk through a rainforest
- Have so many lovely people watch out for my stuff when I left it places
- Find my house plants all over the island
- See a turtle on the beach
- Swim in the dinoflagellates in BioBay and look at our boat guide being a ‘zombe.’
- Watch Dennis cook in a 105 degree kitchen.
- Eat new fruits and new foods – mufango
- Have lovely roommates in XXX, XXX, and XXX.
- Listen to Michael’s impromptu poetry songs
- Hike hike hike – my love
- Being in a mountain stream during a rain and learning how they could flood in a flash!
- Riding with Dennis, Michael, XXX, and XXX while in Vieques and teaching them a bit about being lovely husbands, while learning how males bond from a woman’s perspective.
- Buying a calzonía the size of Puerto Rico with Luis and saying if I eat it ‘my estomago esta son guapo’ my stomach will be so handsome!
- Listen to coqui as they serenaded me to sleep
- To sleep in a hammock for one week
- To learn from lovely, passionate speakers

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- To see the sad results of continually over population as it stresses the island.
- To dream a brighter future for Puerto Rico.
- To hands on learning from XXX, XXX, XXX, and XXX about their island.
- To meet all the Puerto Rican parrots.
- Out of time.”

### QUOTES FROM INTERVIEW:

(Researcher) You had written was a renewed love of adventure and travel that I can share with my class, friends, and family. Do you feel that these expectations were met?

(Liz) Absolutely.

(Researcher) Good, in what way?

(Liz) I am constantly seeking when I'm going to teach a new unit, what can I, what can I bring in here from Puerto Rico? What can I show about islands? Like in the Native American unit alone, it's just can I go here and use this book? And, we were just talking about a book I used, "Morning Girl", and how like the Taino people it is and how when the Native American experienced the white man, how the white man changed their whole culture. And, in this book, Columbus comes to pretty much the Taino people of the Bahamas, and so they were the Bahaman/Bohemian people and how he sees them as uneducated, just like white man saw the Native American; what the connections are.

And, hurricanes are in this book. This tropical island tribe has a hurricane. They have Starboy. They call in Batboy because he's so much like a bat, so I can bring the bats in. And my mind is just always working. 'Oh, where can I get this poster in?' And, this coral reef book is neat. And, we do a reading basil story on oceans, and they don't know anything about sharks. And, now I have coral reef underwater pictures to show them from Puerto Rico, and it's always working on how I have an ocean poster, how I can bring in everything.

When I sat at home to do your five lesson plans, what was more exciting than the five lesson plans was taking all this stuff, laying it on my basement floor, covering it completely for a month, and going, okay, my reading lesson, what stories will fit this research. Running over here, saying this is Windows on the Wild about sharks, and I can do that, everywhere.

(Researcher) And you say friends and family too.

(Liz) Everybody says I'm so courageous to go on a trip with, however many were together on the trip, twenty-three or twenty-four with our Puerto Rican friends and not know a soul and do that. And they think all the slides and pictures; they think are wonderful.

### Personal Affect:

(Liz) There's always, whenever you're an environmental-feely person, there's always the flip side to every wonderful thing. And I was very sad and worried and disappointed for the future of Puerto Rico. How the waste and the garbage and going to those beautiful places like the river with the hieroglyphics in it and seeing all the trash that led into that beautiful area and how I really believe if it was owned by the United States, how it would be cared more for, and it would have better supporting laws. And, if it was owned by the Puerto Ricans, perhaps the same thing if they were their own country.

But, my feeling politically is the in between isn't good enough for anybody and the things aren't getting protected because they're just a common law. And that's sad. That part saddened me. The overpopulation and the stress on their resources and the lack of knowledge about what they have and their need to protect it by enough people. Even, even our Puerto Rican friends thinking bringing us to a mall would be a wonderful experience for us.

(Researcher) It was a cultural experience right there.

(Liz) They don't understand that we wanted to be, that that part especially for people from Stevens Point, that part was a sadness. That they would think that was a neat place disappointed us. We didn't want them to like American things. We wanted them to have their own culture, keep their own traditions, and be un-accepting of American places, I think.

### Professional Affect:

(Liz) I have a much broader sense of what to bring into education than I did before. I was very local; it was my own backyard. That's it. And, I loved Dennis' idea, and I think it's also in "Windows on the Wild," that you learn about your own backyard first, but then you relate it to the world and I can't relate it to everywhere, but I can really take the knowledge I learned about islands and the Great Antilles?

(Researcher) Yeah, the Greater Antilles.

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(Liz) The Greater Antilles area and bring that to the kids because they have no idea what's out there. Mangrove forests, I didn't say it in my lesson, but I put up all my tree posters, and I save everything and I laminate it. And, I put them all up, and we have discovery time. We fold construction paper into little squares, and their goal is to try to fill the whole side, but they often flip, they just go read the posters. Then, we get together and we talk about, "Tell me all the kinds of forests you learned about." And, then what if I told you there was a forest that you don't know anything about? And, about the mangrove poster, and I just would have never thought of that before. And, I never would have interested them in ocean island culture.

(Researcher) Sure.

(Liz) So I think it brings so much more every trip you go on. Of the real-world into your classroom.

(Researcher) And, have you traveled before?

(Liz) No, not out of the United States. Just, in high school, went to Mexico. That's about it.

(Researcher) Okay. And, then in your curriculum, specifically about your curriculum, you talk a lot about how you use this in the classroom, and do you feel that this program specifically has influenced your curriculum then?

(Liz) I'm always thinking about how it can, and there's so many ways. And, one place I'd like to go back to and learn more about is the ocean. And, it was in my "How could you improve?" Which I don't know where you could have fit it in. We're so removed from the ocean in Wisconsin. Kids are so removed from the ocean. Just what I gathered at Vieques is going to be so wonderful on our basil ocean story about coral reefs, but my knowledge of the ocean is really poor.

### International Education:

(Liz) I've been thinking about it more than I ever have, and it's harder for me to connect than environment, probably because I'm not social studies or history-minded. But right now the connection that has been the greatest has been the Taino people to the Native American people, and then maybe some music for fun. And, some language because I speak a little Spanish, so I'm already bringing that in as a reading story for the basil in Spanish.

I have a Spanish-speaking student, and she's taught us some Spanish words or, you know, word and hand action games. We have a morning meeting where we greet each other and we often use a Spanish greeting like "Hola" or "Buen día," and we greet each person around the circle. And, so yeah, I would have never have done that before or thought of that. But, when I filled out your evaluation, it isn't my strength yet to think that way.

### Environmental Education:

(Liz) Yeah.

(Researcher) But, do you feel that this program has affected it somehow as well?

(Liz) The resources. Learning about island ecology was absolutely fabulous. To learn about something you know nothing about, and then all the resources, laying them out, knowing that there's a connection to Puerto Rico. And, just always be excited about filling in places and making learning more exciting; tie it into island ecology, Puerto Rico, equator-type living. You know, even the trees, there are no tree rings. There are no divisions in seasons. There's no division in time. Those are exciting things to bring in and map. You know, I just think well that way. So, they're getting a lot more information than I ever gave them before, connecting those topics.

(Researcher) So, is your curriculum deeper, would you say, with that information?

(Liz) Richer, more connecting to knowledge that they'd have no access to normally. Richer, deeper, and constantly I just, all of a sudden realize, there's a connection. Off to the cover I go, out I pull a poster. You know, I didn't have that before.

(Researcher) Do you spend more time with your prep?

(Liz) I will. You weren't in there, but TerraNova is a big thing in fourth grade, and they've been reading our lesson plans, and they're requiring us to review, review, review how we take those tests. Now I can pull myself into it, and I know I will spend more time. Even just doing my lessons that oceans connect, and running off things, and getting the posters, oh I absolutely spend more prep.

(Researcher) Okay.

(Liz) Because when you've taught since 1985, I'm sick of my wonderful things that I used all those years. want new wonderful things. I'm always changing, and so for me, prep is just exciting and a way to make teaching more fun for me.

(Researcher) Okay.

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(Liz) To do different things. So, I never think of it as workload; I think of it as a joy because I'm excited about it. So, then it makes everything more fun for me.

(Researcher) And, so how has this program affected that?

(Liz) Well, the first thing I've done this year, we went to a wild area, and I had to look at the TerraNova tests, I found twenty-two questions that would match this wild area. So, I proved to them that we should go there. We could answer twenty-two TerraNova questions just being there. And, we studied leaves. Dennis gave us the "Looking at Leaves" activity out of Project Wild.

And, XXXX and I are going to do a leaf exchange. And, you missed it, but we collected leaves out at the site and put them in our notebooks. And, we came back Monday and had pie tins and dipped the leaves in floor wax. And, then we're going to send and then we made cloth leaf prints where you put the leaf upside down and hammer the leaf into cloth. And, we did spatter paint. We took our leaves on white paper, put rocks on the leaves, went outside, took a toothbrush, orange paint, yellow paint, red paint, lifted the leaves and the white leaf print stays and fall colors all around. And, I'm sending all that to XXXX, and she's going to send me back huge equatorial plants, and my kids are going to be amazed.

And, then we talked about tree cookies. We have tree rings because we have seasons. They have no tree rings, and I want them to discover why. And, they'll figure out they don't go to sleep over there. Trees don't go dormant. And, they continually grow in these leaves. They don't shut down; they continually grow. And, there's more food and sunlight available all the time. Just a wonderful science from that. So, I'm sending her these things so she can see how to do it. And, then she'll press her leaves, and dip them in floor wax and send them back to me.

(Researcher) Oh, that's great. Such a good connection. Well, that was the last question, so I was wondering if there was anything else you'd like to add.

(Liz) No. Well, I guess and this is not a criticism. But, if you do take a class anywhere near the ocean, an ocean speaker.

(Researcher) Oh yeah!

(Liz) Because I think of all the things I learned; about everything, bats. An ocean, when you did, you had bioluminescent bait, and that was really cool. But an ocean speaker to talk about; coral reefs are such an environmental worry, and they're bleaching out even in Belize where they're so beautiful. They don't really know why; they only have guesses. It may be a climatic thing. It may have happened in the past. They don't know. But, do you see how fascinating that would be, to talk about. That was the only suggestion.

### OTHER:

Observation notes: Liz is an energetic and free-spirited woman. She is very positive. She seemed to be very comfortable throughout the whole program. Her journal captures a lot of her thoughts throughout the program.