

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

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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 -*



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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 fore



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 fo

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

**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.

## **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

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

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

### **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),

Exchange, Two Worlds United Educational F

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

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 Ed



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:**

### **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.

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, additiona

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 Intern

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 pa



*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

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 par

## **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;

from IAUPR, REVIBE, and other organizations. Throughout the program, the trip leaders were responsible for the safety and security of the pa

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.

*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

suggestions. Quantitative data gathered from the evaluations were used to measure the





## 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

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 Ri

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</b>		

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

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,





June 19-22, 2004 – Vieques Island

The island of Vieques lies just 6 miles off

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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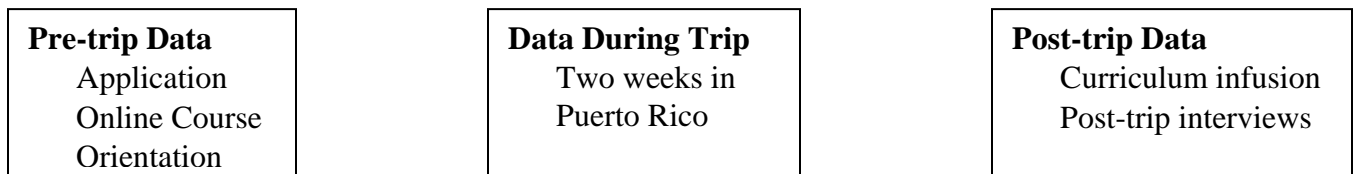
### Results of Subproblem 3:

*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

Application Essays



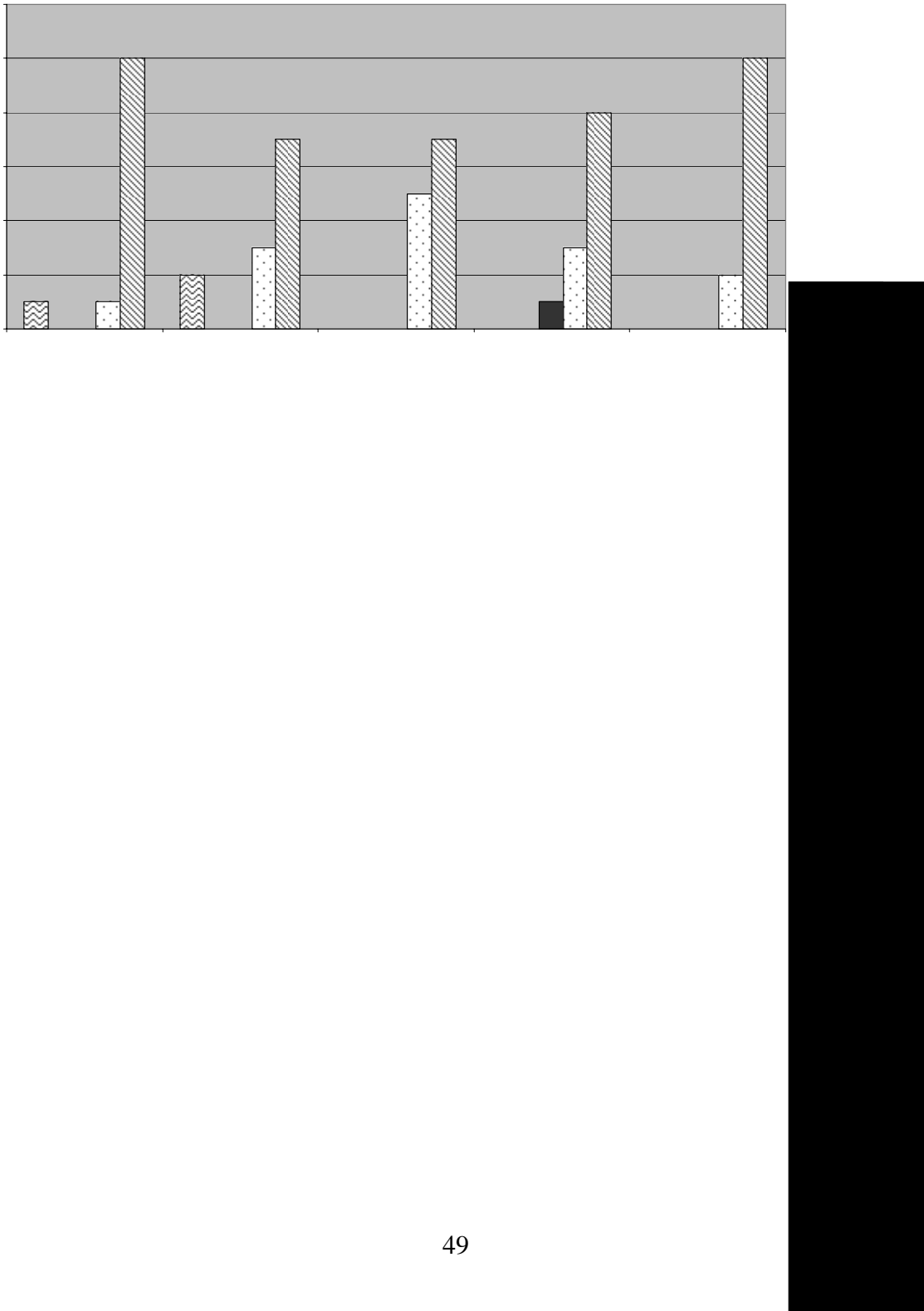
There were three phases of the program where data were collected. The pre-trip data were collected from the application, online course, and orientation. Data sources included the application, letters of recommendations, evaluations from the online course, and the pre-service assessments. While in Puerto 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.

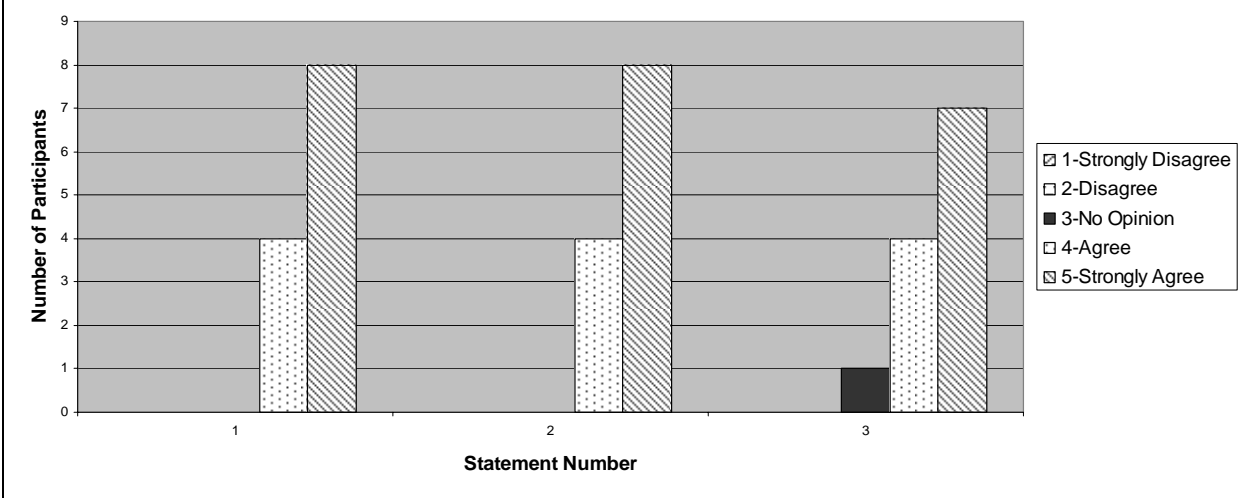


of course objectives.) two participants reported 1-Strongly Disagree. (Figure 3.2.) They did not feel that the online discussions accomplished the course objectives well.

**Figure 3.2. Responses to Questions Regarding the Assignments Required to**



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



**Statements:**

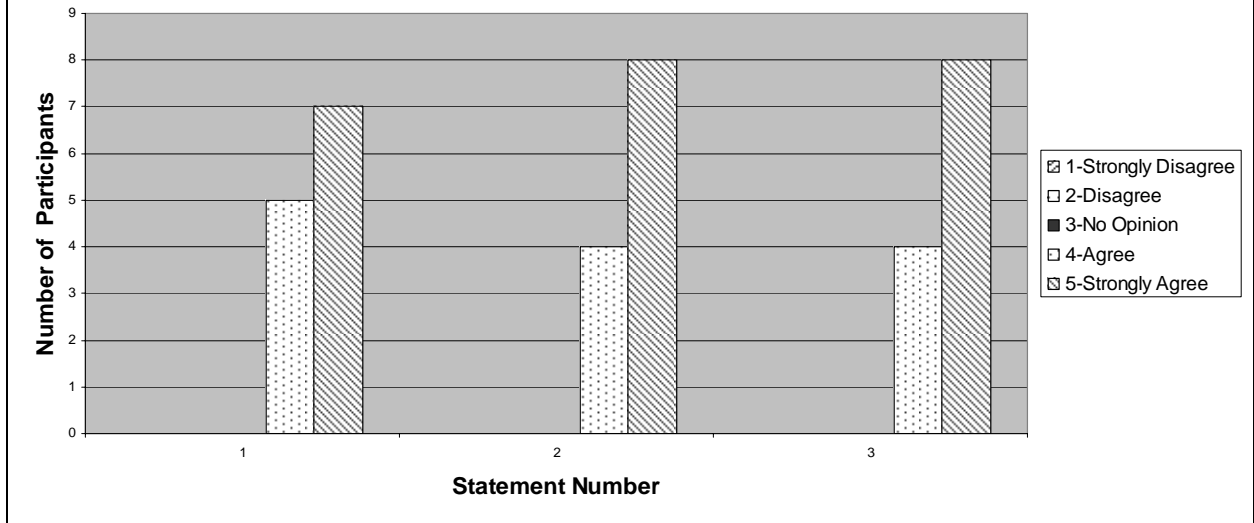
- 1) *The coverage of topics was adequate for a one-credit course.*
- 2) *The depth of the topics covered was adequate for a one-credit course.*
- 3) *The course readings expressed subject matter clearly and completely.*

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:

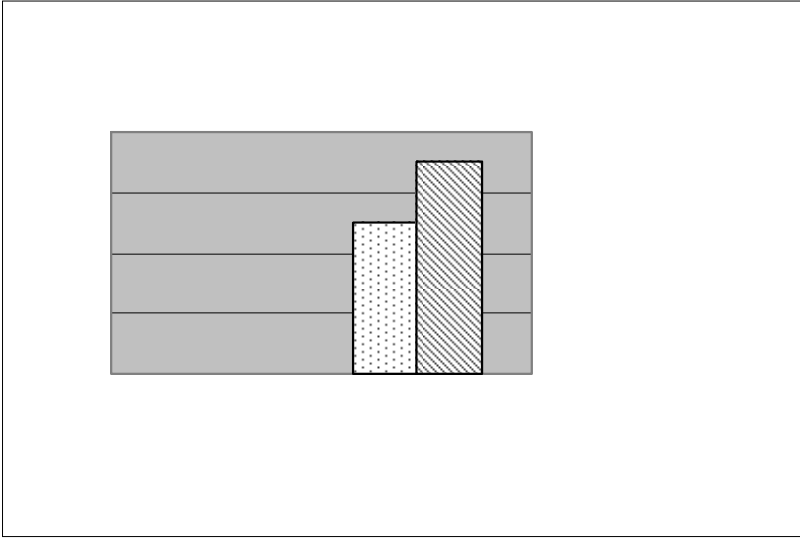
- 1) *The course design and course components were conducive to online learning.*
- 2) *The units progressed in a logical order.*
- 3) *The overall course navigation was easy to follow.*

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

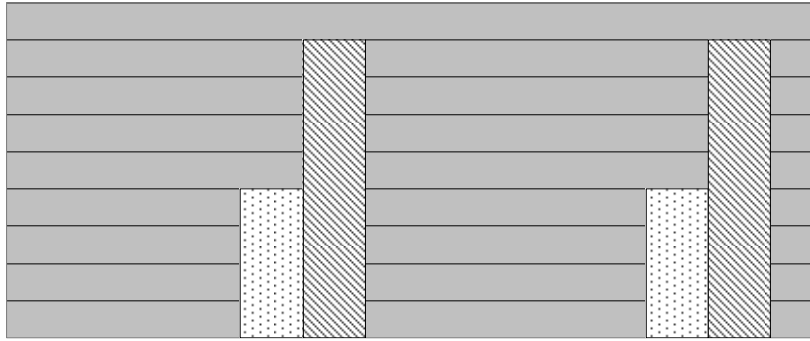
All twelve participants agreed or strongly agreed that the course load was reasonable.

(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.



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)





*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

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.

### **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 favorabl

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)

<b>Statement</b>	<b>Mean</b>
The information provided about El Yunque.	4.96





*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

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

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)

<b>Statement</b>	<b>Mean</b>
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

On the last day at Hacienda Verde, participants visited the Puerto Rican Parrot Aviary at



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

*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 5. Attitudes related to

*c) General Program Questions*

Fifteen questions were asked in re

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 envi					

*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	0.48	

ref150

*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*

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.*

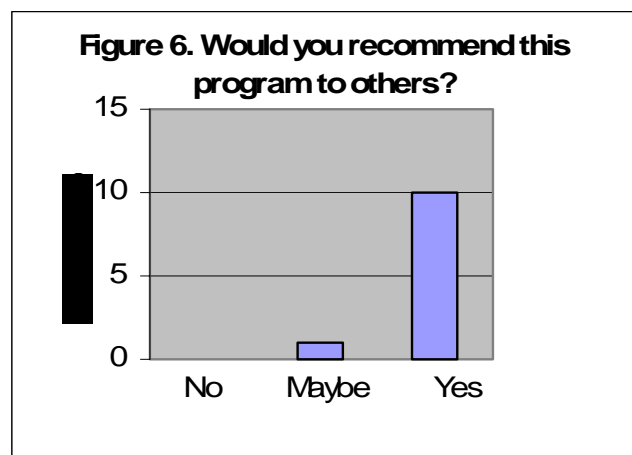
*Wonderful program even for non-science teachers.*

*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.



*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.

*“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







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*

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

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 expe

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

***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





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.



*“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.









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

**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. Providi

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

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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

**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



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.



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

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 teacher

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 the island with and

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.
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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.



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

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.

#### **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,

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



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.

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 t



**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.

## **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 conucation.

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

**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							

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

Thursday 6/24



## 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.

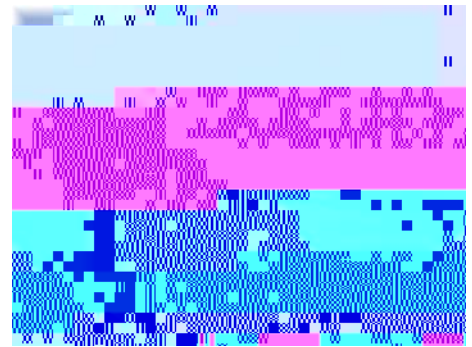
Attached is further information about the program. We look forward to sharing the diverse ecosystems and culture of Puerto Rico with you. Feel free to contact Dr. Dennis Yockers at 715-346-4943 or Susan Ermer at 715-346-4349 if you have questions or comments.

Sincerely,

Susan Ermer  
Environmental Education Specialist, WCEE

Dr. Dennis Yockers  
Associate Professor, WCEE

Enclosure



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:

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

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

Home Address: \_\_\_\_\_ Street \_\_\_\_\_

School Address: \_\_\_\_\_

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

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

Are you a US Citizen? Y/N \_\_\_\_\_ Date of Birth \_\_\_\_\_

General Grade Level Taught: \_\_\_\_\_ Number of Years \_\_\_\_\_

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

Have you enrolled in UWSP's Extended Masters in Environmental Science?  
 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 (e.g., educational, employment)

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



**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

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

## **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

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)



### **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 yo



**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

**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

**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:**

## 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



## 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.**

## **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

**APPENDIX N: Orientation Evaluation**  
**FAX SHEET**

**1. How would you rate the Puerto Rico Orientation meeting concerning the following?**

a) Providing additional background information concerning

Bueno

Malo

## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

### 1. How would you rate the workshop at El Yunque (the Caribbean National Forest) concerning the following?

	Bueno				Malo
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
	<b>5.0</b>				
c) Jefet Vélez on the Puerto Rican Parrot Project.	5	4	3	2	1
	<b>5.0</b>				
d) Blanca Ruiz on the introduction to tropical forests and the trunk.	5	4	3	2	1
	<b>4.91</b>				
e) Edwin Velazquez leading the hike to La Mina Falls.	5	4	3	2	1
	<b>4.29</b>				
f) Dr. Deborah J. Lodge on discovering the marvels of microorganisms in nutrient cycling.	5	4	3	2	1
	<b>4.86</b>				

## **APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest**

k)           The instructors helped foster an atmosphere of mutual respect.       5       4orest

## **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.





## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

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Question 1g	We should spend more time at night at El Yunque.  Very interesting man.	Again, a very interesting talk but we needed to be They should go on the road with their presentations!
<hr/>		
Question 1h	One of the most unique experiences of the trip for a non-birder.  Some parts of PowerPoint presentation were	Power Point great with information and calls, loved it - very well done!

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## APPENDIX O: Evaluation Results of the Program at the Caribbean National Forest

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Question 11	Everyone was very warm and open to group involvement.  Offer more hands-on and time for this.	More time in the forest experiencing the plant/animal communities. Would have liked more hands-on.
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## 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	

### 1. How would you rate the work concerning the following?

- a) The information provided about Vieques.
- b) The BioBay tour.
- c) Participating in turtle research with Julian.
- d) The excursion snorkeling (if applicable).
- e) The tour of the US Fish and Wildlife Service Refuge with Gisella Burgos.
- f) The activities offered to involve participants in Vieques.
- g) Providing information that will be useful to my classroom.
- h) The knowledge of the speakers.
- i) The time allowed for each session.
- j) The delivery of each session.
- k) The instruction.



## **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**

Question 1a



## APPENDIX P: Evaluation Results of the Program in Vieques

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Question 1i

We always seemed rushed, but that was because people were so engaged with the presentations.  
A little rushed - more siesta to journal and ponder the information.  
We want more Oscar.

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.  
I would have liked to spend more time on the beach with the turtle research.  
I thought this was OK.



## APPENDIX Q: Evaluation Results of the Program at Mata de Platano

### 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	
		<b>4.90</b>				

## 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**

## **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**

The woman leader was knowledgeable but the caves  
were a magnificent site to see.  
Very neat cagnificant site to see.

Caves great/guide not so good.

## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

### 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>						

## 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	
						<b>4.67</b>
m) The band that played for the Puerto Rican Party (Tuesday).	5	4	3	2	1	
						<b>5.0</b>
n) Providing information that will be useful to my classroom.	5	4	3	2	1	
						<b>4.86</b>
o) The overall knowledge of the speakers.	5	4	3	2	1	
						<b>4.77</b>
p) The time allowed for each session and speaker.	5	4	3	2	1	
						<b>4.73</b>
q) The delivery of each session was clear and understandable.	5	4	3	2	1	
						<b>4.63</b>
r) The instructors helped foster an atmosphere of mutual respect.	5	4	3	2	1	
						<b>4.95</b>
s) The meals available during the six days.	5	4	3	2	1	
						<b>4.05</b>
t) The accommodations at Hacienda Verde.	5	4	3	2	1	
						<b>4.00</b>

## **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



## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

Question 1a	Passion I think Miguel did a good job providing the philosophy and overview of Hacienda Verde.	Miguel's passion is inspiring.
Question 1b	They are technical and I don't understand	

## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

Question 1f	Great! Spend more time in plaza area - lunch on our own next time.	Would have liked an seuum
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## APPENDIX R: Evaluation Results of the Program at Hacienda Verde

Very relaxing & exercise provoking!

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Question 1m

Excellent.

I'm sure it will be (2).

**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:

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) A.137Dx1olt of e

## 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. 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... increase your awareness about environmental education in Puerto Rico.	Strongly Disagree		No Opinion		Strongly Agree
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## 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

**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	This process uses external reinforcement both positive and negative to

## 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

## APPENDIX T: Participant Profiles

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E ISSUES IN PR:

| 5

## 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 in my classroom. I think that the notes and DVD of trip footage



## **APPENDIX T: Participant Profiles**

Researcher's Journal: Before leaving



## 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

## 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
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## **APPENDIX T: Participant Profiles**

## 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

## 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 weraid t2e, 2(y)-s fr (on Sahariff(t)-1.35eners )6.6(t)6.5(hi6.6ert )6.6er2.3(id ,vo)5, 2

## **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, APPLICAT

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: 1-2 times since the program

ADDITONAL 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
SAFTEY:	5
VALUE:	2
MATERIAL CLARITY:	4
ORGANIZATION:	4
RESPECT:	5
WOULD GO AGAIN:	Maybe

## **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 a





## 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

## **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!”

## 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 ofession0ok tregll 791.r

## 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 WCEE and its resources.

### EE ATTITUDES:

PRE-ASSESSMENT	POST-ASSESSMENT
1	1
2	1
2	1
3	2
2	1

## 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 2( tak2Eβ6.6(can) wrEd)(Ec)5.3(h)1.5(ers)4( and)8.2( 1 8.2(ws isYee)8.2( 1w4Ha)5.4(Date?)-9.lur

## 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 severa



## **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



## 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 th

## **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. Goi





## 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





## 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

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INCREASED AWARENESS EE IN PR: 5

## 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



## **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**

## 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 OTH(EXP)3.2n..652 0.4799RIENCE



## **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.”

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## **APPENDIX T: Participant Profiles**

(Researcher) Were you able to bring this back to your classroom as you were expecting?

## 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,

## 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

His90E 9JET84.36 191AgA4799 ref.38 ref197.76 180.72 0.4G4:ico48 32588 0148 ref84.36 180.72 0.48002.020.48 ref84.36 191 0.48000.792 10



## **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

## 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

### **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

## APPENDIX T: Participant Profiles

RESOURCES: Yes

FREQUENCY: Weekly

ADDITIONAL RESOURCES: Yes

INCREASED AWARENESS EE IN PR:	5
HANDS ON:	5

## **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

## **APPENDIX T: Participant Profiles**

- To see the sad results of continually over population as it stresses the island.
- To dream a brighter future for Puerto Rico.
- To learn from XXX, XXX, XXX, XXX, and XXX about their island.
- To meet all the Puerto Rican parrots.
- Out of time.”

QUOTES FROM INTERVIEW:

## APPENDIX T: Participant Profiles

(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 wi

## APPENDIX T: Participant Profiles

(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