

THE DEVELOPMENT, IMPLEMENTATION, EVALUATION, AND
REVISION OF AN ONLINE COURSE ENTITLED “MAKING
ENVIRONMENTAL EDUCATION RELEVANT FOR
CULTURALLY DIVERSE AUDIENCES”

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ABSTRACT

The purpose of this research is to develop, implement, evaluate and revise an online course entitled, “Making EE Relevant for Culturally Diverse Audiences” offered by the University of Wisconsin - Stevens Point and the Environmental Education and Training Partnership. There is a demand to provide environmental educators with training on how to address relevant issues and develop curricula that recognizes the various perspectives and needs of culturally diverse audiences with regard to environmental issues. The course, “Making EE Relevant for Culturally Diverse Audiences” provides this in-service training for non-formal environmental educators and natural resource professionals. Valid and reliable evaluation techniques were used to analyze the course’s effectiveness and improve the quality of its content and delivery. Evaluation results from the fall 2008 and spring 2009 offerings of the course have shown an increase in course participants’ knowledge, skills, and intentions to implement culturally inclusive environmental education curricula.

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CHAPTER ONE INTRODUCTION

I. RESEARCH PROBLEM

The purpose of this study was to develop, implement, evaluate and revise a new online course entitled “Making EE Relevant for Culturally Diverse Audiences” offered by the University of Wisconsin - Stevens Point (UW-SP).

II. SUB-PROBLEMS

1. **Fall 2007-2008 Literature Review and Course Development.** Review literature related to EE and diversity to identify efforts previously done that are similar to “Making EE Relevant for Culturally Diverse Audiences” and apply the information from these prior efforts to the course development.
2. **Spring 2008 Course Development.** A Design Team will develop a draft course and then a Review Team will provide suggestions that the Design Team can use to revise the course prior to its implementation.
3. **First Revision Fall 2008.** Revisions will be made to the draft course content and structure based on the Review Team’s recommendations.
4. **Fall 2008 Course Implementation.** Administer the pilot course to course participants.
5. **Fall 2008 Pretest and Posttest Knowledge Test and Self-Assessment.** Develop, validate, and administer a pretest and posttest for the course participants (treatment group) and non-participants (control group) to evaluate whether their knowledge has increased, their attitude has changed, and if they have intentions to implement their new knowledge as a result of participating in the fall 2008 course.

6. **Fall 2008 Course Evaluations.** Obtain input from course participants to evaluate the course and its delivery. Revisions will be made based on the formative and summative evaluations in order to improve the course's quality and effectiveness.
7. **Second Revision Spring 2009.** Revisions will be made to the fall 2008 course content and structure based on the student and instructor questionnaires and the course evaluations to improve the spring 2009 course.
8. **Spring 2009 Pretest and Posttest Knowledge Test and Self-Assessment.** Administer a pretest and posttest for the course participants (treatment group) and non-participants (control group) to evaluate whether their knowledge has increased, their attitude has changed, and they have intentions to implement their new knowledge as a result of participating in the spring 2009 course.
9. **Spring 2009 Course Evaluations.** Obtain input from course participants evaluate the course and its delivery and identify and implement additional revisions that are needed.

III. IMPORTANCE OF STUDY

Culturally diverse participants are generally underrepresented in environmental education (EE) programming (Hong and Anderson, 2006; Rideout, 2000; Lewis and James, 1995; Kostka, 1976). Although at a national and global level cultural diversity continues to increase, racial and ethnic heterogeneity is often not reflected in EE program participants. Ethnic/racial surveys from the U.S. Census Bureau (2006) report that 26.1% of the nation's population is non-white and over half of the U.S.'s population will be non-white sometime between 2020 and 2050. This expanding diversity exemplifies the importance for EE professionals to become more culturally competent and have the

knowledge and skills to implement effective EE that is inclusive and relevant to culturally diverse participants.

Several factors have been identified as to why culturally diverse groups tend to participate less in EE. The lack of involvement is partly attributed to subcultural preferences, socioeconomic status, perceived discrimination, language barriers, and an underrepresentation of racial and ethnic diversity among EE staff (Roberts, 2007; Hong and Anderson, 2006; Chavez, 2000). Further, EE has traditionally been viewed as an upper to middle class white discipline. However, environmental issues affect people from all cultures and socioeconomic groups, and these issues most often negatively affect people in lower-income minority communities because they are more susceptible to environmental threats and degradation (Burton, 2007). EE is neglecting a large portion of the population due to these significant barriers, and therefore falling short of creating a curriculum that fosters an environmentally literate citizenry. The environment includes social, economic, physical, and ecological issues, and therefore environmental educators need to present all of these concepts in order to provide EE that is applicable to diverse communities (Lewis and James 1995).

A needs assessment conducted by the NAAEE Non-formal Commission found that reaching diverse learners is the top knowledge/skill that nonformal environmental educators want to learn or enhance (2003). Additional support for the “Making EE Relevant for Culturally Diverse Audiences” course is stated by Dr. Augusto Medina, the Program Manager for the Environmental Education and Training Partnership (EETAP):

Diversity and EE is a timely topic that has generated a lot of interest in the field. Many environmental educators want to be more inclusive but don't know how to make it happen... (Personal correspondence, 2007).

Similar to Dr. Medina's statement is Georgia Jeppesen's from the United States Fish and Wildlife Service (USFWS), "Reaching diverse audiences effectively has been brought up many times in FWS, and we also do not have a good process to provide to our educators..." (Personal correspondence, 2007).

Further, the September 2007 Environmental Education Training and Partnership (EETAP) Bulletin identified "Delivering Culturally Relevant EE to Diverse Audiences" as one activity the organization will implement (EETAP Bulletin, 2007). In response to this need, a Design and Review Team were formed to develop the course "Making EE Relevant for Culturally Diverse Audiences."

This course is offered online through the UW-SP Desire2Learn online platform due to the positive evaluation results generated by the current online courses offered by EETAP, "Fundamentals of Environmental Education," "Applied Environmental Education Program Evaluation," and "Professional Development: Strategic Planning and Implementation." In general, distance learning courses for post-secondary level students have flourished. The most recent study conducted by the U.S. Department of Education's National Center for Education Statistics (2002) found the enrollment in distance learning, college-level, credit-earning courses for the 2000-2001 school year was 3,077,000 participants, which encompassed 4,130 institutions. The success of distance learning through online courses can largely be attributed to the practical method for professional in-service training that it provides.

The "Making EE Relevant for Culturally Diverse Audiences" course aims to provide in-service training for non-formal environmental educators and natural resource professionals that will strengthen their ability and knowledge to implement culturally

inclusive EE curricula. A course evaluation and pretest and posttest questionnaires will provide data to measure the course's effectiveness and provide guidance for course revision and improvement.

IV. HYPOTHESES

1. "Making EE Relevant for Culturally Diverse Audiences," will provide course participants with a quality educational experience whereby their knowledge and skills of how to effectively reach diverse audiences with EE will be strengthened, and the course participants' attitudes will reflect their intentions to implement what they have learned.
2. There will be a statistically significant difference ($p < 0.05$) found between participants (treatment group) and non-participants (control group) for the variables listed above that is based on the pretest and posttest results during fall 2008 and spring 2009.

V. LIMITATIONS

1. Student responses to questionnaires will form the basis for evaluations, which may be subject to conscious or subconscious misrepresentation.
2. Evaluations will most likely not be completed by students that do not complete the online course.
3. The quality and effectiveness of this online course will not be compared to other classroom or online courses.

VI. DEFINITIONS

Control Group: Research subjects that did not participate in the online course.

Culture: Behaviors and beliefs characteristic of a particular group of people.

Culturally Competent: The ability to work effectively across cultures. For individuals it is an approach to learning, communicating, and working respectfully with people different from themselves (Olsen, 2006).

Cultural Diversity: A variety of people from different races and ethnicities that have an interrelated and learned set of beliefs, values, norms, customs, and traditions (Roberts, 2007; Webster, 2007).

Desire2Learn: Computer software that the University of Wisconsin-Stevens Point uses to direct online courses.

Distance education/learning: Occurs when instructors and students are physically separated, and it relies on technologies, such as online communication is used instead (Willis, 1993).

Effective: Producing a decided and desirable knowledge and understanding basis regarding the subject of diverse audiences and EE in the participants enrolled in “Making EE Relevant for Culturally Diverse Audiences.”

Environmental Education (EE): Aims at providing people with knowledge about the biophysical environment and problems that are associated with it, increasing awareness of how these problems can be solved, and motivating citizens to find a solution for environmental problems (Stapp et al., 1969).

Ethnicity: An ethnic group is a group of people who are perceived to share cultural traits (Chavez, 2000).

Environmental literacy: Understanding how human actions and decisions affect environmental quality and acting on that understanding in a responsible and effective manner (NAAEE 2000).

Inclusive: To recognize the importance and needs of all cultural groups and implement those needs in EE curriculum.

In-service training: Training that occurs for teachers who work in the classroom, and it can also include training for non-formal educators in professional development (NEEAC, 1996).

Needs Assessment: A tool that focuses on needs rather than desires and identifies what educational courses or activities should be provided.

Non-formal education: Education that is conducted outside of the classroom and traditional educational settings. There are diverse audiences, including the general public, youth and adult groups, government agencies, businesses, conservation organizations, the media, and cultural and ethnic groups (NEEAC, 1996).

Online: Connected to, served by, or available through a system and especially a computer or telecommunications system (as the Internet). (Webster.com, 2007)

Perceived discrimination: The idea that some ethnic groups choose not to participate in activities because they think that they are unwelcome (Chavez, 2000).

Race: Denotes a group of people who perceive themselves and are perceived as possessing certain distinctive and hereditary traits (Chavez, 2000).

Socioeconomic status: Depends on occupation, education, **income**, wealth, and place of residence (Hirsch, Kett, & Trefil, 2002).

Subculture: A group that shares its own set of values, attitudes, and customs (Hirsch, Kett, & Trefil, 2002).

Treatment Group: Research subjects that participated in the online course.

VII. ABBREVIATIONS

EE: Environmental Education

EETAP: Environmental Education Training and Partnership

NAAEE: North American Association for Environmental Education

USFWS: United States Fish and Wildlife Service

UW-SP: University of Wisconsin-Stevens Point

VIII. ASSUMPTIONS

1. The development of the course will be based on previous studies completed on the subject of environmental education and cultural diversity, and suggestions from the Design Team and the Review Team.
2. Students that complete the course questionnaires are the same students that participated in the course.
3. The experimental group participants that are registered for the course will take the Pretest and Posttest Knowledge Test and Self Assessment.
4. The control group participants that complete the Pretest and Posttest Knowledge Test and Self Assessment will remain the same throughout the course.

CHAPTER TWO LITERATURE REVIEW

I. INTRODUCTION

The population of the United States is continually diversifying (U.S. Census Bureau, 2006). Projections made by the U.S. Census Bureau indicate that by the year 2050 the populations of people of color within the U.S. will more than double equaling about 220 million people, and thereby becoming the majority of the U.S.'s population (2006). However, the country's culturally diverse populations are underrepresented in environmental education (EE) (Rideout & Legg, 2000). Based on an assessment of EE conducted by the United States Environmental Protection Agency (EPA), EE programs have "...largely failed to meet the needs of several communities. These underserved communities include: urban communities, low income communities, Blacks, Latino/Hispanic Americans, and Native American communities" (Sachatello-Sawyer & Fenyvesi, 2004). In order to achieve a participation rate in EE that accurately reflects cultural diversity it is necessary for EE professionals to have the knowledge and skills to develop a learning environment and curricula that recognizes the various perspectives and needs of diverse audiences in regards to environmental issues (Hong & Anderson, 2006; Rideout & Legg, 2000; Lewis & James, 1995). Furthermore, to ensure that culturally inclusive curricula and programs are sustainable, Bonta and Jordan (2007) state, "diversity needs to be interwoven throughout organizational operations, such as programs, projects, initiatives and policy statements, recruitment, staff retention, partnerships and collaborations, outreach...".

A demand exists to provide EE professionals with training for effectively developing EE curricula that is more inclusive and applies to larger, more culturally

diverse audiences (Medina, 2007; Jeppenssen, 2007; EETAP, 2007; NAAEE III, 2003; Enderle, 2007). In response to this need, the online course entitled, “Making EE Relevant for Culturally Diverse Audiences” has been developed to train non-formal environmental educators and natural resource professionals.

The Environmental Education and Training Partnership (EETAP) has provided the resources and support for the development, implementation, evaluation, and revision of “Making EE Relevant for Culturally Diverse Audiences.” EETAP is comprised of nine partner organizations, and it is funded by the United States Environmental Protection Agency’s Office of Environmental Education. The partners include: the University of Wisconsin-Stevens Point (UW-SP), Association for Supervision and Curriculum Development (ASCD), Council for Environmental Education, National Audubon Society, the North American Association for Environmental Education, University of Oregon, Project Learning Tree, Project WET, and the United States Fish and Wildlife Service National Conservation Training Center (EETAP, 2007).

II. ENVIRONMENTAL EDUCATION

The conceptual framework for EE is rooted in nature study, conservation education, and outdoor education (Daudi & Heimlich, 2002). One of the first definitions of EE is described by Stapp et al. (1969), “Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help these problems, and motivated to work toward their solution.” The Belgrade Charter and the Tbilisi Declaration are the two documents most often referred to for defining and outlining the guidelines of EE (UNESCO-UNEP, 1976; UNESCO, 1978). Created at the United Nations Conference on

the Environment in 1975, the Belgrade Charter states, “The goal of environmental education is to develop a world population that is aware of and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones” (UNESCO-UNEP, 1976).

The Tbilisi Declaration, adopted at the 1978 Intergovernmental Conference on Environmental Education a couple of years after the Belgrade Charter, identifies the three main goals of EE as the following, “...to foster clear awareness of and concern about economic, social, political, and ecological interdependence in urban and rural areas; to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment; to create new patterns of behavior of individuals, groups, and society as a whole towards the environment” (UNESCO, 1978).

If EE is to achieve the goals described in both documents, non-formal environmental educators and natural resource professionals must have access to training opportunities that facilitate an understanding of the development and implementation of EE curricula that reaches culturally diverse audiences. “Making EE Relevant for Culturally Diverse Audiences” is a mechanism that can provide this training.

III. ENVIRONMENTAL LITERACY

Environmental literacy goes beyond the general definition of “being able to read,” because it incorporates the ability to develop a sense of value for the environment (Golley, 1998). Charles Roth’s monograph in 1968 first explained environmental literacy, and

since then Roth (1992) has revised the definition to state, “environmental literacy is essentially the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore, or improve the health of those systems...Environmental literacy should be defined...in terms of observable behaviors...”. Roth describes the observable as, “Persons at the operational level routinely evaluate the impacts and consequences of actions, gathering and synthesizing pertinent information, choosing among alternatives, advocating action positions, and taking actions that work to sustain or enhance a healthy environment. Such people demonstrate a strong, ongoing sense of investment in and responsibility for preventing or remediating environmental degradation both personally and collectively, and are likely to be acting at several levels from local to global in so doing” (Disinger & Roth, 1992). The foundations of EE provide the backbone to environmental literacy, which include environmental sensitivity, knowledge, skills, attitudes and values, personal investment and responsibility, and active involvement. However, it is essential to understand environmental literacy through actions, rather than theory alone (Disinger & Roth, 1992).

Environmental literacy moves from concrete ideas into abstract feelings and experiences. As Golley (1998) explains, “To build environmental literacy, it is necessary to go beyond books and libraries and experience nature directly.” Environmental literacy can be a difficult concept to implement into EE because “from the initial experience with nature the road to literacy runs in a variety of directions...it leads to the study of ecological science...For others the road leads to a world of imagination, of thought and spiritual growth...Still others have expressed environmental literacy in a life of action...working for a change in environmental laws and policies” (Golley, 1998). Many

environmental educators strive to provide people with educational opportunities that enhance their knowledge, skills, and understanding of abstract environmental concepts in an effort to create a citizenry that is capable of making informed decisions as an environmentally literate society. The course “Making EE Relevant for Culturally Diverse Audiences” will help advance efforts in establishing an environmentally literate citizenry. The training offered and materials incorporated in the course seek to provide nonformal environmental educators and natural resources professionals with the knowledge, skills, and motivation to implement EE to reach a broader scope of the population both locally and globally.

IV. NONFORMAL ENVIRONMENTAL EDUCATION

Nonformal EE includes activities that occur outside of the formal learning setting or classroom, and it is characterized by voluntary participation (Heimlich et al., 1996). Nonformal EE serves both formal groups and groups that assemble for reasons other than learning (Fortner, 2001). This type of education occurs at a variety of settings and targets many different audiences, including: “community-based groups, service organizations, government agencies, boys and girls clubs, Elderhostels, parks and reserves, state and national forests, residential centers, nature centers, zoos, museums, 4-H clubs, scouting organizations, etc.” (NAAEE II, 2000).

Different from nonformal education are formal and informal education. However, due to ambiguous boundaries, the differences between these three categories of education often cause confusion. Nonformal education can happen on tours, on informational signs, exhibits, displays, and during demonstrations that educational staff construct (Heimlich et

al., 1996). Formal education differs in that it is more likely to occur in workshops, lectures, and classes. Informal education is dependent upon the setting and the individual visitor. Despite their differences, a cooperative relationship exists that compliments EE (Fortner, 2001).

The relationship between nonformal and formal EE is important for each to function effectively. Formal characteristics of EE focus on “accuracy, balance, relevance, and interdisciplinarity” while informal aspects are “lifelong learning and education in the outdoors, as well as opportunity to focus on issues, not just facts and concepts” (Fortner, 2001). Interrelatedness between the various types of learning in EE enhances its ability to disseminate information.

The internet is one of the main modes of nonformal education today. According to Fortner (2001), “Most nonformal EE in the U.S. is now incorporating use of the Internet in programming.” Offering the course “Making EE Relevant for Culturally Diverse Audiences” in an online setting allows a wide range of nonformal environmental educators and natural resource professionals to complete in-service training that they will be able to use in other learning institutions.

V. DISTANCE LEARNING

Many different modes of communication fall under the category of distance education. Among these forms are fax machines, telecommunications, video conferencing, and computer-mediated communication. Distance learning is “the provision of learning resources to remote learners and involving both *distance teaching* (the instructor’s role in the process) and *distance learning* (the student’s role)” (Palloff &

Pratt, 1999). The following elements are the distinguishing characteristics of distance education (Palloff & Pratt, 1999):

- A separation of teacher and learner during at least a majority of each instructional process
- The use of educational media to unite teacher and learner and carry course content
- The provision of two-way conversation between teacher, tutor or educational agency, and learner
- Separation of teacher and learner in space and time
- Volitional control of learning by students rather than by the distance instructor

Due to rapidly advancing computer technologies, lower costs of computer hardware, and an increased access to computers, the main method utilized in distance education today is computer-mediated transmission through the internet (Palloff & Pratt, 1999; Belanger & Jordan, 2000). The benefits associated with online education are as follows: "... no geographic boundaries that hinder the learning experience or communication abilities, scheduling flexibility, time to reflect and contemplate, individualized attention from instructors, ...reduces preconceived notions of race, gender, age, background, or level of experience" (Gunderson, 2005; Belanger & Jordan, 2000). Furthermore, distance education can help train for job specific objectives in which the content material specifically relates to duties and skills that employees and employers will both benefit from (Belanger & Jordan, 2000). Distance training provides employees

with opportunities to advance their skills while remaining at their place of employment or home.

In order for online education to be successful, "...it is up to the instructor to create a container within which the course proceeds by posting goals, objectives, and expected outcomes for the course, initial guidelines for participation, thoughts and questions to kick off discussion, and assignments to be completed collaboratively" (Palloff & Pratt, 1999).

Disadvantages in computer-mediated distance education include issues and difficulties involved with the lag time between instructor and course participant responses, the lack of oral communication between learners and instructors, and problems that may be associated with using complex technology (Belanger and Jordan, 2000).

Despite the disadvantages of online education, it is an expanding phenomenon. Distance learning studies and participant feedback have generated positive results, "Distance learning courses compare favorably with classroom-based instruction and enjoy high student satisfaction...students in distance learning courses perform as well as their counterparts in traditional classroom settings, earn similar grades or test scores, and display the same attitudes toward the course" (WBEC, 2000).

The internet can be an effective resource at creating a learning community that fosters educational connections without the constraints of time and place. Eliminating geographical boundaries through online courses "...has further diversified higher education by increasing access to a wide variety of cultural groups" (Sanchez & Gunawardena, 1998). Offering "Making EE Relevant for Culturally Diverse Audiences" as an online course allows people from a variety of ethnic, social, economic, geographic

and experiential backgrounds to provide valuable input that enriches the course participants interactions and contributes to expanding EE so it is more relevant for diverse audiences.

VI. DEVELOPMENT OF ONLINE COURSES

Developing online courses presents many unique challenges due to the mode of transmission. Also, issues typically not prevalent during face-to-face instruction must be addressed to avoid difficulties associated with the instruction and dissemination of the course material. Oblinger and Hawkins (2006) state, “online instruction is more than a series of readings posted to a Web site; it requires deliberate instructional design that hinges on linking learning objectives to specific learning activities and measurable outcomes.” Considering the many barriers that exist is essential while attempting to successfully develop and implement online courses.

Gerson (2000) describes these barriers as a lack of “planning, coordination, student support, faculty concerns, market research, marketing techniques, access, evaluation, and standards.” As a way to address these barriers and avoid difficulties, experts in online course development identify the need for a strong network of individuals who have an understanding of the many aspects associated with creating and instructing online courses (Caplan, 2004). This development team network involves an instructional designer or designers who define what online course participants will learn. Also included in this network is a subject matter expert or a group of experts. The subject matter expert(s) identifies, creates, and ensures material included in the course content appropriately provides an alternative to content typically given in a traditional, lecture course. To do this, the subject matter expert(s) must continually be involved in

the course development process and align the course goals and objectives with the assignments, readings, and other exercises. Due to the technical complexity associated with online courses, web developers are necessary to show the course instructor examples of the various types of content and interactive options available. Associated with the web development is an individual who is knowledgeable about graphic design, because educational material online largely relies on clear, visual design. Lastly, an individual who has the knowledge and skills to create online tools that enable interactivity among course participants and the instructor is an important component in the course development network (Caplan, 2004).

All of the necessary individuals that are included in a strong course development network have been involved in the development of the course “Making EE Relevant for Culturally Diverse Audiences.” This network consists of members from the Design Team and Review Team, the online course manager, and UW-SP’s information technology support.

VII. ENVIRONMENTAL EDUCATION AND CULTURAL DIVERSITY

The underrepresentation of culturally diverse participants in EE has been a recognized issue for many decades (Rideout, 2000). This lack of diversity and inclusivity is present at an organizational and movement-wide scale (Enderle, 2007). As one researcher states, “You can risk alienating students with no depictions of people like themselves; who receive an unintended message that they do not fit in; or who simply do not understand the culture-specific terms, gestures and sounds you infuse into the lesson” (Peters, 1997-1998). The statement holds much significance, because if EE is neglecting to reach culturally diverse audiences it is simultaneously excluding a large portion of the

population and critical environmental topics associated with these audiences. Culturally diverse groups will become more involved in EE if the curriculum is more appropriate to their lives and approaches issues in a manner that is aware of and sensitive to cultural perspectives associated with the environment (Lewis and James, 1995).

Environmental educators must be cognizant of the important role that culturally diverse groups have historically played in the development of EE. Further, environmental educators must be knowledgeable about the vital influence that culturally diverse groups should currently have when building a culturally inclusive EE organization through their programs, outreach, and partnerships. In *A Guide to Curriculum Planning in Environmental Education*, Engelson and Yockers (1994) state that during "...the development and implementation of EE programs and in the selection of materials, all students should be able to see that people of all races, genders, religions, ages, and ethnicities, have contributed to the field of EE." Despite the need to be culturally inclusive, the environmental movement as a whole is doing a poor job of connecting to culturally diverse audiences (Bonta and Jordan, 2007).

a. EE and Cultural Diversity Research

The need to understand and integrate a diversity of cultural systems in EE is vital while working toward solving environmental problems. Recent research focusing on the demographics of most environmental organizations, known as the "Ecological Base" of the United States and constituting 10% of the population, exemplifies how disproportional the environmental movement has become in regards to the actual demographics of the United States. Specifically, within the Ecological Base, "89% of the members are white, 82% are older than 35, 78% have attended some college, and 26%

make more than \$80,000 per year” (Bonta and James, 2007). These figures do not proportionally align with the population of the United States, and emphasize the need for EE to reach a larger portion of the country’s population. Research focusing on intra and intercultural relationships in EE is becoming more and more popular because “environmental educators are increasingly viewing people and diversity among cultures as a critical part of understanding the ecosystem and encouraging preservation” (Matthews, 1994).

Several reasons have been identified that attempt to explain why culturally diverse groups tend to participate less in EE programs. However, according to Lewis and James (1995), many of the reasons are misconceptions and the researchers try to correct these falsities. One misconception is that people of color do not have an interest in issues relating to the environment because people of color have a lower participation and donation rate to environmental organizations. However, taking into consideration the socioeconomic factors of certain cultural groups is necessary before generalizing that there is a lack of environmental concern or interest. Many researchers have found that the accuracy and validity of measuring environmental dispositions increases when studies that pertained to peoples’ overall interest in the environment is measured instead of specific issues that are often not applicable to all people, like donations and memberships (Noe & Snow, 1990).

An incorrect assumption is that people of color have not historically been involved in environmental issues, and therefore do not think they should be today. Environmentalism has its roots in a diverse array of cultures and the idea that primarily one cultural group initiated environmental ideologies is false (Burton, 2007). For

example, a segregated African American unit from the United States Calvary, nicknamed the “Buffalo Soldiers,” rarely receives credit for their significant contributions in protecting the land that is now Yosemite National Park before the park service existed (Lewis and James, 1995). Further, Lewis and James (1995) emphasize the often forgotten contributions that people of color have made for the environmental movement when describing a historical fight against pollution:

Three days after Silent Spring was published, a group of Latino farmworkers gathered for the charter meeting of the AFL-CIO to discuss what could be done to fight the use of DDT in the fields, which was causing skin rashes, dizziness, respiratory ailments, miscarriages, birth defects, cancer, and deaths. This struggle is rarely recognized within environmental histories.

It is important that environmental educators recognize the historical significance of cultural diversity in EE and develop curriculum that is interesting and pertinent on a universal level.

Another inaccurate conclusion is that people of color are uninterested in EE careers. In fact, almost 400 people concerned about the environment attended the National People of Color Summit in 1991 and there are currently about 200 environmentally focused groups involved in the People of Color Environmental Group Directory (Matthews, 1994; Running Grass & Agyeman, 2002). The focus at the second National People of Color Summit in 2002 was the importance of environmental justice and the need for a diversity of cultural perspectives in EE. Assuming that people of color are uninterested in environmental issues leads to a narrow concept of EE, “...environmental content and pedagogies which don't reflect multiple cultural perspectives, reinforce limited concepts of ‘the environment’ and environmental protection, and circumscribe and legitimate a limited environmental discourse will not

produce empowered and informed students, graduates and environmental leaders”
(Running Grass & Agyeman, 2002).

EE, as commonly taught, does not appeal to all people because the needs of many culturally diverse people often are not addressed. In an attempt to fix this problem, some people believe that environmental educators should bring environmental messages to people from a variety of cultural backgrounds. However, culturally diverse populations do not need an environmental message brought to them, because they already understand it and have played an important role in the formation of the ideologies of environmentalism. Instead, environmental educators should develop inclusive curriculum that recognizes this role (James, 1993; Lewis & James, 1995). After several studies, James (1996) identified the main reasons why culturally diverse groups tend to participate less in EE, these barriers include:

- EE as a traditionally white field
- Differences in cultural norms
- Perception that most environmental organizations lack cultural differences
- Perception that cultural diversity is not on an organization’s agenda

Additional research has focused on the lack of culturally diverse participants at nature centers. After studying the cause of low participation levels of Hispanic people at a nature center in Minnesota, Hong and Anderson (2006) state, “If environmental educators continue to cater only to White people, they run the risk of becoming obsolete. More importantly, educators who do not reach vital segments of the U.S. population will fail in their mission of creating an environmentally literate populace.”

The scope that EE curriculum encompasses is far too narrow and focuses primarily on flora, fauna, or natural history (Kahn and Friedman, 1998). Although people from all cultures are interested in such topics, they are not relevant to a large portion of society, most notably, people living in inner city settings. Often absent from EE curricula are the issues that inner city residents identify as being most relevant to them, which include air and water quality as well as garbage and litter. Inner city residents identify pollution and social violence as the main characteristics making it difficult for residents in urban settings to go outside in their backyards or to area parks to experience and appreciate the topics generally covered in EE. In addition, Mohai (2003) found that Blacks are more concerned about their local environment, which “correlates with the poorer environmental quality found in Black neighborhoods. Neighborhood environmental problems, such as high noise levels, abandoned houses, trash, litter, rats, roaches, or other pests were cited as among the most important environmental problems facing the country by 26 percent of Blacks surveyed compared to only 3 percent of whites.” This research emphasizes the affects of poor environmental quality and its disproportionate impacts on people of color or of reduced economic means.

Studies have demonstrated that all people, regardless of race or socioeconomic status, show concern for environmental issues and interest in EE. For example, a 2002 exit poll survey for a California bond issue for water quality enhancement and open space protection showed 77% of Blacks, 74% of Latinos, and 60% of Asians voted “yes,” compared to only 56% of Whites (Bonta and Jordan, 2007). Furthermore, one study asked Black parents of schoolchildren who live in an economically impoverished, inner city setting to rank the importance of EE. The average ranking given by the parents is 8.7

on a scale of one to ten, ten being most important (Kahn & Friedman, 1998). Overall the parents showed a “rich appreciation for nature and moral responsiveness to its preservation” (Kahn & Friedman, 1998). The idea of living in harmony with nature is something that all of the parents in the study think of as an important concept. Harmony refers to acting upon nature, experiencing nature, being in the right state of mind with nature, being in balance with nature, and respecting nature. However, EE curriculum is generally not included in their children’s schooling because it is often not relevant to their lives in the city. The researchers emphasize that EE curriculum must expand and incorporate pertinent issues, such as air and water quality and garbage issues. Experiencing pristine natural areas does have great benefits in developing sensitivity to the environment, however EE curriculum should help children understand and improve the environmental issues that are present in their daily lives.

Culturally appropriate curriculum for inner city, urban settings is necessary to appeal to over half of the population in the United States. To develop appropriate curriculum environmental educators need to understand urban residents’ relationship with nature in the context of the social and physical issues present in the environment in which they live, and build on these relationships to foster sound EE for these communities. As the president of the North American Association of Environmental Education (NAAEE) stated, “If we take seriously the Tbilisi challenge of preparing citizens to work together to solve and prevent environmental problems, we certainly cannot limit ourselves to science and nature, nor to serving only the people in power. Environmental issues will not be resolved without equal attention to economic development and social justice” (Monroe, 2007).

Indigenous American cultures, encompassing approximately 500 ethnically diverse American Indians groups that include almost three million United States citizens, are also underrepresented in EE (U.S. Census, 2006; Pewewardy et al., 2003).

Traditionally, these cultures have strong foundations in sound environmental values and practices through nature based spirituality, myths, and tribal community (Matthews, 1994). These Indigenous American cultures can contribute a wealth of knowledge regarding environmental issues by including traditional wisdom and many ideas of sustainable choices and natural resources (Matthews, 1994; EETAP, 1996). EE should not only appeal to these cultural groups, but also try to incorporate some of their traditional beliefs (Pewewardy et al., 2003).

Pewewardy et al., (2003) emphasizes the importance of these cultures by stating, “Native American perspectives on learning promote developing a contemporary and culturally based approach to the teaching of environmental education. This process of education is well grounded in the basics of interrelationships between humans and nature.” The strong environmental themes and sustainability models that are inherent in the Indigenous American cultures are an important reason to widen the scope of EE curricula.

Environmental education, and the environmental movement as a whole, will benefit from adapting more culturally inclusive practices at a systemic level. First, many people will profess that diversifying is the ethical action to take. As Peter Forbes, Executive Director of the Center for Whole Communities states, “We have a moral responsibility and higher standard of fairness to meet because our work is about something that is important as the land. Because of our success and maturity as a movement, we have a moral responsibility now to think and act differently” (Bonta and

Jordan, 2007). Along with an ethical rationale, reasons that are more pragmatic exist for refocusing EE to become a more culturally inclusive field.

As previously stated, the population of people of color in the United States is growing, so too is their influence on environmental laws and policies. By creating EE that is relevant to people of color, the environmental movement will expand its constituency base, experience an increase in public support, attract more members and volunteers, create more substantial partnerships, and receive higher amounts of financial support (Bonta and Jordan, 2007). These benefits ultimately lead to greater support for EE, which will contribute to helping environmental educators achieve the main goal of EE by increasing environmental literacy among all people.

Lastly, environmental organizations will be more effective if they have a culturally diverse workforce because individuals will have a wider array of experiences to draw upon and offer ideas from. This will contribute to more creative problem-solving and strategic planning, as well as developing a broader network within the community.

There is not a specific checklist that an environmental organization can use to measure how culturally inclusive it is. Instead, as Bonta and Jordan (2007) state, “Diversity needs to be interwoven throughout organizational operations, such as programs, projects, initiatives, mission and policy statements, recruitment, staff retention, partnerships and collaborations, outreach, and work experience for young people.” They recommend that an organization determine where they currently stand on diversity issues, what needs to be accomplished, and what goals it has by conducting an organizational diversity assessment with an expert in organizational cultural diversity. Through identifying organizational needs, individuals within the organization can also begin to

push forward on diversity issues by focusing their programs and projects as well as professional development opportunities on becoming more relevant for culturally diverse audiences.

The new online course, “Making EE Relevant for Culturally Diverse Audiences” enables course participants to help their environmental organizations become more culturally inclusive.

b. Intercultural Sensitivity and Cultural Competency

Misconceptions about other cultures and their environmental ideologies ultimately lead to presumptions, misunderstandings or myths of an entire culture in general (Kat, 2002). However, before an individual can understand the authenticity of other cultures’ perspectives of the environment, it is vital for that individual to develop a clear comprehension of how one’s own culture affects their own environmental viewpoints. Once an individual realizes the relationships between culture and the environment, they then have the awareness to begin developing intercultural sensitivity towards others’ environmental perspectives. Intercultural sensitivity is a stage an individual goes through when developing cultural competence. Cultural competency is “the ability to work effectively across cultures. For individuals it is an approach to learning, communicating, and working respectfully with people different from themselves” (Olsen, 2006). Bennett (1993) describes the following developmental stages that an individual goes through when they are developing intercultural sensitivity: I. Denial of Difference, II. Defense Against Difference, III. Minimization of Difference, IV. Acceptance to Difference, V. Adaptation to Difference, VI. Integration of Difference. Bennett (1993) describes these stages and the cognitive and affective processes one must undergo when transforming

from the first, ethnocentric stage to the last, ethnorelative stage. Upon reaching the final stage, an individual can learn about and understand the authenticity of other cultures and their environmental viewpoints. This process ultimately leads to the practice of cultural competency.

Cultural competency is a necessary characteristic of both individuals and EE organizations to have in order to provide EE programs that are inclusive for culturally diverse audiences. To begin developing individual cultural competency, people must first place themselves in context of their own culture and then they will be able to see other cultures clearly (Bennett, 1997). Once individuals recognize how they are operating in a specific culture, they can begin to see other peoples' culture as variation, not deviation. Individual cultural competency is necessary for staff members to acquire before organizations can begin moving toward a culturally inclusive organization. Organizations that practice culturally competent policies and programs develop mechanisms that cultivate the process of learning and continually adapt how the organization operates to ensure that it is inclusive, effective and appropriate to diverse populations. Angela Park, founder and director of Diversity Matters, a nonprofit organization that strives to work with and aid environmental and social change leaders and organizations to make diversity foundational in their operations, stresses the need for cultural competency. Park (2007) states, "Diversity, inclusion, and cultural competence need to become major priorities at the organizational level if environmental and social change movements are to marshal the innovation, creativity, and expansive reach necessary to handle the complexity and scope of environmental challenges." Cultural

competency is not a destination that an individual or an organization can arrive at, but it is a process of learning about his or her own culture and other cultures.

“Making EE Relevant for Culturally Diverse Audiences” will focus on concepts such as intercultural sensitivity and individual and organizational cultural competency as a way to strengthen the course participants’ knowledge and skills in modifying and creating EE programs that are sensitive and inclusive to a variety of cultural perspectives.

c. Relationships and Partnerships

Included in the practices of a culturally competent organization is the development and maintenance of relationships and partnerships with other individuals and organizations in the community. These relationships are necessary because “to truly be effective, conservation and environmental education programs must be tailored to the realities of local people and communities” (Horwich & Lyon, 1995). In 2002 the Environmental Protection Agency (EPA) created a resource entitled, “Community Culture and the Environment: A Guide to Understanding a Sense of Place.” The guide includes five steps organizations can follow to develop cultural competency through assessing the needs of the local community. The guide describes the following steps in detail:

- Step 1. Conduct Pre-Project Planning
- Step 2. Define Goals and Community
- Step 3. Identify Community Characteristics
- Step 4. Identify Assessment Methods
- Step 5. Analyze Results

Content included in the course “Making EE Relevant for Culturally Diverse Audiences” will introduce the necessity of partnerships and relationships to the course participants and it will provide the tools and an opportunity to apply them in their profession.

d. Environmental Justice

Another prominent topic that is gaining recognition in EE is environmental justice. Environmental justice is the equal treatment of people regardless of their race, ethnicity, and socioeconomic group (EETAP, 1999). This equality refers to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. Furthermore, environmental justice ensures that no groups of people are unequally subject to negative outcomes of industrial, municipal, and commercial enterprises. Often times, EE messages do not include issues of “race, class, gender, social inequality, or social justice in environmental debates or in attempts to educate people about the environment” (Taylor, 1996). Environmental justice topics shift the focus of EE from primarily ecological concepts to messages that include social and political dimensions as well (Hungerford & Volk 1990).

Environmental justice issues need to be intrinsically involved in curricular goals of EE in order to reach many diverse audiences. Often times EE predominately applies to white, middle class citizens by placing a large emphasis on rural and natural settings. Although such settings are important in EE, a more holistic approach that addresses issues affecting a diversity of audiences is needed as well (EETAP, 1999). As Taylor (1996) states, “If students do not understand or relate to the materials being taught, they are not engaged by it and can become alienated...This being the case, students of color or

poor students wanting to learn about the environment have had to divorce themselves from their surroundings and familiar experiences to do so.” Focusing on diverse audiences and environmental issues that are relevant to all people ensures that all individuals will have the knowledge to minimize their environmental impact as well as be informed and motivated to be involved with political issues regarding the environment. Regularly incorporating environmental justice topics into EE will result in a more culturally inclusive curricula, because the concept of environmental justice does not encompass an isolated issue, but instead incorporates a combination of environmentally sustainable, socially just, and economically sound policies and behaviors.

e. Future

In order for environmental educators to understand the need to make EE relevant to diverse audiences, they must first be aware of the issue and have the knowledge and skills to implement changes in their teaching methods and increase cultural inclusiveness into their curricula. As Kato (2002) suggests, environmental educators must have an understanding of EE that “establishes the importance of developing cross-cultural awareness in environmental discourse as a way of providing alternatives to mainstream viewpoints.”

Researchers are suggesting that by increasing the diversity of those involved with the planning and development of EE curricula, important topics will be addressed that are more relevant to diverse audiences (Matthews, 1994; Lewis & James, 1995 & Taylor, 1996). Environmental issues affect all members of society, and in order for EE to accurately reflect this “environmental educators must encourage racial and ethnic diversity in their ranks and work together to address the environmental issues of all racial,

ethnic, and cultural groups” (Matthews, 1994). Research shows an underrepresentation of many cultural groups throughout the country in EE, and one researcher stresses the need to recognize and utilize the diversity of cultures and their knowledge and experience relating to the environment rather than focusing on their underrepresentation in EE programs (Agyeman, 2003).

The online course “Making EE Relevant for Culturally Diverse Audiences” is a mechanism for training environmental educators to develop EE that is applicable to a diversity of audiences.

VIII. EVALUATION OF “Making EE Relevant for Culturally Diverse Audiences”

Comprehensive evaluations are effective tools for analyzing the quality and effectiveness of a course, to measure to what degree the course objectives have been met, and to provide information on possible improvements for the course (Lockee, Moore, & Burton, 2002; Belanger & Jordan, 2000). Evaluation is generally divided into two main categories, formative and summative. Both evaluation techniques are utilized in evaluating the course “Making EE Relevant for Culturally Diverse Audiences.”

a. Formative and Summative Evaluations

Formative evaluation serves to provide feedback for the course designers during its development. In regards to course design, data collected from formative evaluations provide course designers with information they can utilize to improve the course prior to its implementation. The formative evaluation for courses that are administered online focus on two main categories, the instructional design, which includes the course content, and the navigability of the course website (Lockee, Moore, & Burton, 2002).

Conducting summative evaluations for online courses after the completion of the course are a way to measure if the course is successful at reaching its objectives and goals (Belanger & Jordan, 2000). Unlike the formative evaluation that was completed by the design and review committees, course participants completed a summative evaluation of the course.

The summative evaluations utilized for “Making EE Relevant for Culturally Diverse Audiences” focused on performance outcomes and implementation concerns (Lockee, Moore, & Burton, 2002). The performance outcomes refer to areas of knowledge, skills, and attitudes, whereas the implementation concerns deal with faculty delivery and course structure. The fall 2008 and spring 2009 course instructor, researcher, and Design Team reviewed the data collected from the summative evaluations before implementing changes for future offerings of the course. Specifically included in the summative evaluation is information pertaining to the performance of the instructor, course content, organizational aspects of the course, and demographics of the individual students (Benigno & Trentin, 2000).

Developing “Making EE Relevant for Culturally Diverse Audiences” as an online course provides nonformal environmental educators and natural resource professionals with a practical mechanism for participating in in-service training. Recognizing and incorporating topics applicable to diverse audiences in EE curricula is a timely undertaking that will be beneficial for advancing the field of EE. Utilizing a formative evaluation and a summative evaluation provided useful feedback that helped with administering changes to the course content and helped improve its quality and effectiveness.

b. Pretest/Posttest Questionnaire

Pretest and posttest questionnaires are evaluation tools that can be used to measure the effect that a course has on the participants. The pretests were administered to measure what the treatment group (course participants) and control group (non-course participants) knew in regards to course content prior to its offering, while the posttest provides data that can be analyzed to determine what the treatment group learned as direct result of participating in the course. Pretest and posttest questionnaires allow for the comparison of the treatment group with the control group in relation to their knowledge of the course content.

The questionnaire design is a critical aspect of the evaluation process, and its construction and administration must be done accurately and effectively in order to provide credible data for analysis. With all types of questionnaires it is important to be “concise and unambiguous, avoid double questions, avoid questions involving negatives, ask for precise answers, and avoid leading questions” (Burgess, 2001). Web-based questionnaires have unique characteristics that are necessary to take into consideration during the design process. Due to the non-verbal aspect of web-based questionnaires, the visual design can influence response and non-response rates as well as the responses themselves, and therefore careful design planning is necessary. Several researchers have identified guidelines for web-based questionnaires: (Gunn, 2002; Dillman & Bowker, 2001; Frary, 1996). A summary of these guidelines follows:

- Use a welcome screen that is motivating, that emphasizes the ease of responding, and that shows respondents how to move to the next page.

- Have the first question fully visible on the first screen, and ensure that is easy to understand and applies to all respondents.
- Use a conventional format similar to a paper questionnaire.
- Limit line length.
- Provide instructions for the necessary computer actions, i.e., erasing radio buttons, drop-down menus, and clearing open-ended questions.
- Do not make it necessary for respondents to answer each question before going on to the next one.
- Use a scrolling design that allows respondents to see all questions unless skip patterns are important.
- Make sure that all responses can be displayed on one screen, using double rows if necessary and navigational aids to achieve this.
- Exercise caution with question structures that are known to have measurement problems in paper surveys, such as check-all-that-apply and open-ended questions.

Sound results are dependent upon the validity and reliability of any research tool.

Validity refers to the extent to which a specific research instrument measures what it intends to measure (Leedy & Ormond, 2005). Equally important is the reliability, or the consistency with which the measuring tool yields a particular result when the measured entity has not changed. Together, the validity and reliability of the questionnaire reflect the degree to which the data contain error and therefore the extent the data can be used to interpret a particular phenomenon.

Threats to the validity and reliability of a questionnaire include measurement error and non-response error (Dillman & Bowker, 2001). Measurement errors in web-based questionnaires are the result of incorrect responses due to poor wording and “survey mode effects and/or some aspect of the respondents’ behavior” (Dillman & Bowker, 2001). Non-response errors occur when course participants do not respond to the questionnaire, thereby causing inaccurate data that do not reflect all of the course participants’ thoughts regarding the course.

Completing a pilot test of a questionnaire helps to reduce measurement error. Pilot testing provides feedback regarding the measurement tool and its use, as well as how relevant the questions were that it asked (Trochim, 2006). Second, the expectations for the course participants must be thoroughly explained and understood so they are not inadvertently introducing error. Last, statistical procedures are helpful and provide a numerical adjustment for measurement error.

Non-response errors can be drastically reduced if the researcher follows the following suggestions (Leedy & Ormrod, 2005):

- Consider the timing. Administer the questionnaire at an appropriate time.
- Make a good first impression.
- Motivate the potential respondents. The cover letter should stress the concerns of the recipients.
- Offer the results of the study.

- Be gently persistent. Follow-up with additional reminders to course participants who do not respond to the initial questionnaire.

Web-based questionnaires do have unique advantages. Primarily, the speed at which responses are received is increased and data are more efficiently processed because they can be directly downloaded to a database (Couper et al., 2000; Dillman, 2000). Also, because web-based surveys are self-administered, the respondents can take as much time as they deem necessary for its completion.

Unique characteristics of web-based questionnaires also create disadvantages when attempting to evaluate the quality and effectiveness of an online course. Dillard (2006) identifies these problematic characteristics:

- The availability of time, expertise, and design validation during the development of the questionnaire.
- The possibility of misinterpretation of the questions.
- Non-response can alter the data.
- The data and results are dependent upon the quality of the measurement tool.
- Creating a control group may be difficult.

Measuring the statistical significance of the results helps to evaluate the meaningfulness of empirical research. Statistically significant results represent a study in which the null hypothesis can be rejected (Leedy & Ormrod, 2005). However, many researchers that include quantitative measurements in their study attempt to extract more

meaning from their results by utilizing additional statistical operations. These operations include measuring the effect size (ES) (Thompson, 1994). The ES measures the size of the experimental effect, and allow for a magnitude comparison of experimental treatments between experiments (Thalheimer & Cook, 2002). Social science journals are beginning to require that “all statistical significance tests be accompanied by effect size estimates,” and social science experts advise ES accompany all quantitative analyses estimates (Daniel, 1998).

This study measures the ES using Cohen’s *d* statistical method. Cohen’s *d* method is one of the most highly used statistical analyses for calculating ES, and therefore it is most applicable to other studies (Thalheimer & Cook, 2002). Cohen’s *d* is the difference in the means between a control group and a treatment group divided by the standard deviation of either group when the standard deviation from either group is homogenous. According to Cohen (1988), there are three definitive categories of *d* values. A small effect occurs if $d \leq 0.2$, a medium effect is if $.02 \leq d \leq 0.5$, and a large effect is if $d \geq 0.8$.

This study also incorporates statistical methods that measure the reliability and significance of the results within the treatment and control group results as well as between the two groups. The Kuder-Richardson 20 analysis is a test that measures the internal consistency of the multiple-choice items included in the pretest and posttest questionnaire. Independent and dependent t-tests measure the level of significance for the data by comparing the pretest and posttest results completed by the treatment and control groups. The comparison determines whether there is a statistical significance between

the mean of the treatment group and control group, and a value of $p < 0.05$ is the predetermined level of significance.

Finally, this study uses the Reliability-Corrected Analysis of Covariance method to determine the inter-group variance associated with the covariates of the data (Becker, 2001). Again, the significance value is $p < 0.05$, and the covariant measured is the pretest scores while the dependent variable is the posttest scores.

This study also incorporates qualitative data through open-ended questions from the pretest and posttest questionnaire. An analysis of the responses gathered was completed using content analysis. According to Stone et al. (1966), "Content analysis is any research technique for making inferences by systematically and objectively identifying characteristics within text." In particular, a concept from words and phrases within a text is identified and quantified by recording how often it occurs. As Neuendorf (2002) states, A content analysis has as its goal a numerically based summary of a chosen message set." Human content analysis and computer content analysis exist, whereby researchers are the coders or a computer system is programmed to examine content within text. The researcher in this study conducted human content analysis.

Evaluating "Making EE Relevant for Culturally Diverse Audiences" provides essential feedback regarding the course. Through the application of questionnaire methods the course instructor, course participants, and the control group will provide responses pertaining to the effectiveness and quality of course delivery. This information will aid in the ongoing development, implementation, and revision of the course.

IX. SUMMARY

Referring again to the Belgrade Charter, “environmental educators seek to aid in the development of a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones” (Belgrade Charter, 1976). Nonformal environmental educators and natural resource professionals can expand their vision of EE to include a world population by increasing their own knowledge, skills, and intentions to reach more culturally diverse audiences. The course “Making EE Relevant for Culturally Diverse Audiences” will provide effective training for EE professionals. The implementation of valid and reliable evaluation techniques will contribute to developing an effective course.

CHAPTER THREE METHODS

I. INTRODUCTION

The purpose of this study was to develop an online course entitled “Making EE Relevant for Culturally Diverse Audiences” and evaluate its effectiveness at increasing treatment group participants’ knowledge, skills, and intentions to utilize the information they acquire from the course. A Design Team developed the course during the fall of 2007 and the spring of 2008 and a Review Team provided feedback for revisions prior to the first course offering. Treatment group participants (course participants) completed questionnaires that evaluate the content and structure of the fall 2008 and spring 2009 courses. Treatment group participants also completed a pretest and posttest Knowledge Test and Self Assessment to measure whether or not the course increased their knowledge and skills about reaching culturally diverse audiences more effectively in EE. Non-course participants also completed the pretest and posttest questionnaires during the fall 2008 semester to represent a control group and provide a comparison for the study.

II. TIMELINE

2007-2008

September – August	Begin planning for course development
November	Design Team members contacted
December	Design Team Conference Call
January	Design Team Development Meeting
January – March	Course Development and Writing
March – April	
April – June	First Revision Process
July – August	Course Setup in D2L
September	Fall 2008 Course Offering

2008-2009

December-January	Fall 2008 Pilot Course Evaluations Compiled and Reviewed
January-February	Second Revision Process
February	Spring 2009 Course Offering
April-May	Spring 2009 Course Evaluations Compiled and Reviewed
May and June	Third Revision Process

III. FALL 2007, SPRING 2008, and SUMMER 2008 COURSE DEVELOPMENT

a. Development of “Making EE Relevant for Diverse Audiences”

The Development of “Making EE Relevant for Culturally Diverse Audiences” began in January 2008. A Design Team was hired with funds provided by the Environmental Education and Training Partnership (EETAP). The Design Team consisted of four environmental educators and the researcher. The Design Team first discussed the general outline and design of the course during a conference call on December 18th, 2007. Throughout the entire course development process a total of eight conference calls took place (Appendices A. – F.). The Design Team met January 11th – 13th, 2008 to develop an initial framework for the course, and each member was designated a particular content area to develop. After the first draft of the course was developed a formative evaluation of the course was conducted by the Review Team for the study. The Design Team reviewed the revision recommendations from the Review Team and the researcher implemented the appropriate modifications to the course content.

b. Framework

The framework of the course is modeled after NAAEE’s *Guidelines for the Excellence* (NAAEE II, 2000). Curricular materials align with the *Guidelines* in this document and include readings, assignments, and discussion topics.

<u>Unit</u>	<u>Title</u>	<u>Unit Author</u>
	“Making EE Relevant for Culturally Diverse Audiences”	
Unit One		Ms Mara Koenig
Unit Two		Ms Teresa Mourad
Unit Three		Dr. Sabiha Daudi

c. Initial Design

The course was developed using the computer program, Microsoft Expression Web and it was transmitted in University of Wisconsin – Stevens Point’s (UW-SP) online course platform, Desire2Learn (D2L). To keep the design simple, features such as chat rooms and movies were not included in the initial design.

D2L contains features such as Content, Discussions, Dropbox, Classlist, and Grades. Within the Content section are the units, syllabus, assignments, due dates, and additional resources that include relevant articles and websites.

d. Design Team

Recruitment for the Design Team members occurred in the fall of 2007. During this time five members were asked and accepted the invitation to participate in the development of the course. The Design Team included the researcher and:

- Dr. Augusto Medina, EETAP Project Manager and the “Making EE Relevant for Culturally Diverse Audiences” course instructor during the fall 2008 and spring 2009 course offerings
- Dr. Sabiha Daudi, Assistant Professor of Environmental Education in the Department of Teaching and Learning at Northern Illinois University
- Ms Teresa Mourad, Education Director for the Ecological Society of America and co-chair of the NAAEE Diversity Committee
- Ms Mara Koenig, Visitor Services Specialist at the Minnesota River Valley National Wildlife Refuge

The Design Team developed the content and structure of the course as well as reviewed the evaluations and implemented necessary revisions for the fall 2008 and spring 2009 courses.

e. Review Team

A Review Team was formed during the course development process to review the initial draft of the course and provide feedback for revisions. These individuals include:

- J. Allen Johnson, Executive Director of the Race Relations Council, a member of NAAEE’s Diversity Committee, and former chair of the Environmental Justice Commission in NAAEE
- Dr. Doug Forbes, UW-SP Associate Professor of Sociology
- Dr. Julian Agyeman, Tufts University Arts, Science, and Engineering Associate Professor and Chair of Urban and Environmental Policy and Planning

- Dr. Richard Wilke, UW-SP Distinguished Professor of Environmental Education and EETAP Project Director

f. Review Team Recommendations

The researcher compiled a draft of the pilot course that was created by the Design Team. The draft was designed as a formative evaluation and was sent to the Review Team so they could provide input and improve the quality and effectiveness of the course during the course development process. The Review Team included their suggestions throughout the draft version of the course and described their overall reaction to the course content and structure. After receiving the recommendations for the draft course content from the Review Team members, the researcher compiled the recommendations into one document and sent them via email to the Design Team, which included the course instructor, to review (Appendix G.). The results of the Review Team’s formative evaluation of the draft course were utilized by the Design Team and researcher to revise and improve the course before it was offered for the first time.

IV. FIRST DRAFT COURSE REVISION PROCESS

a. First Draft Course Revision Process Timeline Spring and Summer 2008

April 14	Draft of Reading, Assignment, and Activity sections sent to Review Team
April 28	Review Team members submitted their revisions to the researcher
March	The researcher compiled the Review Team suggestions and emailed the document to the Design Team
March 1 – 3	The Design Team discussed the changes during a series of three conference calls
June	The edited versions of the units were sent to the researcher
July – August	The pilot course was set up in Microsoft Expression Web by the researcher

b. First Revision

The first revisions were completed by the Design Team and researcher prior to the implementation of the pilot course. The first revision process included a series of three conference calls with the Design Team based on the input from the Review Team in the draft course formative evaluation, as well as discussions that occurred between Design Team members during the calls (Appendix D.). The necessary revisions were implemented by the Design Team members and their respective course units as well as the researcher, and the changes that were made aimed to adequately improve the content while keeping the workload of the course within its designated credit hours.

V. FALL 2008 AND SPRING 2009 EVALUATIONS

a. Fall 2008 and Spring 2009

The course “Making EE Relevant for Culturally Diverse Audiences” was first offered as a pilot course in the fall of 2008 from September 2nd – November 6th. It was offered for the second time during the following spring 2009 semester from February 2nd – April 10th.

During the fall 2008 semester pretest and posttest Knowledge Test and Self-Assessments were completed by the treatment group participants (fall 2008 course participants) and the control group participants (non-course participants). For the spring 2009 semester only the treatment group participants completed the pretest and posttest. These tests were administered before and after the fall 2008 and spring 2009 semesters to provide a comparison of the knowledge, skills, and attitude changes between the two groups before and after the course was administered. The treatment group from both

semesters evaluated the course content and structure in a Course Evaluation at the end of each semester. The course instructor also evaluated the course content and structure both semesters. The pretest and posttest Knowledge Test and Self-Assessment, Course Evaluation, and the instructor's evaluation provided data to evaluate the course's effectiveness. The evaluations were reviewed by the course instructor, Design Team, Revision Team, and researcher.

b. Participant Questionnaires

The final assignment for the course participants was to complete a Course Evaluation questionnaire that was created on the SelectSurvey online database and was located in the "Making EE Relevant for Culturally Diverse Audiences" website in the Desire2Learn platform (D2L) (Appendix H.). The questionnaire was an evaluation tool that measured the quality and effectiveness of the course. Once the participants completed the questionnaire it was submitted to a secure Microsoft Excel workbook maintained by the researcher.

c. Questionnaire Design

The researcher designed the Course Evaluation questionnaire during the spring and summer of 2008. Language included in the questions attempted to measure if the course objectives were successfully achieved. The following topics were included in the questionnaire:

- Questions 1 - 13: "Overall Course Structure" – eight Likert scale questions (e.g., Strongly Agree, Agree, Somewhat Agree, Neutral, Somewhat, Disagree, Strongly Disagree) and five open-ended responses asked if the treatment group participants believe that their knowledge and skills about cultural diversity in EE

increased, and if they intend to implement their new knowledge and skills as a result of what they learned from the course

- Questions 14 – 22: “Instructor Evaluation” – Eight Likert scale questions and one open-ended response asked the treatment group participants to provide rate and provide feedback regarding the course instructor. These results are not presented for reasons of confidentiality
- Questions 23 - 38: “Background Information” – 16 Yes/No, multiple choice, and open-ended questions asked the participant’s name, occupation, job title, audience demographics and numbers, and marketing ideas

The researcher developed the initial questionnaire content and design based on the questionnaire format included in Jennifer Dillard’s Master’s thesis project, “The Evaluation and Revision of an Online Course Entitled ‘Applied Environmental Education Program Evaluation’.” Dr. Richard Wilke reviewed the first draft and the researcher implemented the necessary revisions. After the first revision process, the questionnaire was sent to an outside validity panel. Experts involved with the validity panel included:

- Dr. Lynette Fleming, “Applied EE Program Evaluation” Online Course Instructor and Evaluation Specialist
- Dr. Daniel Sivek, UW-SP Professor of Environmental Education
- Dr. Doug Forbes, UW-SP Associate Professor in Sociology
- Dr. Richard Wilke, UW-SP Distinguished Professor of Environmental Education and EETAP Project Director
- Dr. Augusto Medina, EETAP Project Manager and “Making EE Relevant for Culturally Diverse Audiences” Online Course Instructor

After review by the validity panel, the researcher implemented the final revisions to the Course Evaluation questionnaire. The Validity Panel's review is included in Appendix I. The final draft was submitted to the Institutional Review Board (IRB) at UW-SP.

Once the IRB reviewed and approved the Course Evaluation questionnaire, it was created in webpage format by the researcher using SelectSurvey. Check boxes were utilized for the Likert scale questions, text boxes were available for the open-ended questions and Multiple-choice and Yes/No questions were included in the design. After the Course Evaluation questionnaire was created it was posted in the D2L platform in the "Content" section of the course, and it was accessible to the treatment group participants once they reached the final unit of the course. Submitted questionnaires were directly recorded in the SelectSurvey online database account that was available only to the researcher.

i. Subjects

Participants that completed the fall 2008 "Making EE Relevant for Culturally Diverse Audiences" course were administered the Course Evaluation questionnaire immediately upon completion of the course. Participants enrolled in the pilot course for either one undergraduate credit, one graduate credit, or for a non-credit workshop option.

ii. Collection of Data

The Course Evaluation was the final assignment that the participants were asked to complete. A reminder of the evaluation was posted by the researcher in the "News" section of the course (Appendix J.). Once all preceding assignments were completed, the participants were able to access the evaluation by clicking on the "Course Evaluation" link in the last unit of the "Content" section. The course evaluation results were

automatically recorded into a database in SelectSurvey that was accessible only to the researcher.

Validity of data can be compromised when participants do not respond to the evaluation. In order to address the issue of non-response, the researcher emailed the treatment group participants who did not complete a course evaluation and asked them to finish and submit the evaluation (Appendix K.). Names of all participants were deleted from the Microsoft Excel Workbook file once the follow-up emails were sent to non-responders to respect and maintain participants' privacy.

iii. Treatment of Data

Numerical values were used to code the response choices included in the Likert scale questions: 7 = Strongly Agree, 6 = Agree, 5 = Somewhat Agree, 4 = Neutral, 3 = Somewhat Disagree, 2 = Disagree and 1 = Strongly Disagree. The frequency and mean were then calculated for the given Likert scale values. The frequency of the Multiple-choice and Yes/No questions was also calculated. Responses to open-ended questions were recorded and provided in an evaluation report that was given to the Design Team during the review process.

b. Instructor Evaluation

During a phone call the course instructor and the researcher discussed possible course revisions after the first offering of the fall 2008 pilot course. The course instructor and the researcher discussed the following concepts during the phone call:

- What they think worked
- What they think did not work
- What were the outcomes in relation to the intended outcomes

- What strategies would they implement in future courses based on their recommendations for the course

The course instructor and the researcher also discussed the course participant course evaluation report and decided upon what revisions were necessary to implement prior to the spring 2009 course based on the instructor's experience teaching the course and the researcher's experience managing the course. The revisions were shared with the Design and Review Team via email for further recommendations and implemented during January 2009 (Appendix L.).

After the spring 2009 course the course instructor and researcher reviewed the results from the spring 2009 evaluations and decided what changes were necessary to complete prior to the summer 2009 offering.

VI. PRETEST AND POSTTESTS FALL 2008 AND SPRING 2009 KNOWLEDGE TEST & SELF ASSESSMENT

The purpose of the pretest and posttest was to determine whether or not. The "Making EE Relevant for Culturally Diverse Audiences" course had an effect on participant knowledge, skills, and intentions to utilize the information. The pretest was administered to the treatment group and control group participants prior to the implementation of the fall 2008 course and only to the treatment group prior to the spring 2009 course. The posttest was administered to both groups after the fall 2008 course and the treatment group after the spring 2009 course (Appendix M. and Appendix N.).

a. Instrument Design

The pretest and posttest was developed by the researcher. The tests included multiple choice, Likert-scale and open-ended questions that addressed each of the unit objectives that were established by the Design Team during the course development.

Each multiple choice question had one correct answer. Likert-scale questions were used to measure the extent to which the treatment group participants agreed with certain statements and how frequently they considered issues related to culturally diverse audiences when creating EE programs. The pretest and posttest also included open-ended question that attempted to determine the treatment group participants' and control group participants' level of knowledge of concepts related to culturally diversity and EE, if the treatment group participants' intentions to act have changed, and to what degree they have changed as a result of participating in the course.

The first draft of the pretest and posttest was reviewed for feedback and revision recommendations. The second draft of the pretest and posttest instrument was given to the Validity Panel for additional revision (Appendix O.). A final version of the pretest and posttest was presented for approval to the IRB as a way to assure it complies with UW-SP's standards before it was included in the course.

After the IRB review the pretest and posttest instrument was created as a web page in SelectSurvey.

b. Treatment group participants

The fall 2008 course was marketed online through the EETAP website and email in the spring of 2008 and summer of 2008 (Appendix P.). The treatment group participants consisted of 25 individuals who are natural resource professionals, non-formal environmental educators, and graduate students. Throughout the semester, five individuals dropped the course due to a high workload in their careers, health issues, or other personal issues. The spring 2009 course was marketed in the same way as the fall course, online through the EETAP website and via email during the fall of 2008. At the

beginning of the spring 2009 semester the treatment group participants included 25 individuals who are natural resource professionals and non-formal educators. However, through the course of the semester seven treatment group participants officially withdrew from the course or unofficially withdrew by discontinuing their participation.

The pretest was a voluntary option for the treatment group participants, but they were encouraged to participate for the purpose of the research study. Participants were asked to participate in the posttest, but again, their participation was not a requirement. These individuals received the email letters introducing the study as the fall 2008 treatment group did.

c. Control Group

Control group participants were selected by the researcher using a list compiled by the UW-SP Extension Office. The list included individuals who have expressed interest in taking EE online courses. Individuals that have participated or were currently participating in EETAP's online courses were taken off the list by the researcher.

During the fall of 2008 there were 54 individuals who completed a pretest and 36 who completed a posttest, which was the final number of non-participant control group members. As an incentive to participate in the study, control group members were given a stipend of \$50.00 that they could apply toward the course fee of another online course through EETAP if they completed the pretest and posttest. The fall 2008 control group results were used as a comparison for the spring 2009 treatment group data also due to the difficulty the researcher had in getting a sufficient number of individuals to participate in the control group for the study.

d. Data Collection

Treatment group participants (course participants) and control group participants (course non-participants) were selected in a non-randomized fashion because it was not possible to randomly select and assign the participants in this study. Due to the non-randomized design the investigation process used in this study is quasi-experimental. The treatment group participants and control group participants received the same pretest prior to the implementation of the fall 2008 course (Appendix M.). The same posttest was administered to both groups after the completion of the fall 2008 course (Appendix N.). The spring 2009 treatment group participants were also administered the same pretest prior to the start of the spring course. However, due to low response numbers in the fall, a new control group was not contacted for the spring semester. Results from the pretest and posttest were collected and analyzed by the researcher.

The pretest and posttest were administered via email to the treatment group (Appendix Q.). A link to the pretest and posttest were included at the end of the email. A link to the pretest was also included in the Course website in the “News” section (Appendix R.). Once the links were opened there was a consent disclaimer and the questionnaire could be accessed by scrolling down after the consent disclaimer. All of the questionnaire results were automatically recorded in the SelectSurvey database and analyzed in a Microsoft Excel Workbook file that was accessible only to the researcher in a private folder.

Participants who did not respond effect the validity of data collection. In order to attend to the issue of non-response, the researcher emailed the treatment group participants who did not complete the pretest and posttest and asked them to complete

and submit the questionnaire (Appendix S. and Appendix T.). Participants' names were deleted from the Microsoft Excel Workbook files once all of the follow-up emails were sent to non-responders to respect and maintain participant privacy. If a course participant chose to not participate in both the pretest and posttest they were deleted from the study.

Once three follow-up emails were sent to all of the treatment group participants and control group participants who did not complete the pretest and posttest questionnaire the researcher disabled the link from the course webpage.

Control group participants were administered the same pretest at the same time as the treatment group participants via an email message. The email message contained a cover letter that explained the test and research study and asked them for their participation. A link was located at the bottom of the cover letter page, and if they agreed to participate in the research they clicked on the link that connected them to the questionnaire. The results were recorded the same way they were for the treatment group (Appendix U.).

The posttest was administered to the control group in the same format, with the exception of a different cover letter and different non-responder email (Appendix V. and Appendix W.). After completing the posttest Knowledge Test and Self-Assessment the control group participants were allocated their \$50.00 voucher. A list of the control group participants was sent to the UW-SP Extension Office at the end of the fall 2008 course.

e. Treatment of Data

The pretest and posttest results were analyzed by the researcher using a variety of statistical methods. The Kuder-Richardson 20 (KR-20) was used to measure the internal

consistency of the data acquired from the multiple-choice questions. Each question was coded a value of either 0 for an incorrect answer or 1 for a correct answer. The closer the coefficient reliability is to 1.0, the greater the internal consistency of the test items. Research studies are considered reliable if the KR-20 is 0.7 or greater. The KR-20 statistical method is used in this study because the data were scored dichotomously.

The Reliability-Corrected Analysis of Covariance (ANCOVA) method is used to determine the inter-group variance associated with the covariates of the data (Becker, 2001). For this test $p < 0.05$ was the predetermined level of significance, and the covariant measured is the pretest scores. There is a possibility for bias associated with using the Reliability-Corrected ANCOVA method in the quasi-experimental research design that characterizes this study. Specifically, a reduction of the slope of the regression line may occur due to the group nonequivalence and pretest measurement error. To remedy this error, the KR-20 statistical method was used to calculate the mean of the pretest scores and balance out the pretest measurement error.

Independent and dependent t-tests were used to measure the level of significance for the data. Independent and dependent t-tests provide a comparison of the pretest and posttest results completed by the treatment and control groups. The comparison determined whether or not there was a statistical significance between the mean of the treatment group and control group. For this test $p < 0.05$ was the predetermined level of significance. The Statistical Package for the Social Sciences (SPSS) was used to complete ANCOVA and t-test statistical analyses.

Next, a statistical analysis was used to calculate the Effect Size (ES). ES were calculated by the researcher in a Microsoft Excel Workbook. First, Cohen's d was

determined from calculating independent t-tests. Next, if there was a significant difference between the treatment group and the control group the ES method was utilized to measure the practical significance.

Average percentile standings were used to interpret the ES of the treatment group relative to the control group using the mean of both groups (Becker, 2001). An ES of 0.0 reveals that the mean of the treatment group is at the 50th percentile of the control group. An ES of 0.8 reveals the treatment group is at the 79th percentile of the control group, and an ES of 1.7 reveals that the mean of the treatment group is at the 95.5th percentile of the control group.

Qualitative data also were included in the research through open-ended items from the pretest and posttest questionnaires. These data were analyzed using the conceptual analysis method of content analysis. Human content analysis was the method used, as the researcher was the coder for the open-ended response text. The responses were first examined by the researcher and concepts were chosen from the text using word phrases. Next, the responses were analyzed to examine the frequency that identified concepts occurred. Finally, the concepts with similar themes were grouped into larger categories and the frequency of each concept was combined within the larger category (Neuendorf, 2002).

In an attempt to make the analysis as valid and reliable as possible, the researcher created a set of codes that were used throughout the process of examining the responses to maintain consistency. These codes were recorded in a Microsoft Excel spreadsheet, and used to create the concepts and categories. Also, the researcher did not attempt to

construct theories of phenomena. Instead, the researcher only interpreted the data based on the content alone.

Once the open-ended responses from the treatment and control groups were put into categories the results were basic univariate frequencies. These frequencies are presented in bar graphs that are included in Chapter 4.

VII. SECOND COURSE REVISION FALL 2008

a. Second Revision Timeline

Email sent to an email list of possible control group participants that asked them to be participate in the study and complete the Pretest Knowledge Test and Self-Assessment	August 15 th , 2008
Email sent to the treatment group participants with a link to the Pretest Knowledge Test and Self-Assessment	August 15 th , 2008
News posting in D2L with a link to the Pretest Knowledge Test and Self-Assessment	September 2 nd , 2008
A second email sent to possible control group participants that asked them to be participate in the study and complete the Pretest Knowledge Test and Self-Assessment	September 2 nd , 2008
News posting in D2L with a link to the Course Evaluation questionnaire	October 29 th , 2008
Email sent to the treatment group with a link to the Posttest Knowledge Test and Self-Assessment	November 7 th , 2008
Email sent to the control group with a link to the posttest Knowledge Test and Self-Assessment	November 7 th , 2008
Email sent to the control group participants who did not complete the Posttest Knowledge Test and Self-Assessment	November 20 th , 2008
Email sent to the treatment group participants who did not complete the Knowledge Test and Self-Assessment Posttest or Course Evaluation	November 20 th , 2008

Second email sent to the treatment group participants who did not complete the Posttest Knowledge Test and Self-Assessment or Course Evaluation	December 5 th , 2008
Second email was sent to the control group participants who did not complete the Posttest Knowledge Test and Self-Assessment	December 5 th , 2008
Course instructor and researcher discussed course revisions during a phone call	December 17 th , 2008
A list of the revisions to be made to the pilot course were sent to the Design and Review Teams	December 18 th , 2008
Revisions made to the pilot course	December 19 th , 2008 – January 2009

b. Second Revision

The second revision occurred after the first offering of the fall 2008 pilot course and the third revision occurred after the spring 2009 course. The revisions were based on the treatment group participants' Course Evaluation questionnaire results, the treatment group and control group pretest and posttest Knowledge Test and Self-Assessment Results, as well as the course instructor and course manager's ideas after experiencing the fall and spring courses.

As part of the revision process after the fall 2008 course offering, the researcher and the instructor discussed the evaluation results during a conference call and decided on what revisions were necessary to implement to improve the quality and effectiveness of the spring 2009 course (**Appendix L**).

VIII. THIRD COURSE REVISION SPRING 2009

a. Third Revision Timeline

Email and News posting in D2L with a link to the Posttest Knowledge Test and Self-Assessment and Course Evaluation questionnaire was sent to the treatment group participants	April 3 rd , 2009
Email sent to the treatment group participants who did not complete the Posttest Knowledge Test and Self-Assessment or Course Evaluation	April 17 th , 2009
Second email sent to the treatment group participants who did not complete the Posttest Knowledge Test and Self-Assessment or Course Evaluation	May 1 st , 2009
Course instructor and researcher discussed course revisions during a phone call	May 7 th , 2009
A list of the revisions to be made to the pilot course were sent to the Design and Review Teams	May 7 th , 2009
Revisions made to the spring 2009 course	May and June 2009

b. Third Revision

The third revision process followed the same methodology as the second revision process. After the spring 2009 offering, the researcher and the instructor discussed the evaluation results during a conference call and decided on additional revisions to make after to the course prior to its implementation in the summer 2009 semester (Appendix AA).

The revision processes aimed to continually improve the content, structure, and overall outcomes of the offering of the “Making EE Relevant for Culturally Diverse Audiences” online course.

CHAPTER FOUR RESULTS

The purpose of this study was to create, implement, evaluate, and revise the new online course, “Making EE Relevant for Culturally Diverse Audiences.” Presented in this chapter are the results of summative and formative evaluation tools that were implemented during the fall 2008 and spring 2009 semesters. These evaluation tools include the course participant Course Evaluation and the course participant and non-course participant Pre-and Posttest Knowledge Test and Self-Assessment questionnaires. These tools enabled the researcher to measure whether or not the course participants’ knowledge, skills, and intentions to act increased as a result of participating in the online course.

I. DRAFT COURSE FIRST REVISION

Design Team members worked with the researcher to create an initial draft of the course goals, content, and structure. The draft course was completed in April 2008 and at this time sub-problem two was addressed that focused on developing the course. Next, Review Team members reviewed the draft course and individually included their recommendations for revising the draft version, thereby helping to fulfill sub-problem three that included the first revision process.

Overall the Review Team members found the course to be a well-designed course and provided insightful suggestions for editing the course, all of which were considered by the Design Team during a series of conference calls. As one Review Team member stated, “I am very impressed with the overall feel and content of your proposal...I was very pleased with the breadth of exposure for students. Well done” (Appendix G.).

Review Team members did identify several issues that referred to the logistical aspects of the draft course set-up as well as the overall content and message. Two logistical issues were that the draft course had a heavy work load given that it was only one undergraduate and graduate credit, and also it lacked a differentiation between undergraduate and workshop student assignments and graduate student assignments. Both issues were taken into account by the Design Team, but due to administrative regulations on new courses being offered through the University of Wisconsin – Stevens Point (UW-SP), the course was not changed to a two credit course until the summer 2009 offering. However, the Design Team did decrease the number of tasks in two large assignments for the undergraduate and workshop students, thereby addressing the heavy work load as well as the need to include additional work for graduate students in the course. Also, smaller-scale logistical revisions included the addition of specific terminology and definitions used throughout the course. All suggestions were implemented by the Design Team during the first revision.

The course content and overall messages being conveyed were the next items dealt with by the Design Team in response to the Review Team's recommendations. The first item addressed was that the course assignment descriptions were worded in a way that assumed the course participants were currently working at an environmental organization. This assumption largely excludes undergraduate and graduate students, because they typically do not work for an organization while they are completing their degrees. The language in several assignment descriptions was edited to apply to individuals who may not be part of an environmental organization.

One overall message unintentionally portrayed through the content was that addressing environmental justice issues and environmental health concerns was the answer to making environmental education (EE) relevant for culturally diverse audiences. The Design Team did not aim to give this message, but instead they wanted to use environmental justice and environmental health concerns as a portal for broadening the scope of what many people typically identify as EE. Content included in the unit descriptions was revised to explicitly point out that environmental justice issues are just one avenue to take when creating culturally inclusive curriculum. The concept of environmental justice was introduced in Unit Two and revised to state, “In this assignment, you are encouraged to expand your understanding of EE. The readings introduce concepts of environmental justice (EJ), which raises issues of power, environmental racism, and disproportionate impacts into our discussion. What have these ideas to do with EE? In this assignment, you will have the opportunity to consider how EJ can be one way to work with audiences that might not otherwise find EE relevant” (MEER Unit 2.1, 2009). This description addresses environmental justice as one way to making EE more inclusive for culturally diverse audiences.

A second recommendation regarding the course content was to require the course participants to meet with a member of their intended audience to participate in a face-to-face meeting to gain insight into what their intended audiences’ needs were. Given that this course is administered completely online to individuals that are located throughout the United States and world, including this requirement poses many difficulties and ensuring that they completed this task is impossible. Further, based on the Environmental Education and Training Partnership’s (EETAP) other three online courses, the vast

majority of the course participants are taking the EETAP courses as in-service training in conjunction with a fulltime job, and requiring a face-to-face meeting may be too unrealistic given their work schedule. Instead, a face-to-face meeting was highly suggested in the following assignment description in Unit Two: “... One of the methods you select must include a personal interview method with three selected members of your audience either by phone or in person. If the selected audience is in your local area, we strongly encourage you to conduct in-person interviews” (MEER Unit 2.1, 2009).

Lastly, the final change recommended for the draft course by a Review Team member focused on the lack of any mention of the leading role that developed countries play in contributing to environmental pollution on a global level. Again, the Design Team agreed that this was a valid point and is an important aspect of understanding diverse viewpoints of the environment. However, due to the short, ten week timeframe of the course and the fact that the work load was to be kept to one credit, adequate space for the topic was not present in the course structure and it could not be included in course content. The Review Team’s individual comments from the first revision process can be found in Appendix G.

All of the revisions implemented during the first revision process were focused on the quality of the content and the ease at which it was delivered.

II. FALL 2008 AND SPRING 2009 PRETEST AND POSTTEST KNOWLEDGE TEST AND SELF-ASSESSMENT QUESTIONNAIRE

Prior to the fall 2008 offering of the “Making EE Relevant for Culturally Diverse Audiences” course a pretest questionnaire was sent to the treatment group and control group. The questionnaire consisted of 38 items that included multiple-choice, Likert

scale, and open-ended questions. The multiple choice and open-ended questions were used to measure the two groups' knowledge of cultural diversity and EE issues. The Likert scale questions were self – assessments that rated the extent to which individuals agreed or disagreed with particular statements or the frequency they addressed concepts regarding cultural diversity and EE. When the course ended, a posttest questionnaire that included the same questions in the same format was distributed to both groups to measure if the treatment groups' knowledge and ratings increased as a result of participating in the new online course during the fall 2008 and spring 2009 semesters. The treatment group results are presented separately in groups by the fall 2008 and spring 2009 semesters as well as in a pooled treatment group that combines both semesters.

a. Reliability Statistics Results

The reliability of the Knowledge Test and Self-Assessment pre-and posttest questionnaire multiple-choice section was measured by using the Kuder-Richardson 20 (KR-20) test. The multiple-choice section of the pre-and posttest was dichotomously scored (0 for incorrect and 1 for correct), and the KR - 20 test calculated the reliability coefficient of the pre-and posttest. Because the multiple-choice items were given incorrect or correct values, the Cronbach's alpha test was used to measure the internal consistency. Cronbach's alpha is most often used to measure items that generally fall along a continuum, like rating items such as the Likert scale system, but the test also works with dichotomous data and it produces the same results as KR-20.

Table 1. Cronbach's Alpha and Kuder-Richardson 20 Reliability Coefficients

	N of Items	Cronbach's Alpha	Kuder-Richardson 20
Pretest Fall 2008	18	.808	.808
Posttest Fall 2008	18	.981	.981
Pretest Spring 2009	18	.823	.823
Posttest Spring 2009	18	.981	.981
Pretest Pooled	18	.791	.791
Posttest Pooled	18	.980	.980
<i>Note: A minimum reliability of .70 is required for research purposes.</i>			

A KR-20 and Cronbach's alpha value of .808 for the fall 2008 pretest indicates that the variability of the questionnaire is about 80% true ability and 20% error. The fall 2008 posttest KR-20 and Cronbach's alpha coefficient of .981 indicates that the variability is about 98% true ability and 2% error. The KR-20 and Cronbach's alpha value of the spring 2009 pretest is about 82% and the posttest is about 98%. When the treatment group participants from the fall 2008 (n =17) and spring 2009 (n =14) semesters are pooled, the KR-20 and Cronbach's alpha value for the pretest is 79% and the posttest is about 98%. The population size (N) indicates the number of multiple choice questions, which were 18 for both the fall 2008 and spring 2009 semesters. The treatment group and control group responses were combined for the KR – 20 and Cronbach's alpha test, and the number of individuals who responded to each question ranged from 50 to 54 in the fall 2008 tests, and 47 to 51 in the spring 2009 tests. When individuals did not respond to an item the response was not included in the data to maintain accuracy of the results.

b. Pretest and Posttest Knowledge Test and Self-Assessment Results

The pretest and posttest Knowledge Test and Self-Assessment questionnaire was administered to the control group before and after the fall 2008 offering of the course.

Thirty-six control group participants completed both the pretest and posttest questionnaires, and were therefore included in the study. The same questionnaires were administered to the treatment group prior to and after the fall 2008 and spring 2009 courses. The response rate for the control group was 69% with 37 out of 54 participants who submitted their pretest also submitting their posttest questionnaire. The response rate for the fall 2008 offering for the treatment group was 94% with 17 out of 18 participants, and the response rate for the spring 2009 offering of the treatment group was 78% with 14 out of 18 participants who submitted their pretest also submitting their posttest questionnaire. The pooled treatment group response rate is 86% with 31 out of 36 participants who submitted their pretest and posttest questionnaire.

Both descriptive and inferential statistical tests were used to analyze the results from the pretest and posttest questionnaires. The descriptive statistical tests included means, standard deviations, and percentages from the data. Inferential statistics were used to show that the probability of the differences shown in the results were either dependable and due to the treatment or not dependable and a result of chance. The inferential statistical tests that were completed by the researcher included t-tests for independent and dependent variables, the effect size using the t-test values, and the Reliability-Correlated ANCOVA model.

1. Mean and Standard Deviation Results

Fifteen multiple-choice questions provided mean scores data that show a gain in the pooled treatment group's mean scores from the pretest scores to the posttest by 2.13 points, increasing from 4.87 to 7.00 total mean points. There is a statistically significant difference between the pooled treatment group's multiple choice pretest and posttest

scores ($p = .005$). There is a statistical difference between the control group and pooled treatment group posttest scores, indicating that the treatment group's knowledge increased to a statistically significant degree after taking the course.

Table 2. Means and Standard Deviations Results From Pretest and Posttest Knowledge Scores by Condition

Condition	Mean Scores		Gain	SD	
	Pretest	Posttest		Pretest	Posttest
Control – Fall 2008	5.92	5.29	-.63	1.90	2.08
Treatment – Fall 2008	4.94	7.12	2.18	2.14	2.12
Treatment – Spring 2009	4.43	6.86	2.43	2.38	1.70
Treatment Pooled (Fall 2008 & Spring 2009)	4.87	7	2.13	2.01	1.91

Note: Knowledge scores ranged from 1 – 10.

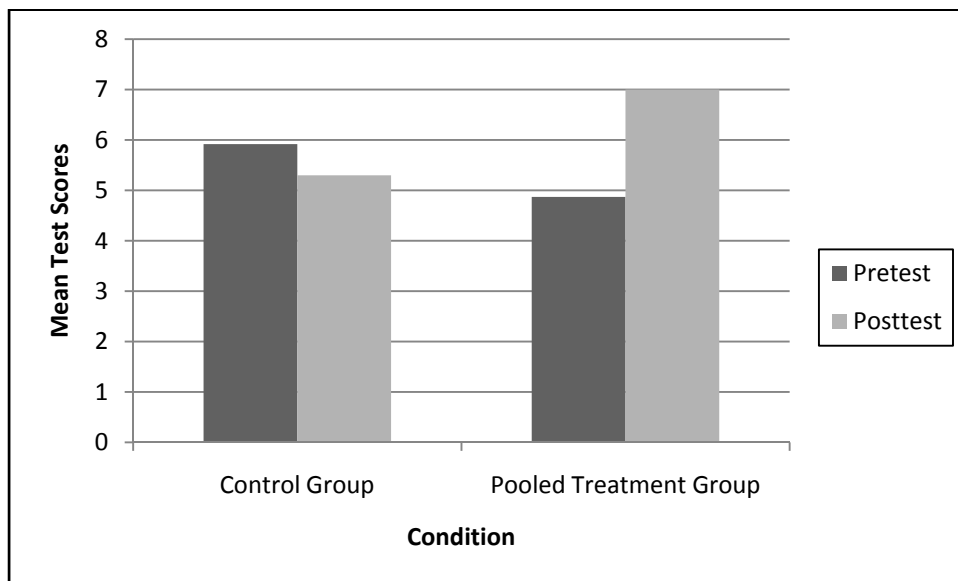


Figure 1. Total Mean Scores for Fall 2008 and Spring 2009 (Pooled) Treatment Group and Control Group Pretest and Posttest Knowledge Test and Self-Assessment Questionnaire

2. Dependent and Independent Sample t-test Results

T-test scores were calculated by the researcher using both dependent and independent variables. Two-tailed sample dependent t-test scores measured the

significance between the pretest and posttest scores within the treatment group and the control group. A statistically significant difference (Fall 2008: $p = .007$; Spring 2009: $p = .002$; Pooled: $p = .000^*$) was found between the pretest and posttest scores in the treatment group during the fall 2008 semester and the spring 2009 semester, and no statistically significant difference was found between the pretest and posttest scores within the control group during the fall 2008 semester ($p = .194$). Results of the dependent sample t-tests are shown in Table 3.

Table 3. Dependent Sample t-Test Results from Pretest and Posttest Knowledge Scores by Condition

Condition	Pretest		Posttest		t	n	p
	M	SD	M	SD			
Control – Fall 2008 (n =37)	5.92	1.89	5.29	2.08	1.32	36	.194
Treatment – Fall 2008 (n =17)	4.94	2.14	7.12	2.12	-3.10	16	.007
Treatment – Spring 2009 (n =14)	4.43	2.38	6.86	1.70	-3.77	13	.002
Treatment – Pooled (n =31)	4.87	2.01	7.00	1.91	-4.507	30	.000*

Note: Knowledge scores ranged from 6.67 – 66.7 %. *2-tailed paired t-test ($\alpha = 0.05$, $p < 0.05$)

Independent sample t-tests were also calculated by the researcher to measure whether or not the difference shown between the pretest and posttest scores has a significant probability that can be attributed to the treatment opposed to other compounding variables. A statistical difference (Fall 2008: $p = .004$; Spring 2009: $p = .016$; Pooled: $p = .001$) was found between the control group and treatment group's posttest scores during the fall 2008 and spring 2009 offerings, indicating that the

treatment group's knowledge increased to a statistically significant degree after taking the course. These results are included in Table 4.

Table 4. Independent Sample t-Test Results From Posttest Knowledge Scores

Posttest	Condition	n	Mean Difference	df	t	p
Fall 2008	Control	37				
	Treatment	17				
	Equal variances assumed		-1.87%	52	-3.025	0.004
Spring 2009	Control	37				
	Treatment	14				
	Equal variances assumed		-1.56%	49	-2.502	0.016
Fall 2008 & Spring 2009	Control	37				
	Treatment Pooled	31				
	Equal variances assumed		-1.70%	66	-3.485	0.001
<i>Note: *2-tailed paired t-test ($p < 0.05$)</i>						

3. Effect Size Results

An Effect Size was calculated to measure how effective the treatment was. An ES of 1.02 was calculated for the fall 2008 treatment group, which places the mean of the treatment group in the 85th percentile. This indicates that the mean of the treatment group is at the 85th percentile of the control group. An ES of .448 was calculated for the spring 2009 treatment group, placing this group in the 67th percentile. When the fall 2008 and spring 2009 treatment groups were combined, an ES of .478 was calculated, placing the pooled treatment group in the 69th percentile. An ES of 0.33 was calculated for the control group, placing the mean for this group in the 63rd percentile, indicating that the mean of the control group is at the 63rd percentile of the treatment group.

4. Reliability-Corrected ANCOVA Results

A Reliability-Corrected ANCOVA test was done by the researcher to test the probability that the statistical significance shown between the treatment group pretest and posttest scores is attributable to the treatment (taking the course) instead of chance. The function of this test is to equalize the difference in pretest scores between the treatment group and control group in order to compare the posttest performance for both groups. The Reliability-Corrected ANCOVA test shows a statistical significance in the fall 2008 course offering with a significance value of .007. The spring 2009 treatment group ANCOVA test showed a significance of .026. When both the fall 2008 and spring 2009 treatment groups were combined the pooled value is statistically significant with $F = 4.005$ and the value of $p = .05$ for $df = 1, 68.$, indicating that there is a statistical difference between the treatment group and control group knowledge test scores and it is significant after covarying the pretest scores for the fall 2008 and spring 2009 course offerings. The control group's knowledge test scores decreased from the pretest to the posttest, whereas the treatment group's scores increased from the pretest to the posttest during the fall 2008 and spring 2009 semesters.

The scatterplots visually represent the ANCOVA results (Figure 2). An increase in test scores from the pretest to the posttest within the pooled treatment group represents a positive correlation among the data. The positive correlation is depicted through a regression line with a positive slope, which shows the expected result of a posttest score based on a pretest score. From this positive linear relationship, it can be deduced that posttest scores are expected to increase from the pretest scores within the treatment group. A negative correlation and negative linear relationship is shown within the control

group's data because overall the posttest scores decreased from the pretest to the posttest. It should be noted that this negative relationship is not significant as previously indicated from the dependent sample t-tests ($p = .194$).

Table 5. Reliability-Correlated ANCOVA for Between-Subjects Effects

Source	<i>df</i>	F	Significance
Pretest (Covariate)	1	.335	.565
Fall 2008 Condition (Control vs. Treatment)	1	7.941	.007
Spring 2009 Condition (Control vs. Treatment)	1	5.261	.026
Condition (Control vs. Treatment Pooled)	1	4.005	.05

Note: Posttest score was the dependent variable, pretest knowledge was the covariate. Conditions were fixed factors. Fall 2008: $F(1, 10) = 7.94$; Spring 2009: $F(2, 9) = 5.26$; Pooled: $F(1, 10) = 4.005$, $*p < 0.05$.

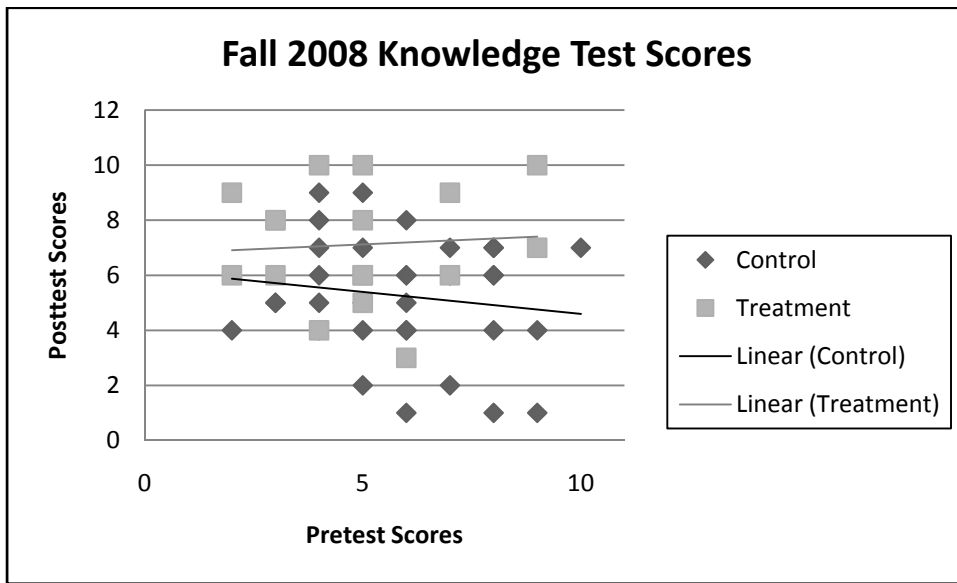


Figure 2. Fall 2008 Scatterplot with Adjusted Means

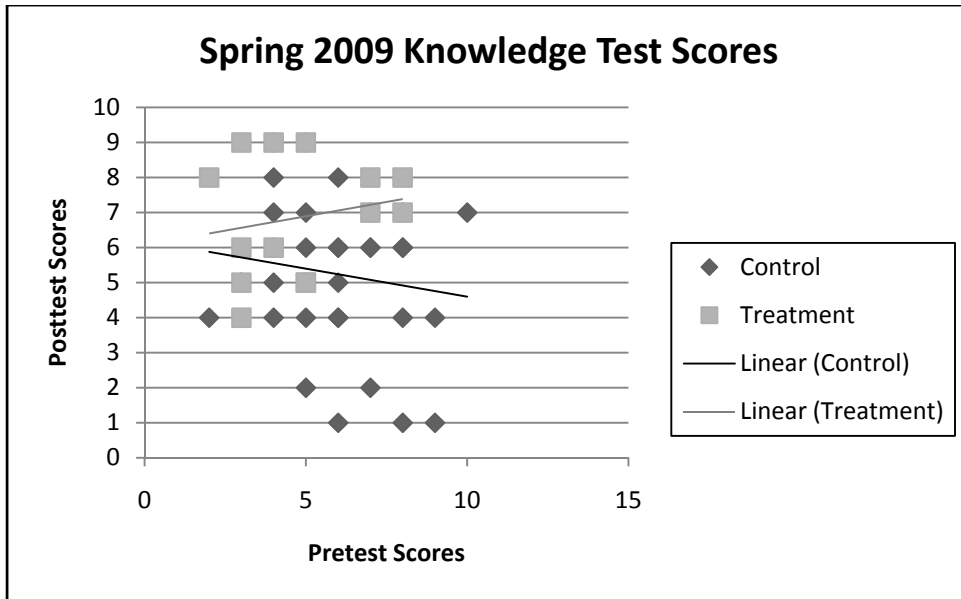


Figure 3. Spring 2009 Scatterplot with Adjusted Means

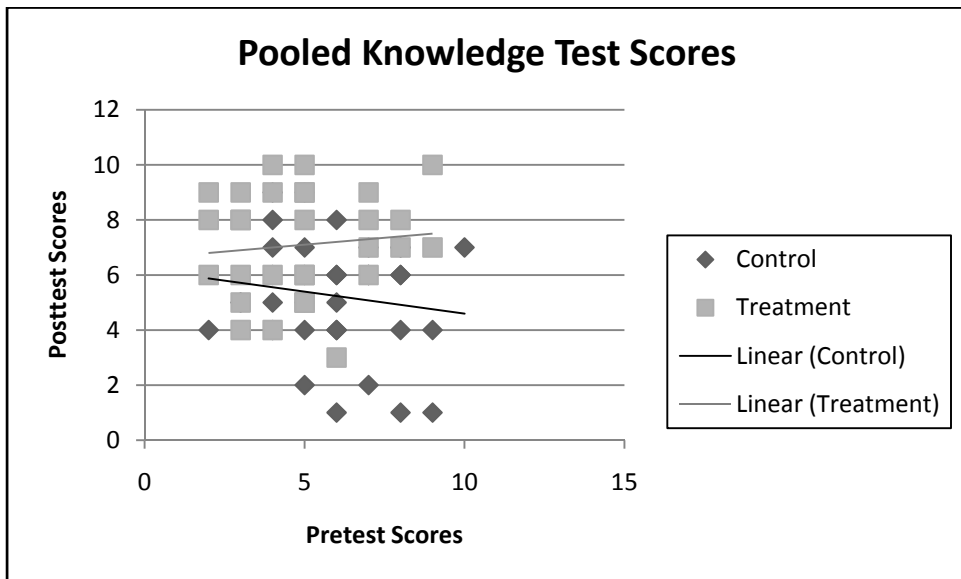


Figure 4. Pooled Scatterplot with Adjusted Means

5. Confidence and Frequency Likert-Scale Items

The pretest and posttest Knowledge Test and Self-Assessment included Likert scale items that measured confidence levels, including 7 = Strongly Agree, 6 = Agree, 5 = Somewhat Agree, 4 = Neutral, 3 = Somewhat Disagree, 2 = Disagree, 1 = Strongly Disagree (Table 6). Ordered choice items were also used to measure frequencies, and

included 7 = Always, 6 = Almost Always, 5 = Frequently, 4 = Sometimes, 3 = Infrequently, 2 = Almost Never, 1 = Never (Table 7).

Table 6. Control Group Mean and Standard Deviation of Ordered-Choice Pretest and Posttest Knowledge Test and Self-Assessment

Item	Control Group (n = 36)	
To what extent do you agree or disagree with the following statements...		
26. I have the ability to assess the cultural barriers within myself and my organization that are hindering my intended audience from participating in environmental education.	Pretest	Posttest
	M = 4.42 SD = 1.38	4.62 1.42
27. I am able to apply cultural competency skills in building relationships and partnerships with members of my intended audience.	Pretest	Posttest
	M = 4.81 SD = 1.24	4.51 1.48
28. I am able to interpret the key characteristics of quality environmental education resources and programs in relation to my intended audience.	Pretest	Posttest
	M = 5.17 SD = 1.42	5.06 1.31
29. I am able to modify and create environmental education resources and programs that are inclusive and relevant to culturally diverse audiences.	Pretest	Posttest
	M = 4.97 SD = 1.30	4.76 1.32
30. I am able to motivate culturally diverse audiences to participate in environmental education.	Pretest	Posttest
	M = 4.50 SD = 1.59	4.42 1.65
Using the scale provided, please rate each statement by choosing the response that best describes your perspective of yourself.		
31. I recognize that there are cultural differences, but still feel that human beings are essentially the same and/or should conform to a standard acceptable behavior.	Pretest	Posttest
	M = 4.41 SD = 1.58	4.19 1.47
32. When planning and implementing programs, I take into account changing demographics in my community and modify the approaches I use to better meet the needs of the audience.	Pretest	Posttest
	M = 4.86 SD = 1.31	4.78 1.17
33. I try to recognize the multidimensional nature of individuals to avoid simplistic assumptions.	Pretest	Posttest
	M = 5.32 SD = 1.09	5.29 .926
34. I consider the relevance of environmental education programs by examining the customs, values, language, perceptions, socio-economic level, and accessibility of our facility to the different target populations I want to serve.	Pretest	Posttest
	M = 4.55 SD = 1.33	4.62 1.11

35. I try to acknowledge different viewpoints, suspend judgment and avoid the tendency to label unfamiliar ideas, and see new information and insights as another valued perspective.	Pretest	Posttest
	M = 5.55 SD = .937	5.41 .798
36. I actively seek out new information to test my assumptions and minimize the chance of misunderstandings.	Pretest	Posttest
	M = 5.00 SD = 1.22	4.86 1.22
37. When I interact with someone that has a different perspective than mine, I feel that both of our perspectives are valid.	Pretest	Posttest
	M = 5.27 SD = 1.00	5.43 .929

Table 7. Treatment Group Pooled Mean and Standard Deviation of Ordered-Choice Pretest and Posttest Knowledge Test and Self-Assessment

Item	Pooled Treatment Group (n = 31)	
To what extent do you agree or disagree with the following statements...		
26. I have the ability to assess the cultural barriers within myself and my organization that are hindering my intended audience from participating in environmental education.	Pretest	Posttest
	M = 4.94 SD = 1.44	5.81 .591
27. I am able to apply cultural competency skills in building relationships and partnerships with members of my intended audience.	Pretest	Posttest
	M = 4.71 SD = 1.48	5.87 .718
28. I am able to interpret the key characteristics of quality environmental education resources and programs in relation to my intended audience.	Pretest	Posttest
	M = 5.06 SD = 1.39	5.83 .919
29. I am able to modify and create environmental education resources and programs that are inclusive and relevant to culturally diverse audiences.	Pretest	Posttest
	M = 4.65 SD = 1.40	5.90 .893
30. I am able to motivate culturally diverse audiences to participate in environmental education.	Pretest	Posttest
	M = 4.61 SD = 1.38	5.19 .997
Using the scale provided, please rate each statement by choosing the response that best describes your perspective of yourself.		
31. I recognize that there are cultural differences, but still feel that human beings are essentially the same and/or should conform to a standard acceptable behavior.	Pretest	Posttest
	M = 3.77 SD = 1.41	3.42 1.26
32. When planning and implementing programs, I take into account changing demographics in my community and modify the approaches I use to better meet the needs of the audience.	Pretest	Posttest
	M = 4.55 SD = 1.10	4.94 .759
33. I try to recognize the multidimensional nature of	Pretest	Posttest

individuals to avoid simplistic assumptions.	M = 5.19 SD = .930	5.32 .963
34. I consider the relevance of environmental education programs by examining the customs, values, language, perceptions, socio-economic level, and accessibility of our facility to the different target populations I want to serve.	Pretest	Posttest
	M = 4.52 SD = 1.27	4.94 1.22
35. I try to acknowledge different viewpoints, suspend judgment and avoid the tendency to label unfamiliar ideas, and see new information and insights as another valued perspective.	Pretest	Posttest
	M = 5.39 SD = .904	5.71 .727
36. I actively seek out new information to test my assumptions and minimize the chance of misunderstandings.	Pretest	Posttest
	M = 4.71 SD = 1.35	5.39 .790
37. When I interact with someone that has a different perspective than mine, I feel that both of our perspectives are valid.	Pretest	Posttest
	M = 5.48 SD = .837	5.58 .907

Items 26 – 30 in the pretest and posttest Knowledge Test and Self-Assessment are rating scale items measuring the extent to which an individual agrees or disagrees with a statement, and they correspond to the following rating scale: Strongly Agree (7) Agree (6) Somewhat Agree (5) Neutral (4) Somewhat Disagree (3) Disagree (2) Strongly Disagree (1). From these items, 100% of the control group participant mean scores were greater than a value of 5.00 in both the pretest and posttest, which aligns with the strongly agree or agree ordered-choices. The differences in the means between the pretest and posttest ranged from .11 to .30. Four of five of the mean scores decreased from the pretest to the posttest.

Items 31 – 37 in the pretest and posttest Knowledge Test and Self-Assessment are rating scale items measuring confidence levels of individuals, and correspond to the following rating scale: Always (7) Almost Always (6) Frequently (5) Sometimes (4) Infrequently (3) Almost Never (2) Never (1). Pretest control group results indicate 57% (4/7) of the mean scores are between 5.00 and 5.99 in the sometimes category, and the

remaining three mean scores are between 4.00 and 4.99 within the infrequently category. Posttest results show similar mean scores with differences from the pretest to posttest ranging from .03 to .22.

For items 26 – 30 among the pooled treatment pretest Knowledge Test and Self-Assessment 80% (4/5) of the results were greater than 5.00, and twenty percent (1/5) was categorized 4.0 in the neutral category. One-hundred percent of the items increased from the pretest to the posttest, with mean scores falling between 5.19 and 5.90 in the agree ordered-choice category.

For items 31 – 37 in the pooled treatment group pretest, 42% (3/7) of the mean scores correspond with the frequently rating between 5.00 and 5.99. Another 42% (3/7) are between 4.00 and 4.99 in the category of infrequently, and 16% (1/7) is between 3.00 and 3.99, aligning with almost never. Eighty-six percent (6/7) of the posttest scores increased from the pretest with the exception of item 31. Four of seven of the pooled treatment group's posttest mean scores were 5.00 or higher, thereby corresponding to always or almost always. The three items that were below a mean score of 5.00 in the posttest pooled treatment group include the following:

31. I recognize that there are cultural differences, but still feel that human beings are essentially the same and/or should conform to a standard acceptable behavior.
(Mean score = 3.42)

32. When planning and implementing programs, I take into account changing demographics in my community and modify the approaches I use to better meet the needs of the audience.
(Mean score = 4.83)

34. I consider the relevance of environmental education programs by examining the customs, values, language, perceptions, socio-economic level, and accessibility of our facility to the different target population's I want to serve.

(Mean score = 4.71)

To address the lower rating scale results, the course instructor changed the language in several assignment descriptions after the fall 2008 and again after the spring 2009 course offerings so it asked the course participants to draw upon situations at their organization or school more often. This was done as a way to give the course participants additional practice applying the information they acquire from the course materials to their work and begin to address the practices mentioned above more often.

6. Treatment Group Pooled Open-Ended Results

The open-ended items were analyzed using a content analysis. Thirty-six control group participants either responded to the questions or did not enter an answer and 31 pooled treatment group participants (17 fall 2008 and 14 spring 2009 participants) either responded to the questions or did not enter an answer. When the control group participants were asked to summarize the concept of cultural competency in two sentences in the Pretest and Posttest Course Knowledge Test and Self-Assessment, the following categories were identified by the researcher:

1. Knowledge of one's own cultural influences and respect for others' cultural perspectives
2. Respectful and inclusive behavior creates an effective work environment
3. Don't Know

The number of control group participants who fell under each category is summarized in Appendix Y.

Table 8. Open-ended Categories from Item 38 for the Control Group Fall 2008

Fall 2008 Control Group		
Question 38. In the space provided, please summarize the concept of cultural competency in two sentences.		
If you do not know the answer, please type "Don't know" in the space provided.		
Category	Pretest (n = 36)	Posttest (n = 36)
	Fall 2008	Fall 2008
1. Knowledge of one's own cultural influences and respect for others' cultural perspectives	13	16
2. Respectful and inclusive behavior creates an effective work environment	6	3
3. Don't Know	14	15
No Answer Entered	3	2

The fall 2008 and spring 2009 treatment group participants were also asked to summarize the concept of cultural competency in two sentences in the Pretest and Posttest Course Knowledge Test and Self-Assessment. Three of the categories were the same as the control group's categories and one additional category was identified by the researcher in the posttest:

1. Knowledge of one's own cultural influences and respect for others' cultural perspectives
2. Respectful and inclusive behavior creates an effective work environment
3. Continual process of developing skills that create inclusive behavior
4. Don't Know

The number of treatment group participants who fell under each category is summarized in Table 9.

Table 9. Open-ended Categories from Item 38 for the Pooled Treatment Group

Pooled Treatment Group				
Question 38. In the space provided, please summarize the concept of cultural competency in two sentences.				
If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 31)		Posttest (n = 31)	
	Number of Participants	Frequency	Number of Participants	Frequency
1. Knowledge of one's own cultural influences and respect for others' cultural perspectives	18	58%	9	29%
2. Respectful and inclusive behavior creates an effective work environment	3	10%	5	16%
3. Continual process of developing skills that create inclusive behavior	0	0%	7	23%
4. Don't Know	10	24%	1	3%
No Answer Entered	0	0%	6	19%

Question 39 asked the control and treatment group participants to describe how culture influences an individual's perspective of the environment. Five categories were identified by the researcher:

1. It relates to the geographical location and situation an individual is in
2. Creates traditions, experiences, and interactions with other individuals
3. Determines value, importance, and levels of respect
4. Too vague
5. Don't Know

The number of control group participants who fell under each category is summarized in Table 10.

Table 10. Open-ended Categories from Item 39 for the Control Group Fall 2008

Fall 2008 Control Group				
Question 39. In the space provided, please describe how culture influences an individual's perspective of the environment.				
If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 36)		Posttest (n = 36)	
	Number of Participants	Frequency	Number of Participants	Frequency
1. It relates to the geographical location and situation an individual is in	1	3%	1	3%
2. Creates traditions, experiences, and interactions with other individuals	15	42%	12	33%
3. Determines value, importance, and levels of respect	5	14%	6	17%
4. Too Vague	5	14%	1	3%
Don't Know	6	17%	14	39%
No Answer Entered	4	11%	2	6%

The same categories were identified by the researcher in the treatment group's responses to question 39 on the pretest and posttest. The number of treatment group participants who fell under each category is summarized in Table X.

Table 11. Open-ended Categories from Item 39 for the Pooled Treatment Group

Pooled Treatment Group				
Question 39. In the space provided, please describe how culture influences an individual's perspective of the environment.				
If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 31)		Posttest (n = 31)	
	Number of Participants	Frequency	Number of Participants	Frequency

1. It relates to the geographical location and situation an individual is in	4	13%	3	13%
2. Creates traditions, experiences, and interactions with other individuals	10	33%	6	19%
3. Determines value, importance, and levels of respect	10	33%	14	45%
4. Too Vague	0	0%	2	6%
Don't Know	7	23%	1	3%
No Answer Entered	0	0%	5	16%

The next open-ended question asked the control and treatment group participants to summarize at least four different cultural perspectives on the environment. Six categories were identified by the researcher from the control group's pretest and posttest:

1. Depends on the level of which an individual's needs are met
2. Values are determined by scientific studies and social acceptance
3. Resources can be used for humans without regard for environmental implications
4. Traditions create values that determine how individuals value the environment
5. Individual decisions and organizational policies
6. Don't Know

The number of control group participants who fell under each category is summarized in Table 12.

Table 12. Open-ended Categories from Question 40 for the Control Group Fall 2008

Fall 2008 Control Group				
Question 40. In the space provided, please summarize at least four different cultural perspectives on the environment. If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 36, 16/36 fell under multiple categories)		Posttest (n = 36, 13/36 fell under multiple categories)	
	Number of Participants	Frequency	Number of Participants	Frequency
1. Depends on the level of which an individual's needs are met	14	39%	8	22%
2. Values are determined by scientific studies and social acceptance	10	28%	10	28%
3. Resources can be used for humans without regard for environmental implications	13	36%	12	33%
4. Traditions create values that determine how individuals value the environment	17	47%	4	11%
5. Individual decisions and organizational policies	1	3%	1	3%
Don't Know	15	42%	19	53%
No Answer Entered	5	14%	0	0%

One additional category was identified by the researcher in the treatment group's responses to question 40 on the pretest and posttest:

1. Depends on the level of which an individual's needs are met
2. Values are determined by scientific studies and social acceptance
3. Resources can be used for humans without regard for environmental implications

4. Traditions create values that determine how individuals value the environment
5. Individual decisions and organizational policies
6. Environmental and social justice issues that are related to specific ethnic groups
7. Don't Know

The number of treatment group participants who fell under each category is summarized in Table 13.

Table 13. Open-ended Categories from Question 40 for the Pooled Treatment Group

Pooled Treatment Group				
Question 40. In the space provided, please summarize at least four different cultural perspectives on the environment.				
If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 31, 13/31 fell under multiple categories)		Posttest (n = 31, 24/31 fell under multiple categories)	
	Number of Participants	Frequency	Number of Participants	Frequency
1. Depends on the level of which an individual's needs are met	4	13%	11	35%
2. Values are determined by scientific studies and social acceptance	3	10%	5	16%
3. Resources can be used for humans without regard for environmental implications	12	39%	6	19%
4. Traditions create values that determine how individuals value the environment	10	33%	9	29%
5. Individual decisions and organizational policies	1	3%	1	3%
6. Environmental and social justice issues that	0	0%	18	58%

are related to specific ethnic groups				
Don't Know	21	7%	9	29%
No Answer Entered	1	3%	6	19%

Question 41, the final open-ended question, asked the control and treatment group participants to describe three ways they are able to apply their knowledge and skills to motivate their intended audience to participate in environmental education. Eight categories were identified by the researcher from the control group's pretest and posttest:

1. Relevance to individual's or cultural groups' needs and experiences
2. Incorporate a variety of teaching methods
3. Include a diversity of cultural perspectives
4. Organizational methods and practices
5. Introduce conservation through modeling specific behaviors and providing environmental projects to work on
6. Assess the community's needs and incorporate environmental and social justice issues
7. Too Vague
8. Don't Know

The number of control group participants who fell under each category is summarized in Table 14.

Table 14. Open-ended Categories from Question 40 for the Control Group Fall 2008

Fall 2008 Control Group				
Question 41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.				
If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 36, 14/36 fell under multiple categories)		Posttest (n = 36, 13/36 fell under multiple categories)	
	Number of Participants	Frequency	Number of Participants	Frequency
1. Relevance to individual's or cultural groups' needs and experiences	14	39%	15	42%
2. Incorporate a variety of teaching methods	9	25%	10	28%
3. Include a diversity of cultural perspectives	7	19%	4	11%
4. Organizational methods and practices	1	3%	1	3%
5. Introduce conservation through modeling specific behaviors and providing environmental projects to work on	2	5%	3	8%
6. Assess the community's needs and incorporate environmental and social justice issues	0	0%	3	8%
7. Too Vague	7	19%	4	11%
Don't Know	12	33%	12	33%
No Answer Entered	4	11%	1	3%

The same categories were identified by the researcher in the treatment group's responses to question 41 on the pretest and posttest. The number of treatment group participants who fell under each category is summarized in Table 15.

Table 15. Open-ended Categories from Question 41 for the Pooled Treatment Group

Pooled Treatment Group				
Question 41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.				
If you do not know the answer, please type "Don't know" in the space provided.				
Category	Pretest (n = 31, 24/31 fell under multiple categories)		Posttest (n = 31, 30/31 fell under multiple categories)	
	Number of Participants	Frequency	Number of Participants	Frequency
1. Relevance to individual's or cultural groups' needs and experiences	18	58%	22	71%
2. Incorporate a variety of teaching methods	11	35%	6	19%
3. Include a diversity of cultural perspectives	5	16%	4	13%
4. Organizational methods and practices	3	10%	11	35%
5. Introduce conservation through modeling specific behaviors and providing environmental projects to work on	2	7%	0	0%
6. Assess the community's needs and incorporate environmental and social justice issues	2	6%	15	48%
7. Too Vague	2	6%	0	0%
Don't Know	8	26%	2	6%
No Answer Entered	0	0%	5	16%

The spreadsheet used to organize the open-ended response initial concepts and categories is included in Appendix Y. Graphical representations comparing the pretest and posttest results for the control group and the pooled treatment group for the four open-ended questions are included in Appendix Z.

II. FALL 2008 COURSE EVALUATION

The fall 2008 course evaluation was completed by the course participants after the end date for the course. This evaluation was used to determine if the course increased the course participants' knowledge, skills, and intentions to utilize the knowledge and skills they gained from the course to create environmental education (EE) programs that are more inclusive to culturally diverse audiences. The course evaluation was completed only by the course participants and it was administered online through the SelectSurvey database that was accessible online through the course's website on UW-SP's online platform, Desire2Learn (D2L). Students who enrolled in the fall 2008 course and completed the course completed the course evaluation.

The fall 2008 course began with 25 environmental educators, pre-service educators, and natural resource professionals. Eighteen students passed the course, one student officially dropped the course, one student did not participate from the beginning, and the six remaining students stopped participating during the course. Of the eighteen students that passed the course, nine students earned one college graduate or undergraduate credit by receiving a cumulative grade of at least 60% (earning a grade of a D- or above). Nine other students earned a certificate of completion by earning a cumulative grade of at least 70% as non-credit workshop students. The attrition rate for the course was 28%. The response rate for the course evaluation is 92%, because 22 out of 24 students who were officially enrolled in the course at the end date of the course submitted the course evaluation either partially or fully complete. Of the 24 students officially enrolled in the course, 18 students passed and participated in it until the course's end date, which makes the response number of participating students 22/18

which is a response rate of 122%. Likert scale, multiple-choice, yes/no, and open-ended questions were included in the questionnaire design. Responses were not used in the data if they were marked “Not Applicable” or left blank by showing “[No Answer Entered].” The mean (M) and standard deviation (SD) of the ordered-choice responses are listed in Table 16. In the instances when responses were discarded from the data, the researcher calculated the course evaluation item using an adjusted response number (n).

a. Course Participant Likert Scale Items

The course evaluation Likert scale items included the ordered choices of 7 = Strongly Agree, 6 = Agree, 5 = Somewhat Agree, 4 = Neutral, 3 = Somewhat Disagree, 2 = Disagree, 1 = Strongly Disagree (Table 16). Questions 14 – 25 were also Likert scale items, but are not included in this chapter because they are questions regarding the instructor and confidential.

Table 16. Fall 2008 Mean and Standard Deviation of Ordered-Choice

Course Evaluation Items	Fall 2008 Course Participants: (n =22 unless otherwise specified)
Course Objectives To what extent do you agree or disagree with the following statements...	
1. I have broadened my perspective of EE to encompass interests and issues of concern for culturally diverse audiences as a result of taking this course.	M = 6.36 SD = .66
2. Within the next six months I intend to share information I have learned in this course about providing environmental education programs that address interests and issues of concern for culturally diverse audiences with colleagues and other professionals.	M = 6.32 SD = .89
3. I have increased my knowledge of what the barriers are to	M = 6.14

participation in environmental education among culturally diverse audiences as a result of taking this course.	SD = .83
4. I have increased my skill in how to assess barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.	M = 5.86 SD = 1.08
6. I am able to identify environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.	M = 5.86 SD = .83
7. I am able to adapt environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.	M = 5.91 SD = .92
8. Within the next six months I intend to adapt my environmental education program to better meet the needs of culturally diverse audiences using the information and skills gained from this course.	M = 5.9 SD = 1.17

Items 1-4, 6-8 in the course evaluation corresponded to the following rating scale: Strongly Agree (7) Agree (6) Somewhat Agree (5) Neutral (4) Somewhat Disagree (3) Disagree (2) Strongly Disagree (1). From these items, 100% of the fall 2008 course participant scores were greater than a mean score of 5.00, which aligns with the strongly agree, agree, or somewhat agree ordered-choices.

b. Course Participant Open-Ended Items

Questions 5 and 9 – 13 were open-ended questions. The course instructor and researcher thoroughly examined the following six open-ended responses, and agreed that the course participants’ responses aligned with the course materials and showed knowledge and skills of the subjects.

Questions 14 – 25 were also open-ended items, but are not included in this thesis because they are questions regarding the instructor and are confidential. To review the open-ended responses for the fall 2008 course, refer to Appendix X.

c. Course Participant Multiple Choice and Yes/No Items

The multiple-choice and yes/no items were demographic and professional questions in nature, and were items 27 – 38 on the course evaluation. The tabulated frequency of these items was calculated by the researcher.

Table 17. Fall 2008 Course Participant Course Evaluation Responses to Multiple-Choice and Yes/No Items

Course Evaluation Item	Fall 2008 Course Participants (n =21 unless otherwise specified)
27. Will this course help you to meet your state's professional development requirements for environmental education (n = 18)	Yes = 22% No = 78%
28. What is your current or most recent occupation? NOTE: 16/21 checked multiple categories	Environmental/Outdoor Educator = 50% Teacher or Pre-Service Teacher = 5% Museum/Zoo Educator = 5% Conservation or Natural Resource Professional = 14% Resource Developer = 5% College/University Instructor = 5% WILD/WET/PLT State Coordinator = 5% U.S. Fish and Wildlife Educator = 18% Director of environmental education organization, program, or center = 9% Other = 23%
29. Do you consider yourself a formal or non-formal educator?	Non-Formal = 75% Formal = 0% Both = 25%
30. How many years have you	How many years have you been an environmental

<p>been an environmental educator?</p>	<p>educator?</p> <table border="1"> <thead> <tr> <th>Number of Years</th> <th>Percentage of Participants</th> </tr> </thead> <tbody> <tr><td>2</td><td>5%</td></tr> <tr><td>3</td><td>10%</td></tr> <tr><td>5</td><td>15%</td></tr> <tr><td>8</td><td>10%</td></tr> <tr><td>10</td><td>15%</td></tr> <tr><td>11</td><td>5%</td></tr> <tr><td>12</td><td>10%</td></tr> <tr><td>15</td><td>10%</td></tr> <tr><td>20</td><td>5%</td></tr> <tr><td>22</td><td>5%</td></tr> <tr><td>23</td><td>5%</td></tr> <tr><td>30</td><td>5%</td></tr> </tbody> </table>	Number of Years	Percentage of Participants	2	5%	3	10%	5	15%	8	10%	10	15%	11	5%	12	10%	15	10%	20	5%	22	5%	23	5%	30	5%
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<p>31. Others consider you an environmental education leader: (n = 20) NOTE: 16/20 checked multiple categories</p>	<p>In your K-12 school = 20% In academia = 15% In your organization = 95% In the community where you live = 70% In the state where you live = 50% At a federal level = 0% At an international level = 0%</p>																										
<p>32. Who is your audience? (n = 20) NOTE: 19/20 checked multiple categories</p>	<p>Preschool = 30% Grades K – 2 = 15% Grades 3 – 5 = 85% Grades 6 – 8 = 75% Grades 9 – 12 = 55% Teachers = 70% Pre-Service Teachers = 25% Other College/University Students = 40% Non-Formal Educators = 80% Conservation/Natural Resource Professionals = 55% Families = 80% Other = 15%</p>																										
<p>33. How many participants do you or your program reach each year? (n = 19)</p>	<table border="1"> <thead> <tr> <th>Number of Participants their Program Reaches Each Year</th> <th>Percentage of Participants</th> </tr> </thead> <tbody> <tr><td>200</td><td>21%</td></tr> <tr><td>350</td><td>5%</td></tr> </tbody> </table>	Number of Participants their Program Reaches Each Year	Percentage of Participants	200	21%	350	5%																				
Number of Participants their Program Reaches Each Year	Percentage of Participants																										
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34. The students/participants that you work with primarily come from: (n = 20)	Suburban = 0% Urban = 30% Tribal = 0% Rural = 15% Mix of Areas = 55%																		
35. What grade would you give this course? Why? (n = 20)	A = 30% B = 40% C = 25%, <i>More discussion and conversation/feedback was needed</i> D = 5%																		
36. Would you recommend this course to a colleague or friend? If no was your answer, please explain why: (n = 16)	Yes = 88% No = 12%																		
37. Where did you hear about this course?	<i>See Appendix X for open-ended responses to item 37</i>																		
38. How can we make more people aware of the opportunity to take this course?	<i>See Appendix X for open-ended responses to item 38</i>																		

III. SECOND REVISION FALL 2008

The goal of the second revision process was to utilize the results of the evaluation tools used to evaluate the course once the first pilot offering was complete and improve its content and structure. The second revision occurred after the fall 2008 course participant course evaluations and pretest and posttest knowledge test and self-assessment data was collected and compiled into two separate evaluation reports by the researcher. The course evaluation report was submitted to the Design and Review Teams during December 2008 and the pretest and posttest knowledge test and self-assessment report was sent during January 2009. The researcher corresponded with the course instructor during a phone call in December 2008 and decided what revision would be implemented to the course prior to the spring 2009 offering. A description of the revisions that were implemented during January and February 2009 are listed in Appendix G.

IV. SPRING 2009 COURSE EVALUATION

The spring 2009 course evaluation was completed by the course participants after the end date for the course. The evaluation used was the exact same questionnaire that course participants completed after the fall 2008 semester, and included in it were Likert scale, multiple-choice, yes/no, and open-ended questions. Like the fall 2008 course evaluation, this evaluation aimed to determine if the course increased the course participants' knowledge, skills, and intentions to utilize the knowledge and skills they gained from the course. The course evaluation was completed only by the course participants and it was administered online through the SelectSurvey database that was accessible online through the course's website on UW-SP's online platform, D2L. Only spring 2009 course participants who completed the course submitted a course evaluation.

Twenty-five environmental educators, pre-service non-formal teachers, and natural resource professionals were originally enrolled in the spring 2009 course. Throughout the ten weeks of the course seven students officially dropped the course or discontinued their participation due to various reasons, resulting in a 28% attrition rate. Therefore, 18 course participants passed the course earned a cumulative grade of at least 60%, and all 18 course participants earned a cumulative grade of 70% allowing them to receive a college credit or a non-credit workshop certificate. These 18 course participants were administered the course evaluation via a webpage link in an email as well as a posting in the course's webpage News section. Of the 18 students who were asked to complete the course evaluation, 72% (13/18) submitted it to the researcher either partially or fully complete after two emails were sent asking individuals who did not complete the evaluations to please do so. Responses were not used in the data if they were marked "Not Applicable" or left blank by showing "[No Answer Entered]." The mean (M) and standard deviation (SD) of the ordered-choice responses are listed in Table 18. In the instances when responses were discarded from the data, the researcher calculated the course evaluation item using an adjusted response number (n). The results of the spring 2009 course evaluations are reported separately, because the course content and structure was slightly revised after the fall 2008 pilot course offering, as noted in the previous section.

d. Course Participant Likert Scale Items

The spring 2009 course evaluation Likert scale items and procedures used to analyze the data were identical to the fall 2008 course evaluation.

Table 18. Spring 2009 Mean and Standard Deviation of Ordered-Choice

Course Evaluation Item	Spring 2009 Course Participants: (n =13)
Course Objectives To what extent do you agree or disagree with the following statements...	
1. I have broadened my perspective of EE to encompass interests and issues of concern for culturally diverse audiences as a result of taking this course.	M = 6.23 SD = .59
2. Within the next six months I intend to share information I have learned in this course about providing environmental education programs that address interests and issues of concern for culturally diverse audiences with colleagues and other professionals.	M = 6.27 SD = .73
3. I have increased my knowledge of what the barriers are to participation in environmental education among culturally diverse audiences as a result of taking this course.	M = 5.92 SD = 1.19
4. I have increased my skill in how to assess barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.	M = 5.86 SD = .80
6. I am able to identify environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.	M = 5.85 SD = .69
7. I am able to adapt environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.	M = 5.69 SD = .63
8. Within the next six months I intend to adapt my environmental education program to better meet the needs of culturally diverse audiences using the information and skills gained from this course.	M = 6.18 SD = .60

One-hundred percent of the spring 2009 course participant scores for items 1-4 and 6-8 in the course evaluation were greater than a mean score of 5.00, corresponding with the strongly agree, agree, or somewhat agree ordered-choices.

e. Course Participant Open-Ended Items

Questions 5 and 9 – 13 were open-ended questions. Questions 14 – 25 were also open-ended items, but are not included in this thesis because they are questions regarding the instructor and confidential. To review the open-ended responses for items 5 and 9 - 13 refer to Appendix AA.

f. Course Participant Multiple Choice and Yes/No Items

The multiple-choice and yes/no items were demographic and professional questions in nature, and were items 27 – 38 on the course evaluation. The tabulated frequency of these items was calculated by the researcher.

Table 19. Spring 2009 Course Participant Course Evaluation Responses to Multiple-Choice and Yes/No Items

Course Evaluation Item	Spring 2009 Course Participants (n = 13 unless otherwise specified)
27. Will this course help you to meet your state's professional development requirements for environmental education	Yes = 23% No = 77%
28. What is your current or most recent occupation? NOTE: 1/21 checked multiple categories	Environmental/Outdoor Educator = 31% Teacher or Pre-Service Teacher = 46% Museum/Zoo Educator = 8% Conservation or Natural Resource Professional = 0% Resource Developer = 8% College/University Instructor = 0% WILD/WET/PLT State Coordinator = 0% U.S. Fish and Wildlife Educator = 17% Director of environmental education organization, program, or center = 15%

	Other = 8%																				
29. Do you consider yourself a formal or non-formal educator?	Non-Formal = 62% Formal = 38% Both = 0%																				
30. How many years have you been an environmental educator?	How many years have you been an environmental educator? <table border="1"> <thead> <tr> <th>Number of Years</th> <th>Percentage of Participants</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>25%</td> </tr> <tr> <td>1</td> <td>8%</td> </tr> <tr> <td>3</td> <td>16%</td> </tr> <tr> <td>5</td> <td>8%</td> </tr> <tr> <td>6</td> <td>8%</td> </tr> <tr> <td>7</td> <td>8%</td> </tr> <tr> <td>10</td> <td>8%</td> </tr> <tr> <td>13</td> <td>15%</td> </tr> <tr> <td>28</td> <td>8%</td> </tr> </tbody> </table>	Number of Years	Percentage of Participants	0	25%	1	8%	3	16%	5	8%	6	8%	7	8%	10	8%	13	15%	28	8%
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31. Others consider you an environmental education leader: (n =10) NOTE: 5/10 checked multiple categories	In your K-12 school = 45% In academia = 0% In your organization = 45% In the community where you live = 45% In the state where you live = 36% At a federal level = 9% At an international level = 0%																				
32. Who is your audience? NOTE: 9/13 checked multiple categories	Preschool = 33% Grades K – 2 = 42% Grades 3 – 5 = 33% Grades 6 – 8 = 58% Grades 9 – 12 = 92% Teachers = 58% Pre-Service Teachers = 33% Other College/University Students = 42% Non-Formal Educators = 50% Conservation/Natural Resource Professionals = 42% Families = 58% Other = 0%																				

<p>33. How many participants do you or your program reach each year? (n =8)</p>	<table border="1"> <thead> <tr> <th>Number of Participants their Program Reaches Each Year</th> <th>Percentage of Participants</th> </tr> </thead> <tbody> <tr> <td>80-165</td> <td>50%</td> </tr> <tr> <td>800</td> <td>11%</td> </tr> <tr> <td>2,500</td> <td>11%</td> </tr> <tr> <td>10,000</td> <td>11%</td> </tr> <tr> <td>45,000</td> <td>11%</td> </tr> </tbody> </table>	Number of Participants their Program Reaches Each Year	Percentage of Participants	80-165	50%	800	11%	2,500	11%	10,000	11%	45,000	11%
Number of Participants their Program Reaches Each Year	Percentage of Participants												
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800	11%												
2,500	11%												
10,000	11%												
45,000	11%												
<p>34. The students/participants that you work with primarily come from: (n =11)</p>	<p>Suburban = 27% Urban = 27% Tribal = 0% Rural = 0% Mix of Areas = 45%</p>												
<p>35. What grade would you give this course? Why?</p>	<p>A = 23% <i>It has given me the tools to reach more people</i> A/B = 8% B = 46% 1. <i>workload</i> 2. <i>I LOVED the course, the instructor was lacking in interaction</i> C = 15% <i>I learned a great deal about what culture is and how to define certain things, but not necessarily how to greatly improve my programs.</i> D = 8%</p>												
<p>36. Would you recommend this course to a colleague or friend? If no was your answer, please explain why:</p>	<p>Yes = 92% No = 8%</p>												
<p>37. Where did you hear about this course?</p>	<p><i>See Appendix AA for open-ended responses to item 37</i></p>												
<p>38. How can we make more people aware of the opportunity to take this course?</p>	<p><i>See Appendix AA for open-ended responses to item 38</i></p>												

V. THIRD COURSE REVISION SPRING 2009

Another revision process occurred after the spring 2009 course was complete, and the purpose of this process was to improve the quality of the course content and ease at which it was administered. The course instructor and researcher discussed revisions for the course on May 7th, 2009 during a phone call. The revisions were based on their experiences facilitating and managing the course, as well as the course evaluation and pretest and posttest Knowledge Test and Self-Assessment results. Evaluation reports as well as a list of the revisions were sent to the Design and Review Team on May 8th. A description of the revisions that were implemented during May and June 2009 are listed in Appendix AA.

CHAPTER FIVE DISCUSSION

I. INTERPRETATION OF RESULTS

The content of this chapter aims to provide an interpretation of the results from this study, present recommendations to improve the quality and effectiveness of the course for future offerings, and include conclusions that correspond with the study's hypotheses.

Nine sub-problems were identified in Chapter One, and each has been addressed throughout this study. Sub-problems one through three were addressed through the development and draft revision of the course. Sub-problems four through six were met during the administration of the fall 2008 pilot course and the completion of the course evaluation and pretest and posttest Knowledge Test and Self-Assessments. An analysis of the fall 2008 evaluation results provided insight into what aspects of the course were positive and which could be improved, which led to the fulfillment of sub-problem seven that focused on course revisions. The final two sub-problems focused again on the course evaluation and pretest and posttests, and were completed upon the administration of the spring 2009 course offering.

a. Pretest and Posttest Knowledge Test and Self-Assessment Fall 2008 and Spring 2009

The fall 2008 treatment group and spring 2009 treatment group data are combined (pooled treatment group) in the interpretation of the results for the purpose of providing a clear analysis and avoiding repetition.

An increase in knowledge was observed in the pooled treatment group based on the quantitative and qualitative analysis conducted by the researcher on the data collected

from the pretest and posttest Knowledge Test and Self-Assessments. The multiple-choice data indicates the pooled treatment groups' knowledge and skills have increased as a result of taking the course. An analysis of the open-ended responses show a transition among the pooled treatment group responses from the pretest to the posttest, whereas the control group responses maintain the same relative frequencies from the pretest to the posttest.

The course emphasizes concepts relating to cultural competency and sensitivity, organizational policies, environmental and social justice issues, and how basic human needs relate to how cultures perceive the environment. These topics are represented in the pooled treatment group responses. Also, the pooled treatment group responses show a decrease in the importance participants place on using a variety of teaching methods to an increase in the importance they place on incorporating relevant curricula by emphasizing community engagement as a way to drive organizational policies that are culturally inclusive. These responses represent topics that are covered in the course material through reading assignments and an in-depth activity, indicating an increase in their importance among the pooled treatment group.

b. Course Evaluation and Second Revision Fall 2008

Course evaluations were administered to the treatment group after the fall 2008 pilot course offering was complete, and Likert-scale agreement rating question results show 100% of the fall 2008 course participant scores were greater than a mean score of 5.00, which aligns with the strongly agree, agree, or somewhat agree ordered-choices. The course evaluation allowed the treatment group to provide input as to what they liked and what they thought needed to be improved in the course, the effectiveness of the

instructor's facilitation, and demographic information. An analysis of the demographic information is not included in the thesis.

Based on the open-ended question that asked the course participants to identify what they like most about the course, overall their responses indicated they enjoyed the readings, the culminating assignment, and the discussion board interaction. As one participant stated, "The subject matter was very interesting, and especially the final assignment helped me put my thoughts together into something I can actually use in my job. Sometimes it's hard to see how what we learn translates into action, so this assignment really helped me do that" (Appendix X).

Course participants also provided input on how the course could be improved. One idea for improvement was increasing the number of discussion groups, as indicated in the following response, "...There were too many participants in each group to really get to know other participants and offer valuable feedback..." (Appendix X). In response to this, the instructor and researcher decided to increase the number of discussion groups from two to three for the spring 2009 course offering as a way to decrease the number of participants in each group so they had to read and respond to fewer postings.

Another repeated response was that the course was very time-consuming. However, no content was taken out of the course because the course instructor, Design Team, and researcher agreed that the quality of the course would be compromised if any content was omitted as a way to decrease the work load. Also, the number of credits could not increase from one to two at the time the fall 2008 course evaluation results were obtained because the spring 2009 course had already been set-up in the UW-SP

registration system, so the credits for the course were not increased from one to two until the summer 2009 semester.

Another common response regarding improvement of the course was the desire for an increased amount of interaction with the instructor. As the fall 2008 pilot course offering was the instructor's first time facilitating an online course, he noted the criticism and agreed to increase his interaction with students for the spring 2009 course offering. A complete list of the open-ended responses can be read in Appendix X.

Finally, minor logistical changes were made to the administration of the course in the Desire2Learn online platform as a way to increase the ease at which it was offered. These changes were made based on the course instructor's and researcher's observations during the fall 2008 offering. Descriptions of the revisions that were implemented during the second revision are listed in Appendix L.

c. Course Evaluation and Third Revision Spring 2009

The same course evaluations were administered to the treatment group after the fall 2008 semester and again after the spring 2009 course offering. From the course evaluation Likert-scale agreement rating questions 100% of the spring 2009 course participant ratings were greater than a mean score of 5.00, which aligns with the strongly agree, agree, or somewhat agree ordered-choices.

Based on the open-ended responses, the course instructor and researcher agreed that the course participants' responses aligned with the course materials and showed knowledge and skills of the subjects.

The reading assignments and resources provided along with the structure and discussions were the aspects most liked by the spring 2009 course participants. One

participant emphasized the discussions by stating, *“I liked the fact that we could be open and honest about our opinions and views, and often others had the same thoughts and concerns.”* (Appendix X).

Suggestions for improving the course were also provided by the spring 2009 course participants in open-ended responses (Appendix X). The most frequent comments included the heavy workload, issues with due dates and the course structure, confusion with the assignment descriptions, and a desire for more interaction with the instructor. One suggestion included incorporating other diverse audiences, such as people with physical disabilities and other special needs. Although these are as important as cultural diversity, the instructor and researcher decided not to include information about other diverse groups in an attempt to provide a high quality course in a short time frame. In response to the heavy workload, the course will be offered for two rather than one credits in the upcoming summer semester. Descriptions of the revisions implemented during the third revision are listed in Appendix AA.

II. THREATS TO RELIABILITY AND VALIDITY

Measurement error and bias are inherent in any research and threaten the validity and reliability of the conclusions, as no study is able to completely replicate a true representation of the population. However, it is the researcher’s task to address the possible threats and minimize them as much as possible. In this study the evaluation component that aimed to measure the treatment and control group’s knowledge, skills, and intentions to act posed the greatest threat to reliability and validity. The methods used for participant recruitment and for administering the evaluation and for the analysis

were completed in such a way as to reduce as much as possible any erroneous results and researcher bias.

This study is a quasi-experimental research design because it includes a treatment group and a non-randomized control group. The nature of this study makes it impossible to obtain a complete random sample and therefore conduct true experimental research. The researcher attempted to include as many non-randomized control group members as possible from the list provided by the UW-Extensions Office, as described in Chapter Three.

Of the 713 individuals contacted from the list, only 36 individuals completed the pretest and posttest Knowledge Test and Self-Assessment. The researcher accounted for the non-randomized design by requiring both the treatment and control to complete the same pretest and posttest Knowledge Test and Self-Assessment. Also, the researcher completed inferential statistics that measured the extent to which generalizations can be made about the results.

The researcher completed a Reliability-Corrected ANCOVA analysis for the fall 2008 and spring 2009 semesters to account for the differences in population sizes of the treatment group and the control group. However, a possibility for bias exists with using the Reliability-Corrected ANCOVA method in the quasi-experimental research design because a reduction of the slope of the regression line may occur due to the group nonequivalence and pretest measurement error. In response to this possibility, Kuder Richardson-20 and Cronbach's alpha statistical analyses were used to calculate the mean of the pretest scores and balance out the pretest measurement error. A KR-20 and Cronbach's alpha value of .70 is generally accepted as appropriate for research purposes.

The KR-20 and Cronbach's alpha for the fall 2008 pretest indicates that the variability of the questionnaire is about 80% true ability and 20% error, and posttest KR-20 and Cronbach's alpha coefficient indicates that the variability is about 98% true ability and 2% error.

Another factor threatening the validity of the research was the treatment group participants who did not complete the course evaluation and /or the pretest and posttest questionnaires. Response rates for the fall 2008 and spring 2009 semesters were sufficient for research purposes, however individuals who did not complete the evaluations may have effected the outcome of the quantitative and qualitative analyses.

Lastly, error and bias included in the content analysis contribute to threats of validity and reliability of the research. The content analysis measurement process is theoretically measuring a text that is true to life. However, in this study the open-ended responses may not accurately reflect treatment or control group participants' knowledge, skills, and intentions to act because of compounding variables that may have caused the participants to not include a thorough response that accurately reflects their abilities. Also, an official codebook and protocol was not written for the content analysis, which reduces the ability of others to replicate a similar content analysis of the study. These aspects of the study were not included due to time constraints. However, the researcher did take these items into account and included a coding scheme that is recorded in a Microsoft Excel spreadsheet that can be used again as a reference. Also, another common threat to content analysis is inter-rater reliability issues, which are not a factor in this study because only the researcher conducted the coding for the open-ended responses.

III. RECOMMENDATIONS

The researcher worked closely with the Design Team and Review Team during the development of this course and was the course manager for the first two offerings.

The researcher is confident that her suggestions for improving the course are supported by her experience working on the course during its development and the first two offerings, and will help improve its quality and effectiveness.

First, the researcher notes that the development of the course and resulting course content was greatly enriched by including many experts in the topics of cultural diversity and environmental education (EE). Therefore, it is recommended that the Environmental Education and Training Partnership (EETAP) continue to use a team approach for further course development projects.

Second, the researcher suggests adding one or two assignments to the course and increasing the credit offered for the course from two to three credits. While conducting the literature review and also through observation of the Review Team's comments, it is apparent that cultural diversity and EE is a timely topic with many issues that can still be included into the course content that will benefit its quality. Increasing the credits will increase the contact hours and allow for at least one more in-depth assignment, which is generally the most liked by course participants and necessary for them to get hands-on training at developing culturally inclusive curriculum. Including many more assignments is not recommended, as many course participants found it very time-intensive already. As one course participant from the fall 2008 semester stated in the course evaluation, "I'd recommend this course to other environmental educators, but with the warning that it is intense. Even people taking it for workshop credit should be prepared to put in a lot of

time...” (Fall 2008 course participant, 2008). Two additional assignments could focus on creating new environmental education curriculum from scratch while focusing on making the content relevant for the intended audience they chose to focus on throughout the course. Developing an entire curriculum is very time-intensive, and the assignment could be split into two phases. A majority of the course participants are taking the course for professional development purposes while working full time and assignments that can be applicable to their specific careers are generally the most favored.

Third, the course participants are adults and many have not taken an online course before. Many aspects of online courses are different from traditional face-to-face courses and can present additional challenges for learners, especially those who lack previous experience participating in an online course. It would be beneficial to include more information at the beginning of the semester about the format of online courses, and in particular what type of facilitation to expect from the course instructor and what the workload and pace is like while participating in an online course.

Next, based on the researcher’s observation throughout the fall 2008 and spring 2009 semesters, the discussion group sizes should be limited to a maximum of 8 persons per group. The number of discussion groups was increased from two to three for the second offering of the course in the spring, and the smaller discussion board groups tend to have richer conversations.

Pretest and posttest questionnaires as well as a course evaluation were helpful in determining the immediate effectiveness of the course, but a longer term evaluation conducted within the next two years would be beneficial for EETAP to determine how

individuals have used the knowledge and skills they have gained as a result of participating in the course.

Several options exist for the focus of a follow-up evaluation. One evaluation could focus on demographic data and analyze the relationship between the course participants' knowledge, skills, and intentions to act in relation to their demographic information. Another, much larger-scale, analysis could include researching how taking the course has impacted the organizations that the course participants work for and what the effects the course has had on participants' students or their primary audience. This could be completed by conducting surveys on past course participants' organizations that include items addressing how the organization's programs, policies, audience participation, and marketing strategies have changed.

Lastly, the final recommendation is for further research on the relationship between EE that is relevant for culturally diverse audiences and place-based education. In the book, Place-Based Education: Connecting Classrooms and Communities, author David Sobel (2004) emphasizes that place-based focuses on social, political, and environmental issues at a local level and "a significant transformation of education might begin with the effort to learn how events and processes close to home relate to regional, national, and global forces and events, leading to a new understanding of ecological stewardship and community." Much of the content in the course focuses on assessing a local community's needs, which coincides with place-based education and presents a somewhat ambiguous boundary between the two. Studying how these two education practices correspond may provide interesting and useful information for the future development of the online course.

IV. CONCLUSIONS

1. The data show the new online course “Making EE Relevant for Culturally Diverse Audiences” is effective at increasing course participants’ knowledge and skills at creating culturally inclusive EE. Further, results indicate that the course participants intend to implement the knowledge and skills they obtained from the course to reach culturally diverse audiences through their EE programming. Based upon the results obtained, the researcher accepts the hypotheses that state:

1. “‘Making EE Relevant for Culturally Diverse Audiences,’ will provide course participants with a quality educational experience whereby their knowledge and skills of how to effectively reach diverse audiences with EE will be strengthened, and the course participants’ attitudes will reflect their intentions to implement what they have learned.”
2. “There will be a statistically significant difference ($p < 0.05$) found between participants (treatment group) and non-participants (control group) for the variables listed above that is based on the pretest and posttest results during fall 2008 and spring 2009.

Based on the data, the methods used throughout this research have shown to be effective at developing a course and measuring the course participants’ knowledge, skills, and intentions to act.

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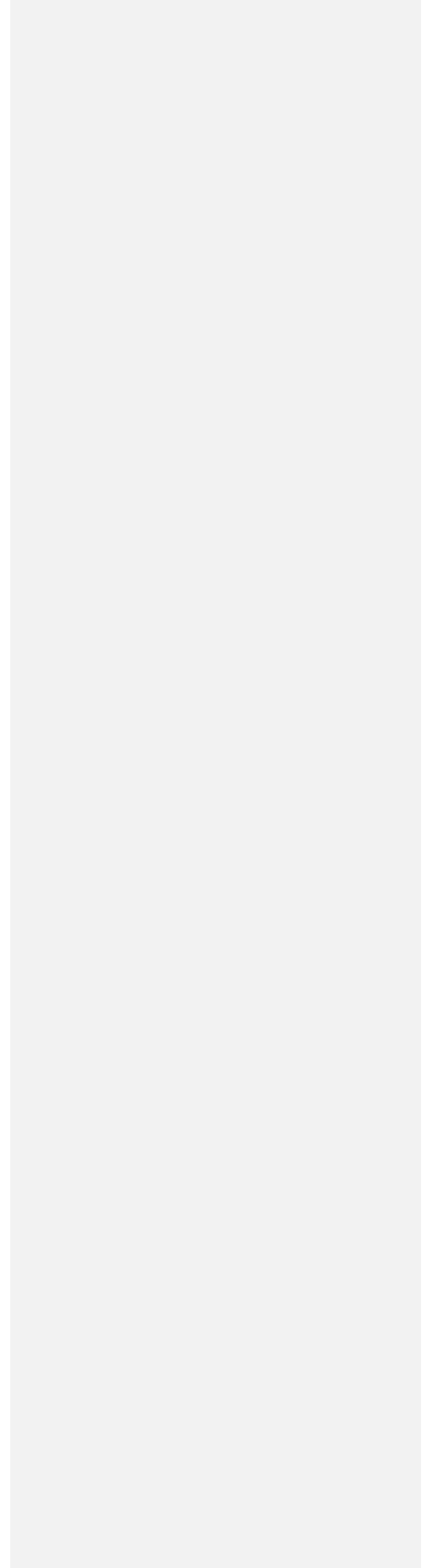
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Appendix A.
Design Team Conference Call #1



**Design Team Conference Call
Tuesday, December 18th, 2007
2:00 PM Central Time**

Conference call agenda:

- Introductions
 - Discuss the role of Design Team.
 - Discuss the tentative agenda for the development session.
 - Discuss the review and revision process of the draft course and the timeline.
 - Final comments/questions.
- 1) Dr. Wilke quickly explained current online courses offered by EETAP through UW-SP.
 - Fundamentals of Environmental Education (FEE)
 - Applied Environmental Education Program Evaluation (AEEPE)
 - Strategic Planning and Implementation (SPI)
 - 2) Travel Logistics
 - a. Julie may or may not be able to join the development session for the course, but a representative from the Fish and Wildlife Service will attend (she will know by the end of this week).
 - b. Teresa and Gus will arrive on Thursday.
 - c. Sharon Courtney will pick up Gus and Ali will pick up Teresa from the CWA airport on Thursday.
 - d. Ali will drive Gus, Teresa, and Julie (or FWS representative) to CWA on Sunday with the UW-SP vehicle.
 - 3) Design Team
 - a. In past the courses have been designed by groups of three to six people that work with the initial design and development of the course.
 - b. After the first draft of the course is developed a review team looks over the course and suggests revisions and modifications to the draft course.
 - c. The design team and graduate student then worked together to make revisions to the draft course.
 - i. As of now the Review Team consists of:
 1. J. Allen Johnson
 2. Dr. Doug Forbes
 3. Dr. Julian Agyeman
 4. Dr. Rick Wilke
 - d. Teresa made the suggestion to have a woman included on the Review Team.
 - e. The design and review process from past courses have resulted in positive feedback from design and review team members.
 - 4) Revised Tentative Schedule for the Development Session

Meeting location:

UW-SP
College of Natural Resources (CNR)
Wisconsin Center for Environmental Education conference room

Facilitator: Dr. Medina

Design Team members:

Dr. Gus Medina

Ms Teresa Mourad

Dr. Sabiha Daudi

FWS representative

Dr. Wilke (Friday and maybe Saturday only)

Ali Cordie

Friday, Jan. 11th:

1:00 PM - 5:30 PM

- Introductions
- Establish who the audience will be for the course.
- Create a definition for “diversity” in regards to cultural and ethnic diversity for the purpose of the course goals and objectives.
- Determine if the course will be developed with the intention of offering it to other universities to be taught through those universities.
 - If so, decide whether training will be required before faculty members from those universities teach the course.
- Establish course parameters
 - Determine appropriate number of credits and corresponding contact hours.
 - Determine how many hours will be expected for course participants to complete the assigned readings, research, and other activities in addition to the contact hours.
- Establish course goals.
- Establish course objectives.

Saturday, Jan. 12th:

8:30 AM - Noon, 1:00 PM - 5:00 PM

- Establish the framework for the course.
 - Determine if units will be used.

- If units will be used, determine the number of units.
- Relate course goals and objectives to course.
- Identify course content to achieve course objectives (activities, readings, assignments, etc.).
- Determine assessment strategies for the course.
- Determine the process for writing the course.
- Review and fine-tune timeline for developing and offering the course for the first time on a pilot basis.

Sunday, Jan. 13th:

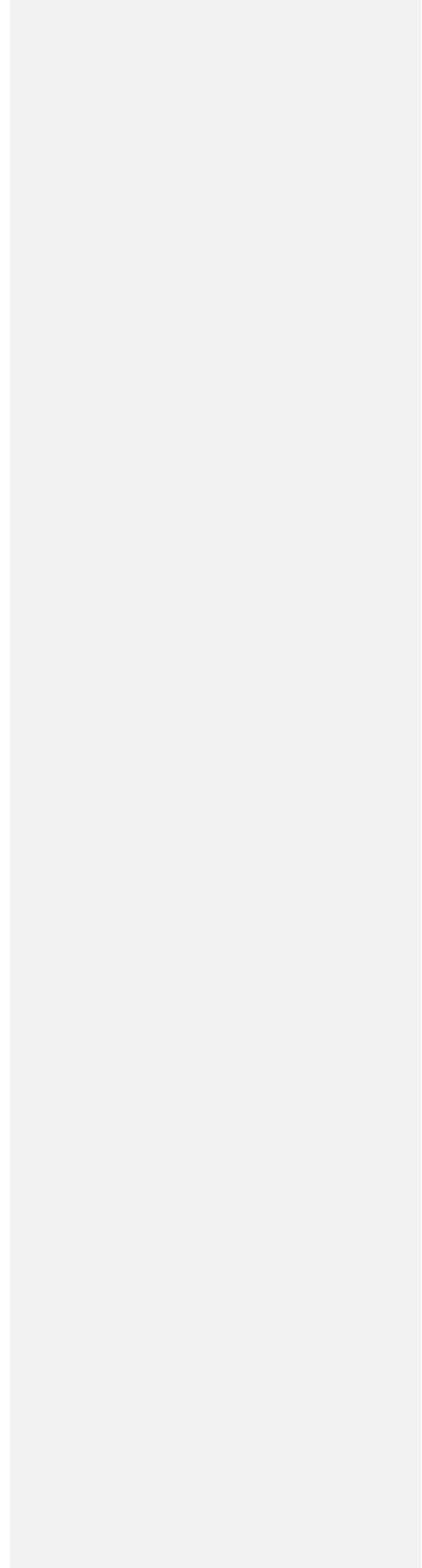
8:30 AM - Noon

- Course Instructor(s) determined.
- Discuss the review and revision process of the draft course.

5) Final Comments

- a. Sabiha requested that copies of the *Guidelines for Excellence* are available at the development session.
- b. Sabiha suggested that Clare Croteau's thesis be included at the development session for a reference.
- c. Ali will look for examples of courses that have already been created that focus on diversity (cultural and ethnic) in environmental education.
- d. Ali will bring resources from journals and books for the development session.
- e. There will be internet access at the development session meeting.

Appendix B.
Design Team Conference Call #2



Conference Call Notes

2/12/2008

8:00 AM (CT) 9:00 AM (ET) – 9:15 AM (CT) 10:15 AM (ET)

Participants:

Ms Mara Koenig
Dr. Gus Medina
Dr. Sabiha Daudi
Ms Teresa Mourad
Ali Cordie

Numbers:

National Phone Number:
1-800-977-8002

International Phone Number:
1-404-920-6650

Participant Number: 644097#

Agenda:

- **Discuss Review Team's comments from the Draft of Unit and Objective descriptions**
 - o The Design Team reviewed the Review Team's comments and grammatical edits in the draft below. The grammatical editing and Design Team's plans for revising the draft are addressed with track changes within the document below.

Draft with revision plans:

Making EE Relevant for Culturally Diverse Audiences

NRES 410/610: *Making EE Relevant for Culturally Diverse Audiences* is available for 1 graduate or undergraduate level credit through UWSP. It is also available as a non-credit workshop for those not seeking college credit. Although there are no prerequisites for this course, a working understanding of environmental education is essential for success in this course.

The "Making EE Relevant for Culturally Diverse Audiences" online course has been developed in collaboration with national EE experts who represent diverse cultural and ethnic backgrounds.

Each day our society grows more diverse. In every situation factors such as cultural background, ethnicity, and religious beliefs influence how people perceive and interact with the environment. Environmental educators must become culturally competent. This will help

them understand how to work with and involve these increasingly diverse populations to ensure that their perspectives are heard and that they participate fully in environmental decisions being made at the local, regional, and national levels.

The course is designed to provide course participants with the basic knowledge and skills needed to make EE relevant to culturally diverse audiences. Through this course you will:

- Broaden your perspective of EE to encompass interests and issues of concern to culturally diverse audiences, assess barriers to participation among culturally diverse audiences, and identify and adapt EE programs and resources to address the interests and concerns of culturally diverse audiences

Educators working in nonformal settings such as parks, museums, zoos, botanical gardens, nature centers, youth and community centers and formal educators working in schools and universities who want to make their EE programs and instruction more relevant to diverse audiences will benefit from this course.

2) Unit Descriptions and Objectives:

Unit One: Perspectives of EE in Culturally Diverse Audiences

Learners will broaden their perspective of EE to encompass interests and issues of concern for culturally diverse audiences.

Each day our society grows progressively more diverse. In every situation factors such as cultural background, ethnicity, and religious beliefs influence how people perceive the environment. Environmental educators must become culturally competent. This will help them understand how to work with and involve these increasingly diverse populations to ensure that their perspectives are heard and that they participate fully in environmental decision making. The purpose of this course is to help learners gain basic knowledge and skills needed to make environmental education relevant for culturally diverse audiences. This unit will assist learners to broaden their perspectives of environmental education so that it encompasses the interests and issues of concern for their program's intended culturally diverse audience.

Objectives for Unit One

Upon completion of this unit learners will be able to:

- Describe how culture influences an individual's perspective on the environment. (Knowledge)
- Summarize various cultural perspectives of the environment. (Comprehension)
- Examine the characteristics of their intended audience. (Application)

- Identify interests and issues of concern towards the environment held by their intended audience. (Analysis)

Overview of Unit One

1.1 Individual Cultural Influences (Developing cultural competency?)

Through defining and discussing concepts such as diversity, culture, race, ethnicity, and environment learners will gain an appreciation of how our experiences determine what we think and feel about the environment and our relation with it. Course participants examine how their own culture has influenced their perception of and interaction with their environment.

Comment [ac1]: Cultural competency will be addressed in section 1.3. See section 1.3 comments.

1.2 Cultural Perspectives

By becoming aware of the various cultural perspectives toward the environment, learners will realize how these perspectives influence the participation of culturally diverse audiences in environmental education. Many cultures differ in their beliefs, value systems, and ways of interacting. Some require speaking to elders before speaking to community members and others require that an individual only speak a certain language when communicating. By looking at other cultures, course participants will increase their knowledge of how culturally diverse audiences view the environment. They will also gain an understanding that all cultural perspectives towards the environment are authentic.

Comment [ac2]: This sentence will be deleted and replaced with a sentence that refers to environmental justice.

1.3 Cultural Examination

Learners will select an intended audience to focus on for the remainder of the course. This section guides learners on the culturally appropriate methods to engage their intended audience in order to learn about their cultural patterns, interests, and issues of concern.

Comment [ac3]: Change objective heading to something similar to "Developing Cultural Competency."

Comment [ac4]: Methodology section will be removed from Unit One and put into Unit Two. In place of the methodology, a sentence will be included that addresses cultural competency.

Unit Two: Barriers to Participation in EE

Learners will assess the barriers to participation in EE among culturally diverse audiences.

Fundamental to EE is the idea that the audience actively participates in education to become environmentally literate citizens capable of developing and applying environmental action skills. To be successful in creating an EE program that is relevant to culturally diverse audiences, it is essential to think critically about the obstacles that hinder participation. Culturally competent environmental educators working among culturally diverse audiences understand the nature of those barriers based on acquired knowledge of the characteristics of that intended audience, thereby increasing cultural competency. These barriers include those that are audience-related as well as those within the environmental educator and his or her own organization.

Objectives for Unit Two:

Upon completion of this unit learners will be able to:

- Examine audience-related barriers to participation in EE (analysis)
- Assess the barriers within themselves and their organization that are hindering their intended audience from participating in EE (evaluation)
- Appraise the role and significance of building relationships and partnerships with members of their intended audience (evaluation)

Overview of Unit Two

2.1 Barriers Identification

Culturally diverse audiences bring a different set of perspectives, values and skills that pose a challenge to conventional environmental education approaches. This section examines how the characteristics and interests of the intended audience may impact their participation in environmental education.

2.2 Barriers Investigation

Often, working with culturally diverse audiences requires higher levels of sensitivity and flexibility to accommodate and incorporate the different perspectives, values, and skills of the intended audience. This section gives you a tool to assess your organization's readiness to engage with culturally diverse audiences and explores ways to break through these barriers and develop greater cultural competency.

2.3 Relationships and Partnerships

As EE professionals, we know how important it is to build and sustain relationships and partnerships. Breaking down barriers to the participation of our intended audience is a joint effort that will take time. This section will help learners assess the extent to which building relationships and partnerships affect the success of environmental education programs for culturally diverse audiences.

Comment [ac5]: Include a sentence that addresses "appropriate methods to engage their intended audience in order to learn about their cultural patterns, interests, and issues of concern." This is taken out of Unit One and will now be a part of Unit Two. Methods that the learner uses will be addressed in assignment for this unit.

Comment [ac6]: Teresa will review this sentence and possibly articulate it differently. It was agreed upon by all of the Design Team that this section is very important and is addressing the correct issues.

Unit 3: Application of knowledge and skills acquired

Learners will be able to identify and adapt EE programs and resources to address the interests and concerns of culturally diverse audiences

So far we have identified interests and concerns related to environmental education as well as barriers to participation in environmental education programs of culturally diverse audiences. To work with and involve culturally diverse audiences, it is important to have programs that identify the challenges and barriers and address them in an appropriate and inclusive manner.

This unit focuses on identifying existing environmental education programs and resources and adapting them to make them more relevant and meaningful to culturally diverse audiences.

Objectives for Unit Three

Upon completion of this unit learners will be able to:

- Interpret the key characteristics of quality EE resources and programs in relation to their intended audience (comprehension and application)
- Adapt programs and resources to address the interests and concerns of their intended audience (application)
- Apply the knowledge and skills to motivate their intended audience to participate in EE (application)

Overview of Unit Three

3.1 Resource Identification and Adaptation

There is a plethora of EE resources available to educators that may or may not be suitable for culturally diverse audience. Using *NAAEE Environmental Education Materials: Guidelines for Excellence* and *Nonformal Environmental Education Programs: Guidelines for Excellence*, learners will identify and discuss what are suitable resources for culturally diverse audiences and why.

Comment [ac7]: Sabiha is going to consider changing the word "Adaptation."

3.2 Program Analysis

Planning and implementation of EE programs is often geared towards the dominant culture where a certain level of shared values, motivating factors, prior knowledge and issues of interest and concern can be assumed. Learners will review and analyze a hypothetical but "typical" EE program, with the identified barriers, interests and areas of concern of their intended audience in view.

Comment [ac8]: Sabiha will revise this section so it addresses the various levels that can be made to a program or organization to make it more relevant for the learners' intended audiences. She will address the different levels that individuals reach when they are changing their program/organization. This will give the learners a sense of the various stages of relevancy, and that the beginning levels are not the final changes that can be made. These levels include changes to: 1.) Signs and language 2.) Needs of the audience 3.) Mission, objectives, and priorities of the organization. These levels will also be addressed to some degree in Unit Two when the learners identify barriers.

3.3 Program Modification and Application

Having gained an insight to culturally appropriate EE resources and programs, learners will apply this learning to one (aspect) of their own programs and modify them to make it relevant to culturally diverse audiences. These adapted activities will encourage and motivate the intended audiences to participate actively in EE programs.

Comment [ac9]: As a way to address environment justice in this section, Sabiha is going to incorporate an environmental justice issue into the "typical" program model that the learner will analyze as part of the assignment in Unit Three. Also, as a way to not focus on just "tweaking" current programs, but instead create an open forum for new ideas, the focus of the Program Analysis section will be to identify issues that the learners' intended audience may have and how the learner can build an EE program based on those identified issues.

General comment regarding the draft:

Gus: There are many issues to cover, and as a Design Team it is important to keep in mind the workload of the course. The number of the readings and assignments as well as the depth needs to be kept in mind when developing the course components.

Comment [ac10]: Sabiha is going to consider changing the word "Modification" and "modify."

Comment [ac11]: The wording in this section may sound too missionary-based. Instead, it

- Answer questions regarding the Assignment and Activity components and Template

This item will be addressed by Design Team, if necessary, via email.

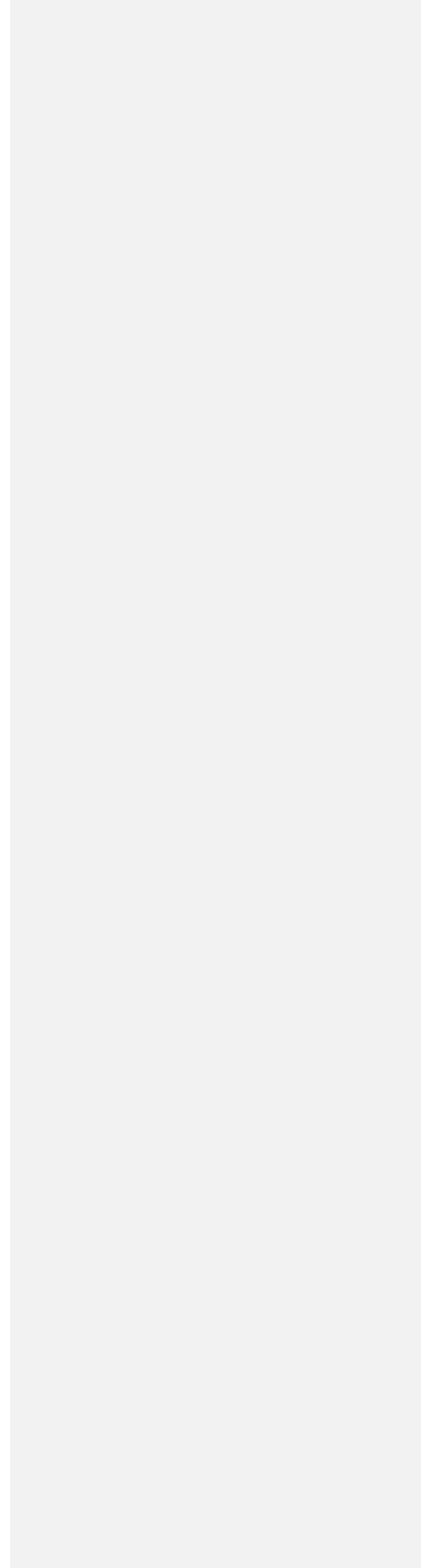
- Discuss plans for the Assessment Template

This item will be addressed by Design Team, if necessary, via email.

- Additional Comments

The Design Team will submit the changes they make to the draft to Ali by Sunday, February 17th. Ali will then send an email to the Review Team that explains what changes were made and why along with a copy of the final version of the unit and objective descriptions.

Appendix C.
Design Team Conference Call #3



Conference Call Notes

2/27/2008

9:30 AM (CT) 10:30 AM (ET) – 10:50 AM (CT) 11:50 (ET)

Participants:

Ms Mara Koenig

Dr. Gus Medina

Dr. Sabiha Daudi

Ms Teresa Mourad

Ali Cordie

Numbers:

National Phone Number:

1-800-977-8002

International Phone Number:

1-404-920-6650

Participant Number: 644097#

Agenda:

- Discuss the Design Team's comments and changes in Draft 2 of the Units and Objectives
- Discuss the new timeline for the Reading, Assignment, Activity, and Assessment sections
- Additional Comments

Items Covered

1. Draft 2 Discussion
 - a. Before looking at the individual units, Gus described a general overview/progression for the course as a way of providing a context for the comments made. The following overview/progression reflects a modified version of what Gus describe. The version below incorporates elements of the discussion during the conference call.
 - i. In unit one learners:
 1. Self-reflect about their own culture and experience and how these affect what they value about environment.
 2. Examine other cultures to determine what they value about environment.

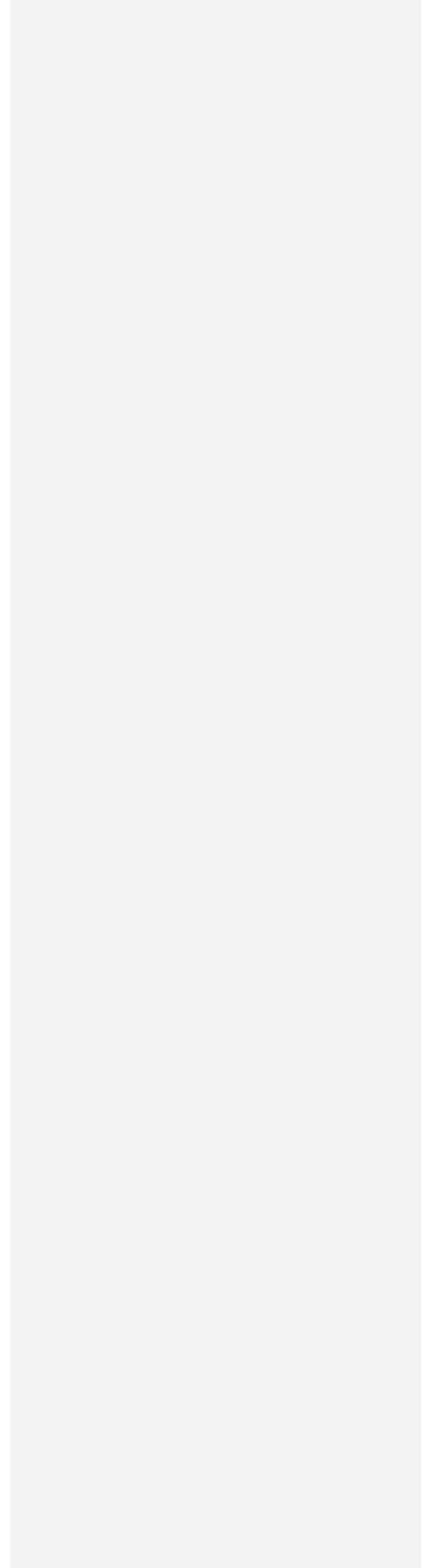
3. Consider what is required to effectively interact with and understand individuals that hold worldviews different from their own (cultural competency).
- ii. In unit two learners:
 1. Focus on understanding the needs and interests of their intended audience and culturally appropriate strategies/methods for collecting information.
 2. The learner examines how the needs and interests of their intended audience are similar or different from what their organization is set up to do and how this supports or hinders the participation of their intended audience.
 3. Consider what is required for their organization to effectively work with and serve communities that hold worldviews different from those of the organization (cultural competency).
 - iii. In unit three learners:
 1. Examine what are quality resources and programs in relation to their intended audience.
 2. Review a hypothetical but typical EE program/resource from the perspective of their intended audience.
 3. Consider levels of change needed to address the interest and needs of their intended audience and describe changes at a level appropriate for their situation.
- b. The Design Team agreed that Environmental Justice will be a natural component throughout the entire course, and specific EJ concepts will be introduced through readings and assignments. Gus suggested good EE examines social equity and health issues and that these concepts can serve as a bridge/connection to EJ (since EJ considers social equity, health, environment, and addresses disproportionate impacts based on race).
2. Unit One
 - a. Remove “Identify their intended audience to focus on for the remainder of the course” as a unit objective. This will still be done at the assignment level in unit one.
 - b. Gus and Mara will discuss Bennett’s Stages of Cultural Sensitivity and Mara will incorporate the stages into an assignment in 1.3. We agreed that it is not necessary to mention Bennett in the description since it is only one of several possible models.
 3. Unit Two
 - a. Teresa will expand on the sentence, “Environmental Justice will be introduced as a portal to EE” (what is meant by the word portal may not be clear to some readers).

4. Unit Three

- a. Sabiha will shorten description about levels of change to one or two sentences. She will pick up the levels of change concept in 3.3 but still keep it brief. The concept will be examined in more detail as a reading and/or assignment under 3.3.
5. Draft 3 of the unit and objective descriptions will be sent to Ali by March 3rd.
 6. Ali will send Draft 3 to the Review Team along with an explanation for the changes that have been made. No additional feedback will be requested from the Review Team.
 7. New timeline was determined for the pilot course development (see attached document).

End of Notes

Appendix D.
Design Team Conference Calls #4 - #6



Conference Call Notes

Monday, 3/31/2008

4:00 PM (CT) 5:00 PM (ET) – 5:00 PM (CT) 6:00 PM (ET)

Tuesday, 4/1/2008

2:00 PM (CT) 3:00 PM (ET) – 3:15 PM (CT) 4:15 PM (ET)

Wednesday, 4/2/2008

2:00 PM (CT) 3:00 PM (ET) – 3:15 PM (CT) 4:15 PM (ET)

Monday, 3/31/08

General Notes:

- All assignments (Units One – Three) posted in the Discussion Board will require a reply
- Replies to Discussion Board postings must be submitted one week after the due date of the Discussion Board assignment the course participants are replying to
- The expected length for each Discussion Board reply must be specified in the assignment description
- Specific point values for each assignment will be determined when the entire course is put together
- The course participant will only have access to the assessment guidelines if a rubric is made for a particular assignment

Unit One Discussion:

Assignment 1

Based on your values, beliefs, and experiences, describe how your own culture has influenced your perception of and interaction with the environment.

Comment [rw12]: Changed to "Based"

Post your descriptions on the discussion board under "Personal Cultural Influences."

Post your response on the discussion board under "Personal Cultural Influences." Your response should be 3-5 sentences.

Assignment 2

Answer the following question, limiting response to 5-6 sentences.

- Define 3 of the following terms based on the reading you chose: Cultural Competency, Diversity, Environment, EE, Ethnicity, Culture, Cultural Group
- How does learning these concepts change your understanding of how your own culture influences your perceptions and interactions with the environment?

Comment [rw13]: I think a number should be specified rather than a range of 2-4. Why not say 3?

Post your response on the discussion board under "Cultural Definitions." Your response should include your definitions and 3 – 5 sentences in response to the second question.

Comment [rw14]: Do you mean "your" perceptions?

Assignment 3

1. Choose two articles from the supplied list:
 - Make sure the culture does not reflect your own culture
 - Discuss a culture you are interested in learning more about
2. Address the various cultural perspectives toward the environment that are discussed in the article. You should be able to respond concisely to each approach in two to three sentences. The whole response should be no more than one page.

Comment [ac15]: An article that reflects Hispanic cultural perspectives toward the environment is needed.

Comment [rw16]: Is this the same discussion that is described in #2 below? If so it appears redundant. If not than we need to be more clear about our expectations for the discussion.

Comment [rw17]: Is it clear what you mean here by the word "approach"?

Assignment 4

By understanding your perceptions and the perceptions of other cultures toward the environment, you are beginning to become cultural competent. Read the following articles on cultural competency to increase your understanding. You also will be identifying your intended audience for the remainder of the course.

Comment [ac18]: A more descriptive paragraph is needed here that ties in cultural competency.

Tuesday, 4/1/08

General Notes:

- The term "learner" will be used to refer to the course participant throughout the general course and unit descriptions
- In each individual assignment description, the term "you" will be used to refer to the course participant
- Specific due dates will be posted later

Unit Two Discussion:

2.1

Assignment 1: Reflection Activity

"Cultural Competency, EJ and EE (1)"

Describe what do you believe the connections are between environmental justice, cultural competency and EE?
Post your reflection on the *discussion board* under "Cultural Competency, EJ and EE (1)".

Comment [ac19]: Provide more context to help launch the student into the reflection activity. Similar to a "mini lecture" in a traditional classroom setting.

Comment [ac20]: Possibly reorder the terms: "EJ, Culture, and EE"

Assignment 2: Read and Respond

“Cultural Competency, EJ and EE (2)”

Answer the following question:

Based on your understanding of EJ, what insight does it give you into culture and EE?

Your response should be one paragraph long.

Post your reflection on the *discussion board* under “Cultural Competency, EJ and EE (2)”.

Comment [ac21]: Change to specifically reinforce EJ focus

Comment [ac22]: Include the how long the response should be.

Comment [rw23]: This should be labeled a “response” rather than a “reflection” since this is not a Reflection activity as labeled.

Comment [ac24]: This activity will be divided into smaller sections and the students will have a 2 – 3 weeks to complete it.

Assignment 3: *Indepth Activity*

“Knowing Your Audience”

2.2

Assignment 1 and Assignment 2

Comment [ac25]: Rework into one assignment

Assignment 3

Comment [ac26]: Changed to Assignment 2

2.3

Assignment 1 and Assignment 2

Comment [ac27]: Rework into one assignment and focus on why the students want to be involved in partnerships (what do partnerships bring to the table?).

Assignment 3

Comment [ac28]: Changed to Assignment 2

1. Identify motivations to get into a partnership and find an appropriate person from your intended audience to talk to about your EE objectives.

Wednesday, 4/2/08

General Notes:

- A set of glossary terms will be put together for the entire course
- NAAEE Guidelines resources will be accessible through a hyperlink within the assignment descriptions (along with the case studies)

Unit Three Discussion

Comment [ac29]: One case study will be chosen for entire unit.

Assignment 1

Comment [ac30]: Sabiha will give an example to set the context for the assignment. It will be written as a vignette.

- a) How will you apply the characteristics to realistically address the concerns of your intended audience?

b)

Comment [ac31]: Delete second question “b”

Assignment 2

"Nonformal EE Programs: Relevance to needs of culturally diverse audiences"

The purpose of this assignment is to understand the program components that are necessary for planning an environmental education program that is appropriate and relevant to needs of culturally diverse audiences. This document can also be found on NAAEE's website on www.naaee.org/npeee, for detailed information when planning your programs.

Additional Reference:

The article on "Characteristics of a sound environmental literacy program" (*Ali – This is on pages 103 and 104 in Jim Elder's book – A Field Guide to Environmental Literacy. If Rick or Gus does not have it, I can fax over the pages*) highlights the components that are generally considered important when planning environmental education programs. However these elements are not fully applicable when considering the needs and concerns of culturally diverse audiences. This approach has perhaps led to the prevalent sense of irrelevancy felt by culturally diverse audiences.

Assignment 3

Identify two components from the case study you have been focusing on that need to be added to make the program relevant for culturally diverse audiences. Give reasons for your suggestions.

Post only your suggestions for change on the Discussion Board under "Important components of EE Programs to support needs and concerns of culturally diverse audiences", and submit your assignment to the Drop Box.

Assignment 4

b) After analyzing the current status of your organization's efforts to promote inclusion of culturally diverse audiences, design a strategy to address and plan the required modification at the appropriate level of change. Identify and adapt at least three aspects of your organization's focus that will promote participation of culturally diverse audiences.

Additional Comments:

- The next conference call is scheduled for Monday, April 7th at 2:00 PM (Central Time) 3:00 PM (Eastern Time).
- Draft 1 of the entire course will be submitted to the Review Team April 10th.

Comment [ac32]: Revise the description of this assignment. The student will chose one case study to use for all of the assignments in Unit Three.

Comment [ac33]: Separate into two sentences.

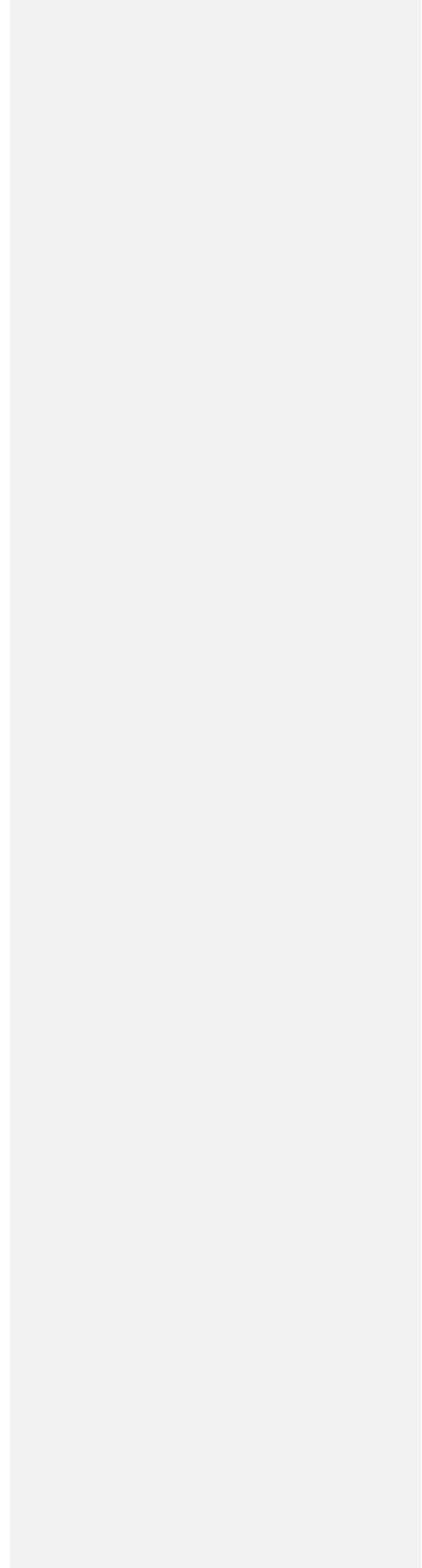
Comment [ac34]: Change this paragraph so it describes how we apply and interpret the characteristics of EE programs depends on the cultural lens that we perceive the world.

Comment [ac35]: Need to include the length that the suggestions should be.

Comment [ac36]: This assignment will be the course's Culminating Assignment.

Comment [ac37]: This is the main focus of this assignment. Please expand on this.

Appendix E.
Design Team Conference Call #7



Conference Call Notes

Monday, 4/7/2008

2:20 PM (CT) 3:20 PM (ET) – 3:15 PM (CT) 4:15 PM (ET)

General Notes:

- The revisions made to the Activity and Assignment sections in each unit were discussed.
- Because not everyone was able to review the entire draft before the conference call, Gus's comments were discussed, and all of these edits were agreed upon.
- The Design Team members will email me any changes that they would like to include on the draft via email by 4/9/2008.
- The Assessment section and rubrics will not be drafted until the Design Team receives the Review Team's comments on the Activity and Assignment sections.
- A draft of the Activity and Assignment sections will be submitted to the Review Team on April 10th.
- The Review Team's comments should be sent back to Ali by April 24th.
- Ali will edit the final draft before sending it to the Review Team to ensure the formatting is consistent throughout the document.
- The Assignment numbers will be in numerical sequence from Unit One through Unit Three

Unit One:

Edits

Assignment 1

- Discuss how your perceptions compare and contrast with other course participants.

Assignment 2

Address the following, limiting responses to 5-6 sentences.

- Define 3 of the following terms based on the reading you chose: Cultural Competency, Diversity, Environment, EE, Ethnicity, Culture, Cultural Group
- After learning what these terms mean and gaining a broader appreciation for what culture encompasses, revisit assignment 1 and revise it to reflect your new understanding (assignment #1 requested that you describe how your culture has influenced your perspective and interaction with the environment).

Post your response on the discussion board under "Cultural Definitions" within one week.

~~Your response should include your definitions and 3–5 sentences in response to the second question.~~

Assignment 3

2. Choose two articles from the list below that:

- Address a culture different from your own
 - Discuss a culture you are interested in learning more about
3. Address the various cultural perspectives toward the environment that are discussed in the articles. You should be able to respond concisely to each approach in two to three sentences. Your entire response should be no more than one page.

Comment [ac38]: Add a sentence about comparing and contrasting the cultures they read about.

Assignment 4

After learning about various cultural perspectives in the previous readings, you are now going to decide who your intended, culturally diverse, audience will be for the remainder of the course. Your selected audience should include the following criteria:

1. a cultural group that is traditionally underrepresented in EE,
2. the cultural group is represented in your community, and
3. the cultural group is not currently participating in your organization's programs or it participates in low numbers relative to its presence in the community.

In your assignment include the reasons why you selected the cultural group chosen. Post a one sentence response about your selected cultural group on the discussion board along with the reasons why under "Intended Audience" within one week.

Unit Two

Phase I of the assignment will take one week and Phase II will take two weeks.

2.2 Assignment 1

Select one posting that has not been commented on yet. How might the components of organizational cultural competency in this posting be a barrier to encouraging your intended audience to participate in EE? Why?

Comment [ac39]: Teresa will work on the wording of this paragraph.

Unit Three

Assignment 2

An example, consider the role of "Evaluation" in program planning. Evaluation strategies need to be defined in terms of the abilities and experiences of culturally diverse audiences. If a community has low literacy levels or is not fluent in English a written survey in English then it would be advisable to consider an alternative approach such as short face-to-face interviews in the native language of the audience. Similarly, criteria selected for evaluation also needs to be appropriate and relevant to the intended audiences.

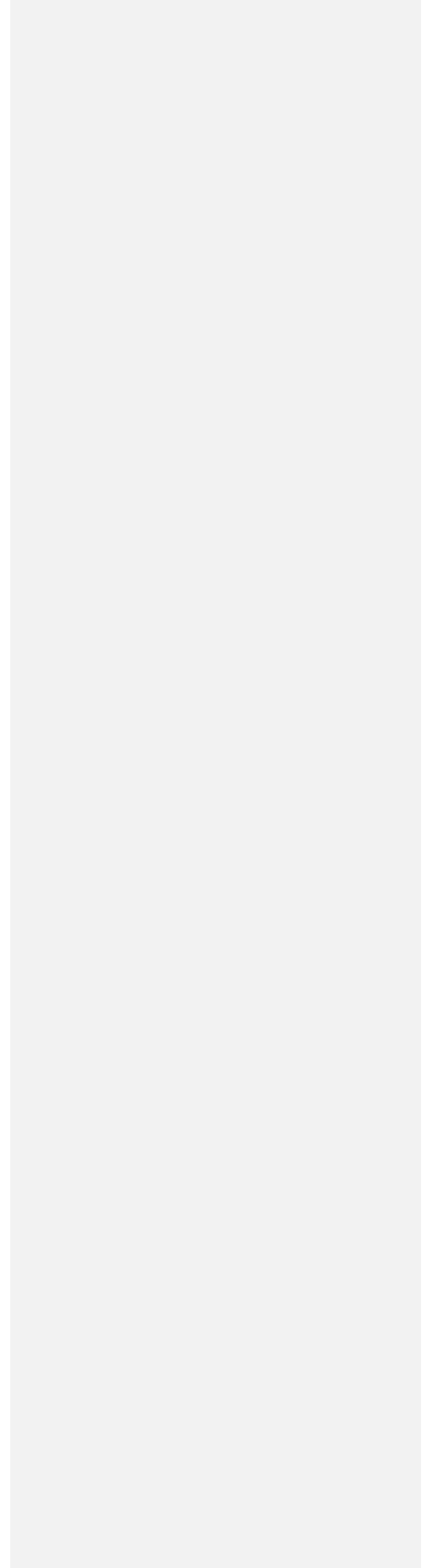
Post your response on the discussion board under "Nonformal EE Programs: Relevance to needs of culturally diverse audiences". Your response should be one paragraph long.

Assignment 4

In 7-8 pages (double spaced), discuss what you have discovered and email to instructor. Post a one paragraph summary of your discussion board under “The way forward”. Make sure that you also identify any additional resources that you may have used to complete this assignment.

Comment [ac40]: Sabiha will include structured guidelines for the paper.

Appendix F.
Design Team Conference Call #8



Conference Call Notes

Tuesday, May 6, 2008

12:00 PM (CT) 1:00 PM (ET) – 1:20 PM (CT) 2:20 PM (ET)

Participants:

Teresa Mourad

Gus Medina

Sabiha Daudi

Ali Cordie

General Notes:

- The language in the assignment descriptions will be revised to reflect graduate and undergraduate assignment guidelines.
- Grammatical edits and word changes made by the Review Team were all agreed upon by the Design Team.
- In the Activity descriptions a Short Activity will be defined as 1-3 paragraphs long (each paragraph consists of 7-9 sentences).
- The final version of each unit is due on May 19th.
- Ali will contact Mara, and if she is unavailable to work, Gus and Ali will complete the necessary revisions to Unit One.
- A final copy of the pilot course will be sent to the Review Team and the Design Team.
- The Design Team will have access to the course on the online platform, Desire2Learn, once it is completely set up at the end of August.
- The start date for the pilot course is September 2nd, 2008.
- The Design Team will help revise the pilot course after it has been evaluated by the course participants next January.

Unit One:

- Assignment 3: Workshop and undergraduates will only have to choose one article from the list (graduate students will choose two).
- Assignment 3: Sierra Club's survey on Hispanic perspectives will go under Additional Readings.
- Assignment 5: The language will be put into sentence format and described in more detail to the guidelines below:
 - Respond specifically to:
 - Dr. Milton's stages of progression
 - The steps in one becoming culturally competent

Unit Two

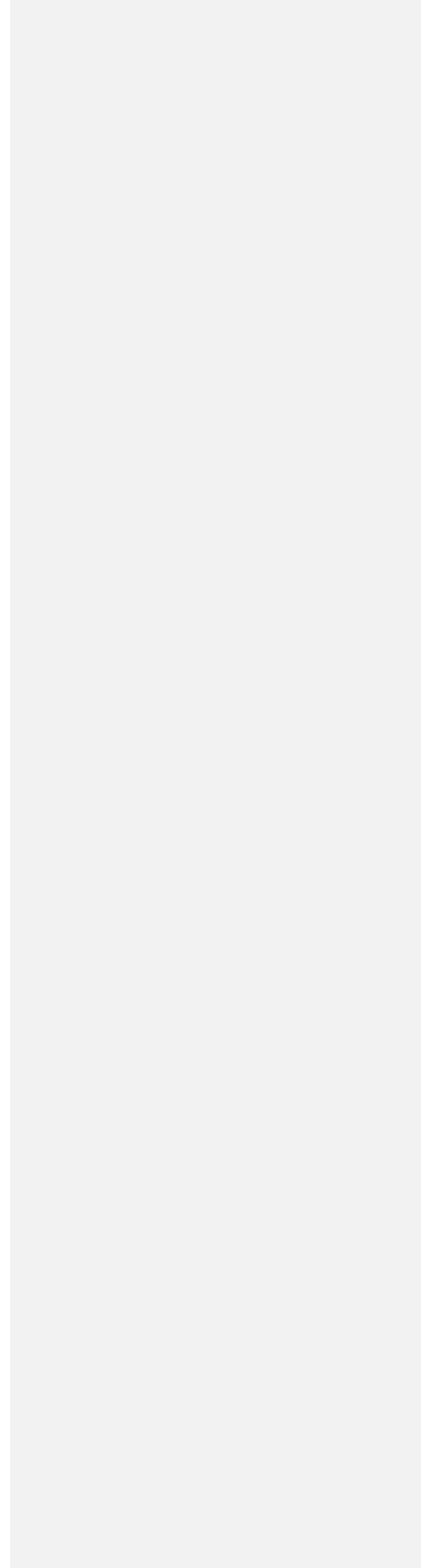
- 2.1 Description: EJ will be introduced as only one way to make EE more relevant to culturally diverse audiences. The wording under the 2.1 description will be changed.
- Assignment 6: Agyeman, J. (2005). "Paradigm to Practice"... will be included under Additional Readings.

- Assignment 7: Teresa may change the language slightly after reading “Paradigm to Practice.”
- Phase I: Demographics reworded so it’s just one aspect of the assignment
- Phase I: Include the sentence that emphasizes the importance of the course participants to be aware of basic ethical concerns associated with any research: respect for the participants, awareness of invasion of privacy, the ideal of voluntary participation (any participant is free to refuse or terminate), confidentiality /anonymity, and informed consent.
- Assignment 9: Workshop and undergraduates only choose 3 metrics in Appendix A from the Barr Foundation Report.
- Assignment 10: The United States’ and other developed countries’ impact on the developing the environmental health of other countries will not be a separate component of the course. Instead, the international piece of EE will come out when the students are completing the readings and researching.
- Assignment 10: Graduate students only need to reply to the Discussion Board.

Unit Three

- Specify that the NAAEE’s Guidelines for Excellence need to be used with many cultural perspectives in mind, because if they are used only with the dominant culture’s views, the EE plan that is created with the Guidelines will reflect only those views.
- Assignment 15: Language in third paragraph will be reworded. “Identify and adapt at least three ~~aspects~~ dimensions (e.g., marketing, ...) of your organization’s focus that will....”

Appendix G.
Review Team Formative Evaluation Results



DRAFT OF READING, ACTIVITY, AND ASSIGNMENT SECTIONS FOR THE PROPOSED ONLINE COURSE:

MAKING EE RELEVANT FOR CULTURALLY DIVERSE AUDIENCES

TO: Review Team

FR: Ali Cordie, Course Manager

The Design Team has completed a draft of the Reading, Assignment, and Activity sections for the new online course that will focus on making environmental education relevant to diverse audiences. This draft includes the readings, assignments, and activity descriptions for each unit in the course.

The Design Team is requesting your input at this time so they can finalize all of the components that are included in the pilot course. They will use your recommendations to revise the draft before they create assessments for the corresponding assignments.

Please provide your comments and suggestions for improvement directly on this file by using Track Changes (or any similar word processing function). I would appreciate receiving your suggested changes and comments by April 24th. That way the Design Team can stay on schedule with developing the course. Please send your comments to me at <acordie@uwsp.edu>.

Thank you for your contributions towards the development of this new course!

Review Team Comments:

Rick Wilke:

I have two issues not addressed in the track changes-

1) I am beginning to believe that the work required is more than what is normally expected for a one credit course. It may be too late to change this to a two credit course for fall but we should consider it. If it is too late than we can decide whether to change after the fall course is offered.

2) I feel this course would be valuable to graduate students in EE and even undergraduates. The problem is they would not have an actual program of their own and could not do many of the assignments. The Design Team should discuss whether modifications should be made to assignments to allow EE undergraduates and/or graduate students to take this course.

I feel strongly that this will be an excellent course. The Design Team and you have done a good job.

Doug Forbes:

First - I am very impressed with the overall feel and content of your proposal. Although I can't speak to the ultimate appropriateness of the assigned/suggested readings, I was very pleased with the breadth of exposure for students. Well done.

My only suggested change would be for Assignment 7 - Phase I.

First - for point #3: I would suggest using the term "socio-demographics"

in place of demographics. I also wondered if it would be worthwhile to have them choose 3 community characteristics besides basic demographic indicators (age, sex, race, education)? This isn't a major issue for me, but I thought that maybe this will encourage them to look deeper at community traits than just the easy, "surface" variables.

Second - after point 4 where you inform the students that their study "does not need to meet the rigorous standards of social science research" - I would suggest adding a cautionary note - something like: "However, you are expected to be aware of basic ethical concerns associated with any research:

respect for the participants, awareness of invasion of privacy, the ideal of voluntary participation (any participant is free to refuse or terminate), confidentiality /anonymity, and informed consent."

I really think it's important to raise the awareness of all who do research that their actions have many implications - beyond the intent of the research.

As I said, other than this, I only found minor typographical or grammatical errors. Excellent job.

Julian Agyeman:

My comments are attached. One big comment for Gus and the team is that they've made a big assumption that "environmental justice and related health concerns" are what is needed for more culturally diverse audiences. This might be true but you mustn't suggest it as if it IS true thereby saying that this is the 'answer'. Brazilians and a lot of other immigrant groups use story as a powerful tool in communication environmental messages. Also, I think you might want to feature one or two inner urban EE project like REEP: Roxbury Environmental Empowerment Program <http://www.ace-ej.org/reep> <http://vids.myspace.com/index.cfm?fuseaction=vids.showvids&friendID=125037901>

Another thought. The Team should see my paper:

Agyeman, J (2003) "Under-participation" and ethnocentrism in environmental education research: Developing "culturally sensitive research approaches" 'Canadian Journal of Environmental Education Vol 8 pp 80-94.

I think it should go where I put:

"I think you should include other articles from the Canadian Journal of EE Vol 7 on 'Culturing Environmental Education'"

J. Allen Johnson:

Sorry about the delay, but IN is having elections now. several thoughts & I haven't mastered the track changes techniques yet... I think the Design team is sabotaging itself not to REQUIRE a face to face meeting with their culturally selected group., First, given this is an on-line course, a dose of reality brings a measure of reality to the course; second, the process of setting up a meeting is probably one of the only times when THEY will NEED something for the OTHER. Third, this experience includes an authentic contact-perhaps more time will be needed. That's fine, it could be done over an extended time; another way would be highest bonus for face to face, next telephonically---highest to someone who picked a group w/ the least contact etc

Maybe I missed it; but there seems to be nothing which suggests the DEVELOPED countries are primarily responsible for the polluted planet. So as Isabel states, until the West is prepared to accept its own flawed mindset got us here, there will probably continue and subtle arrogance that we are studying them not because what they have is of value but we need their vote, not their wisdom. Perhaps, only I think the omission matters.

Activity Descriptions

Reflection: These are brief writing assignments that allow you to reflect on your own experiences and think about what you have learned in the course so far. Responses generally should be limited to one paragraph (5-6 sentences) in length, although some responses may necessitate more or less. Please be concise

Read and Respond: Background readings have been selected to further your understanding of culture and environment and the interaction between these two. All readings required for the course are found by following the blue hyperlinked text in the assignment descriptions. The length of each assignment is indicated in the assignment description.

Short Activity: These assignments allow you to use the course material to extend your learning through an activity. The length of each assignment is generally one paragraph long.

In-Depth Activity: These assignments will give you an opportunity to apply the knowledge and skills gained through the course material. The length of each assignment is indicated in the assignment description. **Submitting Assignments**

There are two locations where assignments may be submitted online, the **Dropbox** or **Discussion Board**. Where an assignment is to be submitted is specified in the assignment description.

Comment [rw41]: Is one paragraph sufficient? I think it would be better to indicate "a few paragraphs long".

Discussion Board Participation: The **Discussion Board** takes the place of classroom discussion by giving you an opportunity to reflect upon course material and postings by other course participants. After posting an assignment on the **Discussion Board**, please post at least one reply to another participant within one week of the assignment due date. Everyone must post a **Discussion Board** response to at least one classmate that has the message “**Reply Required**” posted next to the assignment. Responses are optional for assignments that do not have this message.

Dropbox: The **Dropbox** is a secure site only accessible to the course instructor and course manager.

Discussion Board: The **Discussion Board** is accessible by all course participants and the course instructor and manager.

Posts must:

- clearly address a point(s) made by other participants
- be written in complete sentences and paragraphs

Unit Descriptions

Unit One: Perspectives on EE in Culturally Diverse Audiences

Comment [ac42]: Julian

Overview

Learners will broaden their perspective on EE to encompass interests and issues of concern for culturally diverse audiences.

Objectives for Unit One

Upon completion of this unit learners will be able to:

- Describe how culture influences an individual’s perspective of the environment. (Knowledge)
- Summarize various cultural perspectives of the environment. (Comprehension)
- Examine the characteristics of their intended audience. (Application)
- Identify interests and issues of concern towards the environment held by their intended audience. (Analysis)

1.4 Individual Cultural Influences

In this first section learners will reflect on how their own culture has influenced their perception of and interaction with their environment. Upon reflection, concepts of diversity, culture, race, class, gender, ethnicity, and environment will be defined and discussed.

Comment [ac43]: Julian

Assignment 1: Reflection Activity

Comment [rw44]: I think a related reading would be a good addition here before the students are asked to complete this Reflection Assignment

“Personal Cultural Influences”

How would you describe your culture?

Comment [ac45]: Julian

Based on your values and beliefs describe how your own culture has influenced your perception of and interaction with the environment.

Post your descriptions on the **Discussion Board** under “Personal Cultural Influences.” Your descriptions should be 3-5 sentences.

Comment [ac46]: Guidelines for the assignment being posted to the **Discussion Board** should be described before the criteria for responding to the **Discussion Board** postings (e.g., “When posting to a classmate...”). The length of the assignment should be specified in the assignment description, but there is no need to specify how long the responses to the **Discussion Board** posting should be. There will be a generic description for that in an “Assignment” page for the course. Also, the due date for the assignment that need to be posted in the **Discussion Board** will be listed on a syllabus page. The Responses are due one week after the due date for posting the assignment. The one week deadline will also be included in the “Assignment” page for the course.

Reply Required

When posting a reply to a classmate:

(In addition to any other comments you may have)

Discuss how your perceptions compare and contrast with other course participants.

Assignment 2: Read and Respond

“Cultural Definitions”

Read two of the four articles:

Isajiw, W. (1974). “Definitions of Ethnicity.” *Ethnicity*, 1, 2, 111-124: READ only pages 4-7.
(**Ethnicity, Culture, & Ethnic Group**)

NAAEE. Glossary: “Words and concepts related to cultural diversity.”
<http://www.naaee.org/programs-and-initiatives/diversity/cultural-diversity-eetap/definition-of-cultural-competency> (**Cultural competency, Diversity**)

Jones, D. (2001). “Learning Culture.” Paper presented at the Annual Meeting of Adult Education Research Conference. 42nd. Lansing, MI. June 1-3. (**Culture**)

EETAP. “[Thesaurus of environmental education terms.](http://www.ag.ohio-state.edu/~eetap/pdf/eeterms.pdf)” <http://www.ag.ohio-state.edu/~eetap/pdf/eeterms.pdf> (**Environment, EE**)

Environmental educators must understand how to work with and involve increasingly diverse populations to ensure that their perspectives are heard and that they participate fully in the environmental process.

Comment [rw47]: What is the “environmental process”. Do you mean “in the processes and decisions that affect their environment”?

Address the following:

- Define 3 of the following terms based on the readings you chose: Cultural Competency, Diversity, Environment, EE, Ethnicity, Culture, Cultural Group, limiting responses to one or two sentences per term defined.
- After learning what these terms mean and gaining a broader appreciation for what culture encompasses, revisit assignment 1 and revise it to reflect your new understanding

(assignment #1 requested that you describe how your culture has influenced your perspective and interaction with the environment). Your response should be 3 – 5 sentences.

Post your response on the **Discussion Board** under “Cultural Definitions.”

Reply Required

1.2 Cultural Perspectives

By becoming aware of various cultural perspectives toward the environment, learners will realize how these perspectives influence the participation of culturally diverse audiences in environmental education. They will also gain an understanding that all cultural perspectives towards the environment are authentic.

Assignment 3: Read and Respond

“Cultural Perspectives”

The purpose of this assignment is to familiarize you with various cultural perspectives toward the environment, so you will be aware of the perspectives of different cultural audiences when you work with them in the future. You will also gain an understanding that all cultural perspectives towards the environment are authentic.

Assignment guidelines:

1. Choose **two** articles from the list below that:

- Address a culture different from your own
- Discuss a culture you are interested in learning more about

2. Address the various cultural perspectives toward the environment that are discussed in the articles. Why are these perspectives important?

3. From indications in the articles you read, state how all cultural perspectives of the environment can be authentic.

4. You should be able to respond concisely to each cultural perspective toward the environment in two to three sentences. Your entire response should be no more than one page.

I think you should include other articles from the Canadian Journal of EE Vol 7 on ‘Culturing Environmental Education’

Comment [ac48]: Workshop/Undergraduate students could do only one.

Comment [ac49]: Julian

Lewis, S., & James, K. (1995). "Whose voice sets the agenda for environmental education? **Misconceptions** inhibiting racial and cultural diversity." *Journal of Environmental Education*, 26(3), 5-12.

Kahn, P and B. Friedman. (1998). "On Nature and Environmental Education: **Black Parents** Speak from the Inner City." *Environmental Education Research*, 4 (1): 25-39.

Kato. (2002). Environment and Culture-Developing Alternative perspectives in Environmental Discourse. *Canadian Journal of Environmental Education*, 7 (1): 110-116. (**Asian**)

Pewewardy, Cornel, Hammer, and Cahape. (2003). "Culturally Responsive Teaching for **American Indian** Students." ERIC/CCSMEE. ED482325.

Post your response on the **Discussion Board** under "Cultural Perspectives" within one week.

Reply Required

Assignment 4: Reflection

"Intended Audience"

After learning about various cultural perspectives in the previous readings, you are now going to determine who your intended, culturally diverse, audience will be for the remainder of the course.

Post a one-sentence response identifying your selected cultural group on the **Discussion Board** under "Intended Audience" within one week. You should include a reason why you selected the particular cultural group.

1.3 Cultural Examination

As environmental educators increase their work in cross-cultural settings it's imperative that they be able to understand, value, and include the perspectives of different cultural groups in their work. and understand that individuals within cultural groups will differ according to a variety of factors.

Comment [ac50]: Julian

Assignment 5: Read and Respond

"Cultural Competency"

As you become more familiar with your own culture and the culture of others you are becoming more culturally competent. Read the following articles on cultural competency to increase your understanding of the various dimensions of cultural competency.

Assignment guidelines:

1. Read the following articles on cultural competency:

Olson, Bhattacharya, and Scharf. (2006). Cultural Competency: What It Is and Why It Matters. Prepared by California Tomorrow.

Deane, B. (1991). A Model for Personal Change: Developing Intercultural Sensitivity. Cultural Diversity at Work Journal, 3(5): 1-2.

Lahiri, I. (2000). Dr. Milton Bennett expands the use of his Developmental Model of Intercultural Sensitivity. Cultural Diversity at Work Journal, 12(4): 1-2.

2. Complete a written description of each article. Each description should be **one paragraph in length**.

3. Respond specifically to:

- Dr. Milton's stages of progression
- The steps in one becoming culturally competent

Post your response on the **Discussion Board** under "Cultural Perspectives" within one week.

Reply Required

Comment [rw51]: Is one paragraph sufficient to describe each?

Comment [rw52]: What is meant by "respond specifically"? Do you mean "describe" or "summarize"?

Comment [ac53]: Graduate students only

Unit Two: Barriers to Participation in EE

Overview

Learners will assess the barriers to participation in EE among culturally diverse audiences.

Fundamental to EE is the idea that the audience actively participates in education to become environmentally literate citizens capable of developing and applying environmental action skills. To successfully create an EE program that is relevant to culturally diverse audiences, it is essential to think critically about the obstacles that hinder their participation. Culturally competent environmental educators understand the nature of those barriers by acquiring knowledge of the characteristics of their intended audience. With this understanding, educators learn to consciously adjust their view of the environment to the perspective of their intended audience by addressing issues of environmental health and justice if appropriate. Major Barriers to participation by culturally diverse audiences include those that are within the environmental educator's own organization as well. (see unit 2.2)

Comment [ac54]: Julian

Objectives for Unit Two:

Upon completion of this unit learners will be able to:

- Prepare and use appropriate methods to engage and learn about their intended audience (application)

- Assess the barriers within themselves and their organization that are hindering their intended audience from participating in EE (evaluation)
- Apply cultural competency skills in building relationships and partnerships with members of their intended audience (application)

Unit 2.1 Culture and Implications for EE

Culturally diverse audiences bring a different set of perspectives, values, and skills that pose a challenge to conventional environmental education approaches. These include perspectives of environmental decisions that impact access, equity, and health among others. This section guides course participants on culturally appropriate methods to engage their intended audience in order to learn about their cultural patterns, interests, and issues of concern. Environmental Justice will be introduced as a portal through which environmental education can be made more culturally relevant, depending on the characteristics of the intended audience.

Comment [ac55]: Julian

Assignment 6: Read and Respond

“Cultural Competency, EJ, and EE”

More likely than not, by deciding to take this course, you are expressing that “making EE relevant for culturally diverse audiences” is a need. At some level, you recognize that somehow EE has been confined in perspective, constrained in scope, and limited in reach. In this assignment, you are encouraged to expand your understanding of EE. The readings introduce concepts of environmental justice (EJ), which raises issues of power, environmental racism, and disproportionate impacts into our discussion. What have these ideas to do with EE? In this assignment, you will have the opportunity to consider how EJ can be a way to work with audiences that might not otherwise find EE relevant.

Read the following articles:

Dorceta Taylor’s article, “Making Multicultural Environmental Education a Reality”, in *Race, Poverty and the Environment*.

Barr Foundation. (2006). *Understanding Cultural Competency in Experiential Environmental Education Programs: A Report from the Cultural Competency Assessment Project*. pp. 10-13, 16-17.

Barr Foundation (2005) *Mainstreaming Diversity from Paradigm to Practice*

http://www.barrfoundation.org/usr_doc/Mainstreaming_Diversity_-_From_Paradigm_to_Practice_-_Mass_Audubon.pdf

Answer the following question:

Does the ‘people and nature’ vs. ‘nature and people’ dichotomy existing at Mass Audubon (Barr Foundation 2005) exist in your organization?

Comment [ac56]: Julian

How do the perspectives of environmental justice challenge or reinforce your understanding of cultural competency and EE?

Your response should be one or two paragraphs long.

Post your reflection on the **Discussion Board** under “Cultural Competency, EJ and EE”.

Reply Required

Assignment 7: In-depth Activity

“Knowing Your Audience”

A culturally relevant program is built on knowing the issues, interests, and values of your intended audience. The goal of this activity is to give you a guide on your journey to studying and learning about your intended audience. The assignment will be carried out in two phases. Phase I will require that you design a study about your intended audience. Phase II will ask you to conduct the study and report your findings. The efforts you put into this activity will create a strong foundation for the rest of this course. Although this assignment is demanding, you will be gaining valuable insights into your intended audience.

You will use the following resource to help you complete this assignment.

USEPA. (2002). *Community Culture and the Environment: A Guide to Understanding a Sense of Place*. (EPA 842-B-01-003) Washington: USEPA Office of Water (referred to as the USEPA Guide in this unit).

Assignment Guidelines:

Phase I

1. Determine what your objectives are for working with your intended audience (preliminary objectives are fine at this stage). You may revisit and revise your objectives after going through the assignment).
2. Review pp. 50-80 of the USEPA Guide, which describes 15 community (or audience) characteristics.
3. Depending on your objectives, select three community characteristics that are most relevant and useful to study. Your study should help you understand the background, values and environmental concerns of your intended audience. You must include Demographics among the characteristics you will study.
4. For each selected community characteristic, determine the most appropriate (one) tool to gather the information (i.e., you will use a total of three tools for this assignment). The USEPA Guide offers suggestions on appropriate methods of information gathering for each community characteristic. Review pp. 81-186 for more information on these methods and

techniques. One of the methods you select must include a personal interview method with three selected members of your audience either by phone or in person.

For purposes of this course, your study does not need to meet the rigorous standards of social science research. You may also wish to consult various surveys and studies that might be available about the community. While you will not be able to generalize your findings, you should be able to get a sense of what is happening in the community of your intended audience.

Post your intended audience, objectives, the characteristics you have selected to study, and a brief description of your study methodology on the **Discussion Board** under “Knowing Your Audience Phase 1”. Your description of the study methodology should be no more than a sentence or two long for each characteristic. Use the following template for your posting:

Intended Audience: (e.g., Residents of Neighborhood A)

Audience Characteristics to Study: Demographics, ABC, and CDE.

Methodology: For Demographics, I will search *Census municipal reports (this is just an example)* for Neighborhood A to find out....

For ABC, I will contact Community Group 123, Community Group 456 and Community Group 789 to identify one person per group for a personal interview. I will ask the following questions:

For CDE, I will...

Reply Required

In your reply, comment on one posting that has NOT already been commented on. Your comments should address one concern and one strength you see in classmate’s study design. If all postings have already been commented on, you can select any posting to comment on. Your comments should be one paragraph long.

Modify your study design based on comments received as appropriate.

Phase II

In Phase I you designed your study. In Phase II you will conduct your study, analyze the data, and discuss your findings. The USEPA Guide contains helpful sections on how to present your data and findings.

1. Collect information about your intended audience using the three tools you have selected.
2. Analyze the data collected as appropriate. Pages 187-199 of the USEPA Guide provides an overview of how to analyze your data.

3. Based on your analysis, clearly summarize your findings using the structure below:

Your paper should be structured according to a typical scientific paper with the following sections.

I. Abstract (one paragraph)

This is the synopsis you will post on the **Discussion Board** (write this last). The synopsis should be 150-200 words long. It should specify the purpose of the study (the intended audience and reasons for the characteristics you chose to study), your methods, and your results.

II. Introduction (three paragraphs)

Describe your intended audience, your original objectives for working with your audience, the community characteristics you selected to study, and the reasons for your selection in no more than three paragraphs. You are not required to conduct a literature review.

III. Methodology (half-one page)

You may use the description you posted on the **Discussion Board**. Be sure to address any concerns that might have been posted on your study design.

IV. Results (half-one page for each method employed)

For each method you employed in data collection, present the data and findings on one page. You may use charts and tables to visually organize your data.

V. Discussion (half-one page)

In your discussion, address the significance of your findings with reference to your objectives, your intended audience, environmental justice, and current EE practice.

Submit this assignment to the course instructor via the **Dropbox**. Limit your entire paper to no more than 5 pages. Then post your abstract on the **Discussion Board** under “Knowing Your Audience”.

Reply Required

Comment on one posting that surprised you. Or, comment on one finding that gives you additional insight into your intended audience. What does this reveal about the cultural lens with which you are viewing the specified audience?

Unit 2.2 Organizational Cultural Competency

Working with culturally diverse audiences requires organizational flexibility to value and integrate the different perspectives, values, and skills of the intended audience. This section

provides a tool to assess your organization's readiness to engage with culturally diverse audiences. You will analyze organizational structure, mission, policy, and their relevance to your intended audience.

In Unit 2.1, you took an in-depth look at some of the salient characteristics of your intended audience. Your study helped you to understand some of the interests and values of your audience with respect to the environment. From Unit 1, you gained an appreciation that all cultural perspectives of the environment are authentic. In Unit 2.2, we turn our focus on organizational factors. Various studies and programs have found that it is insufficient for individual professionals to be culturally competent. It is also necessary for organizations to be culturally competent. In the next two assignments, you will learn about the range of considerations organizations must address to increase their cultural competency and how these considerations are related to lowering barriers to participation for your intended audience.

Assignment 8: *Read and Respond*

“Organizational Cultural Competency”

Read the following articles:

Barr Foundation. (2006). *Understanding Cultural Competency in Experiential Environmental Education Programs: A Report from the Cultural Competency Assessment Project*.

Olsen, Laurie, J. Bhattacharya and A. Scharf. (2006). *Cultural Competency: What It Is And Why It Matters*. CA: Lucille Packard Foundation.

Resources

National Center for Cultural

Competence <http://www11.georgetown.edu/research/gucchd/nccc/orgselfassess.html>

Alliance for Nonprofit Management Cultural Competency Resources

http://www.allianceonline.org/cci.ipage/cci_ria.page

Answer the following question:

Based on the readings, describe one way in which components of organizational cultural competency and individual cultural competency interact or inter-relate.

Your response should be one paragraph long.

Post your reflection on the **Discussion Board** under “Organizational Cultural Competency”

Reply Required

Select one posting that has not been commented on yet. How might components of organizational cultural competency in this posting be a barrier to encouraging your intended audience to participate in EE? Why?

Assignment 9: Short Activity

“Organizational Assessment”

The purpose of this activity is to help you become acquainted with the purpose and approach for assessing your organization’s readiness to engage with diverse audiences.

1. Refer to the metrics related to “Organization” in Appendix A from the Barr Foundation Report (Reading 1 in Assignment 2), pp. 27-30.
2. Think about your organization in terms of each of the “domains of cultural competency impact” and the indicators in this section.
3. Select the 3 metrics with which you feel your organization is most advanced.
4. Select the 3 metrics, which, if achieved, would make the biggest difference to creating a culturally relevant EE program with your intended audience.

Explain in one or two paragraphs, how and why the set of 6 metrics you selected would make a difference. Are there other indicators you might use instead of those in the Barr Foundation report?

Post your assignment on the **Discussion Board** under “Organization Assessment”.

Reply Required

Select one posting that differs most from your own sets of metrics. Share your perspective on how these two sets of metrics might be interrelated in terms of achieving culturally relevant EE.

Unit 2.3 Relationships and Partnerships

As EE professionals, we know how important it is to build and sustain relationships and partnerships. Breaking down barriers to the participation of our intended audience is a joint effort that will take time. This section will help you clarify and articulate your motivations for wanting to build relationships and partnerships with your intended audience for a more effective environmental education program.

In Unit 2.2 you assessed the level of cultural competency within your own organization. In so doing, you now have an indication of your organization’s readiness to work with and engage culturally diverse audiences. To achieve high levels of inclusion will require a strong commitment to internal change and adjustments. Another indication of organizational readiness is how your organization proceeds to form inclusive relationships and partnerships.

Assignment 10: Read and Respond

“Effective Partnerships”

Read one of the following:

Smock, Kristina. (1999). “Building Effective Partnerships: The Process and Structure of Collaboration”. In *Shelterforce Online: 105*. Accessed at <http://www.nhi.org/online/issues/105/smock.html> April 6, 2008.

Supporting Community Based Environmental Education Discussion Paper Summary <http://www.uwex.edu/erc/pdf/EPA1.pdf>

Looking for a third – with national/international partnership focus.

Additional Resources

The following is an expanded version of reading #2; you can elect to read this instead.

Andrews, E., M. Stevens, and G. Wise. (2002). “A Model of Community-Based Environmental Education” in Dietz, T. and P. Stern, (Eds). Committee on the Human Dimensions of Global Change, National Research Council *New Tools for Environmental Protection: Education, Information, and Voluntary Measures*. pp. 161-182. Washington: National Academies of Science. Accessed at http://books.nap.edu/openbook.php?record_id=10401&page=161

Based on your reading, describe three factors essential to successful and effective partnerships. Your response should be one paragraph long.

Post your assignment on the **Discussion Board** under “Effective Partnerships”.

Reply Required

Select one posting that has not been commented on yet. To what extent do you agree with the posting? Share your comment in one paragraph.

Assignment 11: *Read and Respond*

Despite the best of intentions, partnerships face many challenges. The reading for this assignment tells the tale of how an apparently ‘natural’ partnership unraveled almost as soon as it began. What lessons can we learn from this case?

“Inclusive Partnerships”

Read the following case study:

Comment [ac57]: Graduate students only

Madfes, T. (Ed.) (2004). "Perishable Partnership?" in *What's Fair Got to Do with It: Diversity Cases from Environmental Educators*, pp. 37-41. San Francisco: WestEd.

In one paragraph, identify two or three motivations of the watershed protection agency and the urban community organization to become partners. In a second paragraph, based on all you have learned in this course, share three ideas on how the chances for a successful partnership could have been improved.

Post your assignment on the **Discussion Board** under "Inclusive Partnerships".

Reply Required

Based on what you have learned about your audience, your understanding of cultural competency, and effective partnerships, comment on one of the postings that has not been commented upon yet. Which of the ideas do you believe will lead to strong inclusive partnerships? In which of the ideas do you see a potential pitfall?

Unit Three: Application of knowledge and skills acquired

Overview

Learners will be able to identify and modify EE programs and resources to address the interests and concerns of culturally diverse audiences.

So far we have identified interests and concerns related to environmental education as well as barriers to participation in environmental education programs of culturally diverse audiences. When working with and involving culturally diverse audiences in EE programs, it is important to assess programs to identify challenges and barriers, and address them in an appropriate and inclusive manner. This unit focuses on identifying existing environmental education programs and resources and adapting them to make them more relevant and meaningful to culturally diverse audiences.

Objectives for Unit Three

Upon completion of this unit learners will be able to:

- Interpret the key characteristics of quality EE resources and programs in relation to their intended audience (Comprehension and Application)
- Modify a hypothetical EE program and resource to address the interests and concerns of their intended audience (Application)
- Apply the knowledge and skills gained by modifying an existing activity, program, or policy within the course participant's organization to make it more culturally relevant for his or her intended audience.

Unit 3.1 Resource Identification and Utilization

There is a plethora of EE resources available to educators that may or may not be suitable for culturally diverse audience. Using *NAAEE Environmental Education Materials: Guidelines for Excellence* and *Non formal Environmental Education Programs: Guidelines for Excellence*, learners will identify and discuss what suitable resources for culturally diverse audiences are currently available. (Is this all?! I know we want to promote NAAEE but I didn't ever see these as stellar examples! Let's look for more)

Comment [ac58]: Julian

Assignment 12: Read and Respond

"EE Materials: Guidelines for Excellence"

The purpose of this assignment is to familiarize you with the "EE Materials: Guidelines for Excellence" document, which can be found on NAAEE's website on www.naaee.org/npeee, so you will be aware of these considerations when you review materials in the future.

For this assignment, read the description of six characteristics available on the abovementioned website and relate each characteristic to the needs and concerns of culturally diverse audiences. More specifically, discuss how you will apply each characteristic to realistically address the concerns of your intended audiences?

For example, under "Fairness and Accuracy", a resource might mention that *Columbus discovered America*. While this may be an accepted "fact" among western inhabitants, Native Americans challenge this thought. If your intended audiences are Native Americans, you will need to consider whether or not to use the resource and if so, how would you use it in light of the perspectives of your Native American audiences. It also raises the question whether you would use the resource with non Native American audiences and if so, how you will address the Native American perspective.

Post your response (no more than one paragraph) to the **Discussion Board** under "EE Materials: Guidelines for Excellence".

Reply required

When posting a reply to a classmate, (in addition to any other comments you may have), review one characteristic identified by one other classmate and provide your suggestions.

Assignment 13: Short Activity

"Nonformal EE Programs: Relevance to needs of culturally diverse audiences"

The purpose of this assignment is to understand the program components that are necessary for planning an environmental education program. In order to ensure that EE programs appropriately

address the concerns of culturally diverse audiences, it is important to consider their specific needs when planning an EE program.

Read the document titled *Nonformal Environmental Education Programs: Guidelines for Excellence* which can also be found on NAAEE's website on www.naaee.org/npeee, for detailed information when planning your programs.

- For this assignment, identify at least **one** specific action that will address the needs and concerns of culturally diverse audiences for each of the characteristics.

An example, consider the role of “Evaluation” in program planning. Evaluation strategies need to be defined in terms of the abilities and experiences of culturally diverse audiences. If a community has low literacy levels or is not fluent in English to complete a written survey in English then it would be advisable to consider an alternative approach such as short face-to-face interviews in the native language of the audience. Similarly, criteria selected for evaluation also needs to be appropriate and relevant to the intended audiences.

Post your response on the **Discussion Board** under “Nonformal EE Programs: Relevance to needs of culturally diverse audiences”.

Reply required

When posting a reply to a classmate, (in addition to any other comments you may have), discuss one way to adapt the characteristic identified by at least one other classmate.

Unit 3.2 Program Analysis

Planning and implementation of EE programs is often geared towards the dominant culture where a certain level of shared values, motivating factors, prior knowledge and issues of interest and concern can be assumed. Such assumptions cannot be made when developing programs for individuals from a culture different from one’s own, Learners will select and analyze **one** case study that is closest to their organization or represents a similar experience they have had. The goal is to develop a deeper understanding of issues such as environmental justice and related health concerns from the perspective of your intended audience.

Additional Resources

The following articles highlight the components that are generally considered important when planning environmental education programs. These models are general in nature and discuss various dimensions of program planning. However, interpretation and importance of the suggested program elements is dependent on the cultural perspectives of program planners. In order to design programs that are appropriate and relevant to culturally diverse audiences, it is important to review existing programs and adapt them to the needs and concerns of the intended audiences.

Elder, J. L. (2003). A Field Guide to Environmental Literacy: Making Strategic Investments in Environmental Education (pp 103-104). Washington, D.C.: North American Association for Environmental Education

Engleson, D. and Yockers, D. (1994). A guide to curriculum planning in environmental education. Wisconsin Department of Public Instruction. ([Available through the Wisconsin Center for Environmental Education: http://www.uwsp.edu/cnr/wcee/](http://www.uwsp.edu/cnr/wcee/)).

Assignment 14 – Short Activity

“Program analysis”

So far, we have explored components of environmental education programs as recommended by researchers and two models of environmental education programs that are commonly practiced. This assignment focuses on discovering program components that may be more appropriate and pertinent to the needs and concerns of culturally diverse audiences.

Following are profiles of three organizations. Select one that is closest to your own program in at least two aspects. Alternatively, you can identify one that may be closest to an experience you have had in the past. Review the selected case study and identify two changes that need to be added to make the program more relevant for culturally diverse audiences. Give reasons for your suggestions. The three case studies are

1. Wonders in Nature – Wonders in Neighborhood. Denver Zoo (Page 9)
2. An Autumn Walk by a Stream – A Natural Resource Leadership Retreat for Women (Page 21).
3. Increasing Public Awareness and Knowledge of Wildland Fire through County Programs (Page24).

These profiles are available in the following publication.

Nonformal Environmental Education Programs: Guidelines for Excellence. (2004). Simmons, D. (ed.). Washington, DC: North American Association for Environmental Education.

Post only your suggestions for change on **Discussion Board** under “Program Analysis”, and submit your complete assignment to the **Dropbox**.

Unit 3.3 Program Review and Application

To modify behavior with reference to the interests and concerns of the intended audiences, organizational changes at three levels are possible. The first level of change is the easiest to make and usually quite visible. It might include translating a brochure into a different language or including images of the intended audience in promotional materials about the program. The second level of change is more in-depth and could consist of a special program designed to meet

the needs of the intended audience. For example, the organization might design a stand alone program that is delivered in the community of the intended audience. The third level of change takes place when the organization as a whole is modified to more effectively meet the needs of the audiences it serves. This includes changes to the organizational mission statement, the board and staff so that it reflects the audience the organization serves, and programs across the entire organization that support the needs and interests of the diverse cultures represented in the community.

Having gained insight into culturally appropriate EE resources and programs, course participants will apply this learning to their own programs and organization to make them more relevant to their intended audience. Learners will identify the needed changes, explain how the changes would be implemented, and describe what the program would look like once the changes were completed. The modified activities, programs, and policies should promote and enhance the level of active participation of the intended audiences in the organization's EE programs.

Assignment 15 – *In-depth Activity*

Culminating assignment

“The Way Forward - systematic modification and adaptation of your own program to the interests and concerns of culturally diverse audiences”

This is your culminating assignment and will signify your learning about strengths and challenges that limit the participation of your intended audience in your organization's EE programs.

In Unit 2.2, you assessed your organization's readiness to engage with diverse audiences using the recommendations from the Barr Foundation Report. For this assignment you will need your paper on '6 metrics' that you completed in Unit 2. This will be the basis of identifying the way forward for you as well as your organization

After analyzing the current status of your organization's efforts to promote inclusion of culturally diverse audiences, design a strategy to address and plan the required modification at the appropriate level of change. Identify and adapt at least three aspects of your organization's focus that will promote participation of culturally diverse audiences. Give reasons for your suggestions.

Comment [rw59]: Not sure it is clear what is desired when asking them to- "Identify and adapt at least three aspects of your organization's focus."

Present your analysis in the following format, which conforms to the standard style of a scholarly paper.

- 1. Summary:** A one-paragraph synopsis of your paper (write last).
- 2. Rationale:** Discuss the background of your organization and a justification for why change is needed at an appropriate level.

3. **Current Activities: Describe current activities** that are used for promoting inclusion of culturally diverse audiences in your EE programs. Describe the areas where in your opinion change is needed. Give reasons for your suggestions and illustrate where this planned change can be most efficient.

4. **The Strategy:**

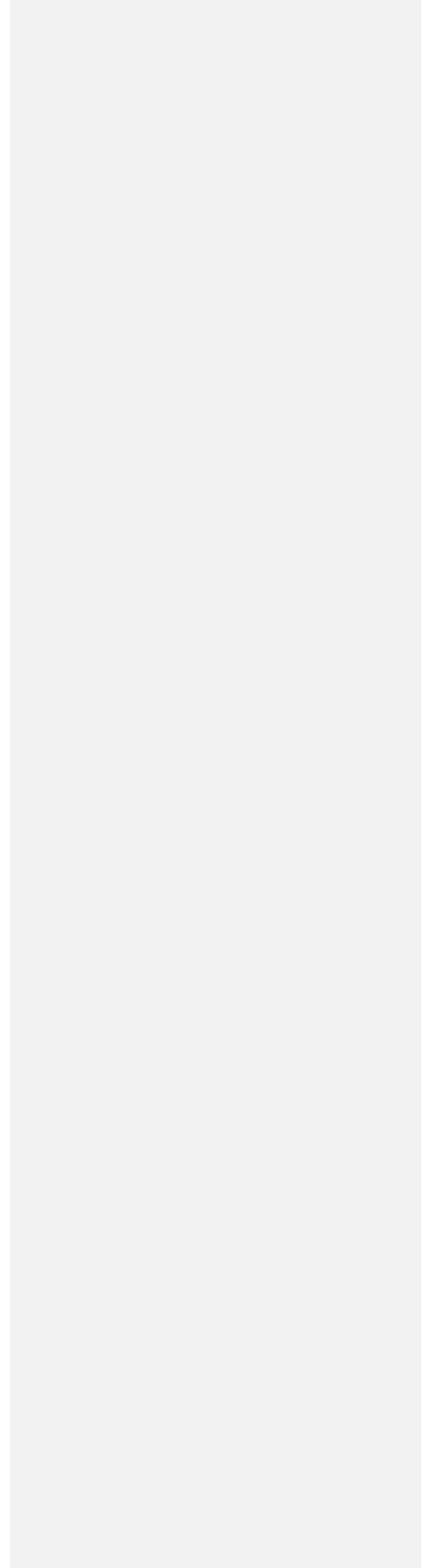
- Identify three areas in your organization's management **plan** where appropriate changes can be made to promote participation of culturally diverse audiences.
- Design a plan to address the required changes by identifying specific activities needed. Develop at least one activity for each area of suggested changes. Each activity must clearly indicate your objective, plan of action and assessment method.
- Specify your partners, resources needed, and a timeline to implement your strategy.

5. Reference: Site any additional resources used to complete this paper.

Limit your paper to 8-10 pages (double spaced) and submit to the instructor using the **Dropbox**. Post a one-paragraph summary of your paper on the **Discussion Board** under "The way forward".

Comment [rw60]: They won't all have "management plans" Consider different wording.

Appendix H.
Course Evaluation



MEER Course Evaluation

Page 1

MEER Course Evaluation

The purpose of this evaluation is to determine the effectiveness and quality of the new online course, "Making EE Relevant for Culturally Diverse Audiences." The results will assist us in the evaluation and improvement of this course.

The evaluation answers that you provide will be recorded in a confidential form. We do ask that you provide your name, but we assure you that it will only be used to keep track of which students have completed the evaluation. We will not release any information that could identify you with your evaluation. Submitted evaluation will not be available to anyone other than Alison Cordie.

This evaluation will be available to complete until the first day of the course. The evaluation takes about 20 minutes to complete. When you are finished completing the evaluation, click the "Submit" button.

Thank you for your participation in the "Making EE Relevant for Culturally Diverse Audiences" course. Your input is important. We really appreciate the time and effort you are contributing.

MEER Course Evaluation

Page 2

Overall Course Outcomes

To what extent do you agree or disagree with the following statements...

1. I have broadened my perspective of EE to encompass interests and issues of concern for culturally diverse audiences as a result of taking this course.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

2. Within the next six months I intend to share information I have learned in this course about providing environmental education programs that address interests and issues of concern for culturally diverse audiences with colleagues and other professionals.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

3. I have increased my knowledge of what the barriers are to participation in environmental education among culturally diverse audiences as a result of taking this course.


- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

4. I have increased my skill in how to assess barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree

Strongly Disagree

5. In the space provided, please explain how within the next six months you intend to assess the barriers to participation among culturally diverse audiences in the environmental education programs at your organization as a result of taking this course. If you currently do not belong to an organization, please state at least one way you will assess the barriers to participation among culturally diverse audiences at an environmental organization in the future so it is more inclusive to culturally diverse audiences.



6. I am able to identify environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.

- Strongly Agree
 Agree
 Somewhat Agree
 Neutral
 Somewhat Disagree
 Disagree
 Strongly Disagree

7. I am able to adapt environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.

- Strongly Agree
 Agree
 Somewhat Agree
 Neutral
 Somewhat Disagree
 Disagree
 Strongly Disagree

8. Within the next six months I intend to adapt my environmental education program to better meet the needs of culturally diverse audiences using the information and skills gained from this course.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree
- Not Applicable

9. Please state at least one way you have adapted or intend to adapt an EE program(s) at your organization so it is more inclusive to culturally diverse audiences?
If you currently do not belong to an organization, please state at least one way you will adapt an EE program(s) at an environmental organization in the future so it is more inclusive to culturally diverse audiences.

10. Please state at least one way you have applied or will you apply the cultural competency skills in building relationships and partnerships with members of the intended/selected audience?

11. Overall, what did you like most about the course?

12. What aspects of the course could be improved to better meet your EE, professional, or other needs?

13. Comments or suggestions:

MEER Course Evaluation

Page 3

Instructor Evaluation

Please indicate to what extent you agree or disagree with the following statements.

The course instructor...

14. Provided responses to my questions in a timely manner.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

15. Respected students' opinions.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

16. Seemed interested in/concerned with my learning and performance.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

17. Provided comments on my work that were clear and useful.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

18. Demonstrated knowledge of the course material.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

19. Graded assignments fairly.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

20. Encouraged student participation.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

21. Fostered a learning environment in which students felt comfortable asking questions and expressing ideas.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

22. Additional comments about the instructor.



MEER Course Evaluation

Page 4

Demographic Information

23. First Name:

24. Last Name:

25. Instructor Name:

Note: This information will only be used to determine which course participants have or have not completed an evaluation.

26. May EETAP/UWSP/FWS use your comments to use in course promotion?

- Yes
- No

27. Will this course help you to meet your state's professional development requirements for environmental education certification?

- Yes
- No
- If Yes, for which state are you seeking certification?

28. What is your current or most recent occupation?
(You may choose more than one option below)

- Environmental Educator/Outdoor Educator
- Teacher or Pre-Service Teacher
- Museum/Zoo Educator
- Resource Developer
- College/University Instructor
- Conservation or Natural Resource Professional
- WILD/WET/PLT State Coordinator
- U.S. Fish and Wildlife Service Educator
- Director of an environmental education organization, program, or center
- Other, please specify

29. Do you consider yourself a formal or non-formal educator?

- Formal
- Non-Formal
- Both

30. How many years have you been an environmental educator?
(Enter a number)

31. Others consider you an environmental education leader:
(Check all that apply)

- In your K-12 school
- In academia
- In your organization
- In the community where you live
- In the state where you live
- At the federal level
- At the international level
- Not applicable

32. Who is your audience?
(You may choose more than one option below)

- Preschool
- Grades K-2
- Grades 3-5
- Grades 6-8
- Grades 9-12
- Teachers
- Pre-Service Teachers
- Other College/University Students
- Non-Formal Educators
- Conservation/Natural Resource Professionals
- Families
- Other, please specify

33. How many participants do you or your program reach each year?

34. The students/participants that you work with primarily come from:
(Check one)

- Urban
- Suburban
- Tribal
- Rural
- Mix of Areas

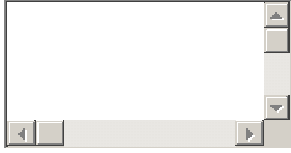
35. What grade do you give this course?

- A
- B
- C
- D
- F
- Why did you give it that grade?

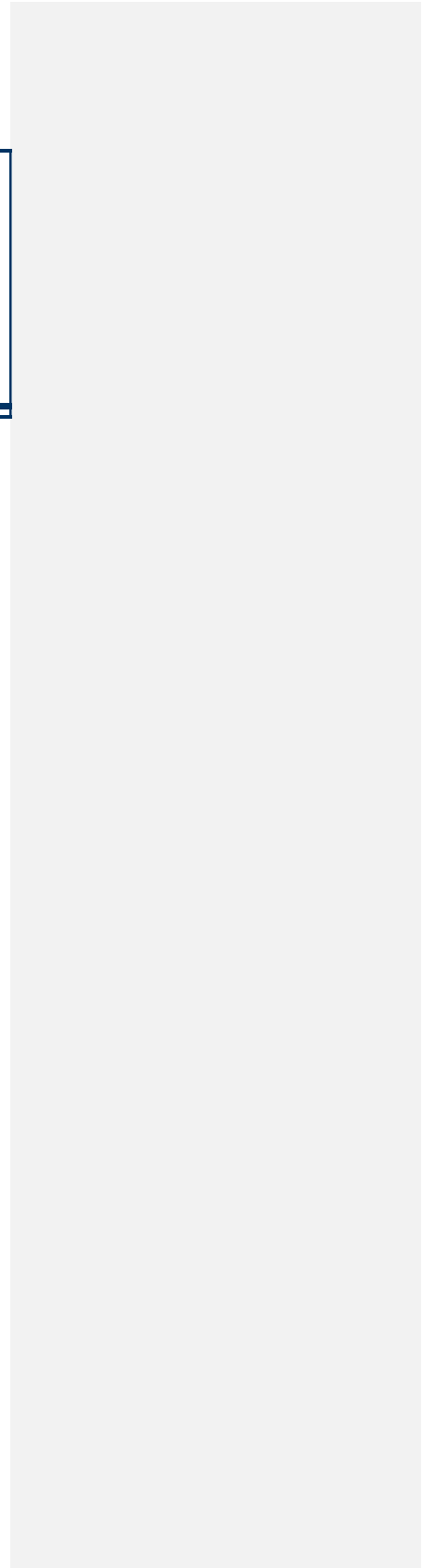
36. I will recommend this course to colleagues or other professionals.

37. Where did you hear about this course?

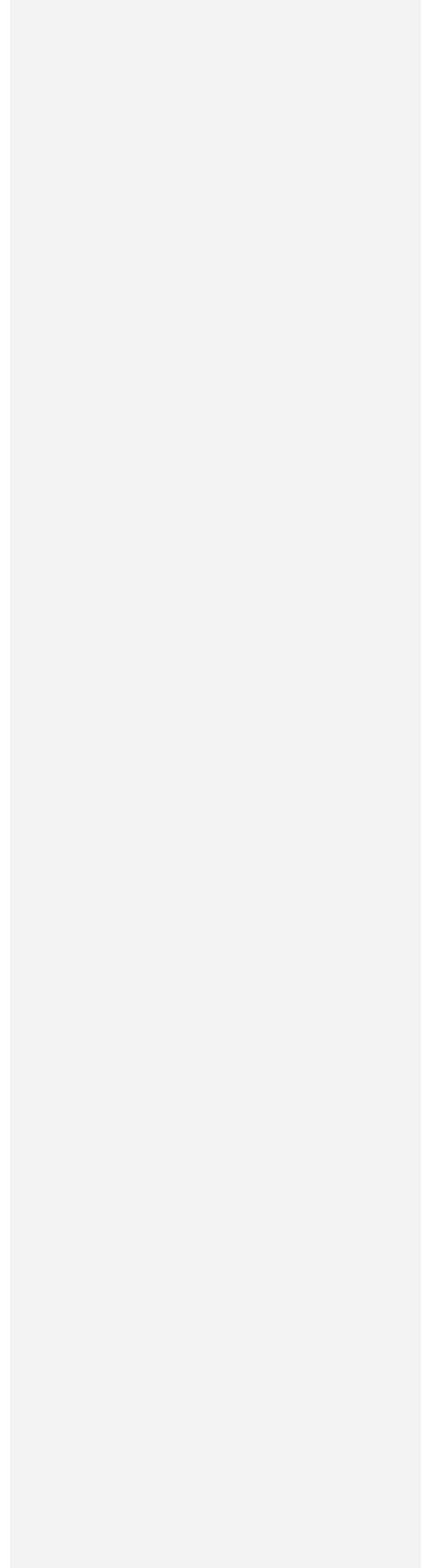
38. How can we make more people aware of the opportunity to take this course?



Thank you!



Appendix I.
Validity Panel Course Evaluation Review



To: Validity Panel

From: Ali Cordie

The questions throughout this document will be used in a course evaluation that will be completed by the course participants once the new online course, “Making EE Relevant for Culturally Diverse Audiences” has ended after its first offering in the fall of 2008. Please review the questions after each of the course objectives to determine whether the question successfully addresses the objective by providing the information needed to determine whether the objective was achieved.

Please rate the effectiveness of each question using the following scale that is found below each question:

This question provides the necessary data to determine whether the objective was achieved.

<i>Strongly Agree</i>
<i>Agree</i>
<i>Neutral</i>
<i>Disagree</i>
<i>Strongly Disagree</i>

If you do not agree, please provide suggestions to improve the questions.

At the end of this document there is a space provide to include any suggestions that you may have that you feel will improve this instrument.

Objective1: Upon completion of this course learners will:

Broaden their perspective of EE to encompass interests and issues of concern for culturally diverse audiences. (Unit One)

Question #1

I have broadened my perspective of EE to encompass interests and issues of concern for culturally diverse audiences as a result of taking this course.

Dr. Wilke’s Review:

Question

I have broadened my perspective of EE to encompass interests and issues of concern for culturally diverse audiences as a result of taking this course.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

Question

Within the next six months I intend to share what I have learned in this course with colleagues and other professionals.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

Objective 2: Upon completion of this course learners will:

Assess the barriers to participation in EE among culturally diverse audiences. (Unit Two)

Question

I have increased my knowledge and skill to assess the barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.

Strongly Disagree
Disagree

Neutral
Agree
Strongly Agree

Question

In what ways have you applied the cultural competency skills in building relationships and partnerships with members of the audience you intend to work with at your organization?

Objective 3: Upon completion of this course learners will:

Learners will be able to identify and adapt EE programs and resources to address the interests and concerns of culturally diverse audiences. (Unit Three)

Question

I have increased my skills in **am able to** identifying and adapting environmental education programs and resources to address the interests and concerns of culturally diverse audiences.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

Question

Within the next six months I intend to adapt my environmental education program to **better meet the needs of culturally diverse audiences** by using the information and skills gained from this course.

Strongly Disagree
Disagree
Neutral
Agree

Strongly Agree

Question

In what ways have you adapted the EE program(s) at your organization so it is more inclusive to culturally diverse audiences?

Gus and Lyn's Review (Compiled):

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[This enables you to say that students self-rated and that's ok.](#)

Question #2

Within the next six months I intend to share what I have learned in this course with colleagues and other professionals.

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[This doesn't fit with the objective, but I like the item.](#)

Objective 2: Upon completion of this course learners will:

Assess the barriers to participation in EE among culturally diverse audiences. (Unit Two)

Question #3

I have increased my knowledge and skill **in how** to assess **the** barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

See suggested change to question highlighted above.

Lyn:

I have increased my knowledge and skill to assess the barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.

This is a double question ... students may believe they have increased their knowledge but not their skill. Consider having 2 items.

Strongly Agree
Agree if changed
Neutral
Disagree
Strongly Disagree

Question #4

In what ways have you applied the cultural competency skills in building relationships and partnerships with members of the audience you intend to work with at your organization?

Gus:

Strongly Agree
Agree

Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Some participants may not have an organization so this question would leave them out. There also many not been enough time to for participants to have taken action. Consider changing the question to the following:

In what ways have you applied or will you apply the cultural competency skills in building relationships and partnerships with members of the intended/selected audience?

Lyn:

Better might be to ask them to tell you as specific number of ways ... Tell at least 3 ways...

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Objective 3: Upon completion of this course learners will:

Be able to identify and adapt EE programs and resources to address the interests and concerns of culturally diverse audiences. (Unit Three)

Question #5

I am able to identify and adapt environmental education programs and resources to address the interests and concerns of culturally diverse audiences.

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

You may want to revise the question so it is not so global. Participants may feel confident identifying and adapting programs and resources for their selected or intended audience.

I am able to identify and adapt environmental education programs and resources to address the interests and concerns of selected culturally diverse audiences.

Lyn:

I am able to identify and adapt environmental education programs and resources to address the interests and concerns of culturally diverse audiences. This is a double question ... students may believe they can identify but not adapt. Consider having 2 items.

Strongly Agree
Agree if changed
Neutral
Disagree
Strongly Disagree

Question #6

Within the next six months I intend to adapt my environmental education program to better meet the needs of culturally diverse audiences using the information and skills gained from this course.

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

The question leaves out participants that don't have environmental education programs. I'm wondering if you need another response such as Does Not Apply.

Lyn:

In what ways have you adapted the EE program(s) at your organization so it is more inclusive to culturally diverse audiences? Consider giving a minimum number of ways for them to describe...

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Question #7

In what ways have you adapted the EE program(s) at your organization so it is more inclusive to culturally diverse audiences?

Gus:

Strongly Agree
Agree

Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

See comment to previous questions.

Lyn:

In what ways have you adapted the EE program(s) at your organization so it is more inclusive to culturally diverse audiences? Consider giving a minimum number of ways for them to describe...

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Question #8

Within the next six months I intend to adapt my environmental education program to better meet the needs of culturally diverse audiences using the information and skills gained from this course.

Gus:

Strongly Agree
Agree
Neutral
Disagree

Strongly Disagree

Lyn:

No Response

Additional Comments

Gus:

I am concerned that the way some of the questions are worded will leave out several course participants because they don't have an organization or program. The questions need to be reworded to incorporate their situation and/or a response such as 'Does Not Apply' needs to be added.

Lyn:

No Response

Dr. Sivek's Review:

Question

I have broadened my perspective of EE to encompass interests and issues of concern for culturally diverse audiences as a result of taking this course.

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree X
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Within the next six months I intend to share what I have learned in this course with colleagues and other professionals.

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree X
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

I would suggest adding an item that includes intent to incorporate “interests and issues of concern for culturally diverse audiences.”

Objective 2: Upon completion of this course learners will:

Assess the barriers to participation in EE among culturally diverse audiences. (Unit Two)

Question

I have increased my knowledge and skill to assess the barriers to participation in environmental education among culturally diverse audiences as a result of taking this course.
←Wording needs change. The first part – “I have increased my knowledge and skill to assess the barriers...” is unclear. It could be taken as a self assessment of knowledge and skills, or of actually assessing the barriers.

Strongly Disagree
Disagree X
Neutral
Agree
Strongly Agree

This question provides the necessary data to determine whether the objective was achieved.

If you do not agree, please provide suggestions to improve the questions.

I would add an item that assesses intent to assess barriers, or whether the student has already assessed barriers.

Question

In what ways have you applied the cultural competency skills in building relationships and partnerships with members of the audience you intend to work with at your organization?

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This is a great open-ended, all-encompassing question, but it doesn't seem to focus on barriers. Why don't you ask something like "To what extent have you thought about the barriers to... and how to overcome them?"

Objective 3: Upon completion of this course learners will:

Be able to identify and adapt EE programs and resources to address the interests and concerns of culturally diverse audiences. (Unit Three)

Question

I am able to identify and adapt environmental education programs and resources to address the interests and concerns of culturally diverse audiences.

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree X
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

OK, though the item really assesses “perception” of ability, not ability itself.

Question

Within the next six months I intend to adapt my environmental education program to better meet the needs of culturally diverse audiences using the information and skills gained from this course.

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree X
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

I like this. Intent to act is fairly highly correlated to action.

Question

In what ways have you adapted the EE program(s) at your organization so it is more inclusive to culturally diverse audiences?

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree X
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Please use the space provided below to include any suggestions that you may have that you feel will improve this instrument.

Dr. Forbes's Review:

Ali

I've gone over the 2 documents you sent, and am ready to give you my feedback.

First - for the unit pre/post-test questions - I don't have any problems with any of them - and I specifically like the inclusion of the confidence questions for most of the objectives.

Second - course objectives questionnaire. My primary observation here is that the questions are not capable of measuring if the course did achieve its objectives, but only if the participant believed those objectives to have been met - although for objective 2, you do ask for specific evidence (in this case the application of cultural competency). To the extent possible, then, my recommendation would be to have both types of questions for each objective - one which asks about participant perception, and one that asks about specific actions linked to specific objectives.

On a somewhat more technical note - I think the question measuring objective 1 borders on being a double-barreled question, in that it may be possible for people to differentiate between the interests of diverse audiences and the issues of concern. If so, then this is really 2 questions (That is, is it possible or likely that someone could expand their perspective of the interests of diverse audiences but not so for the issues of concern)?

Otherwise, I don't have any problems with your assessment tools -

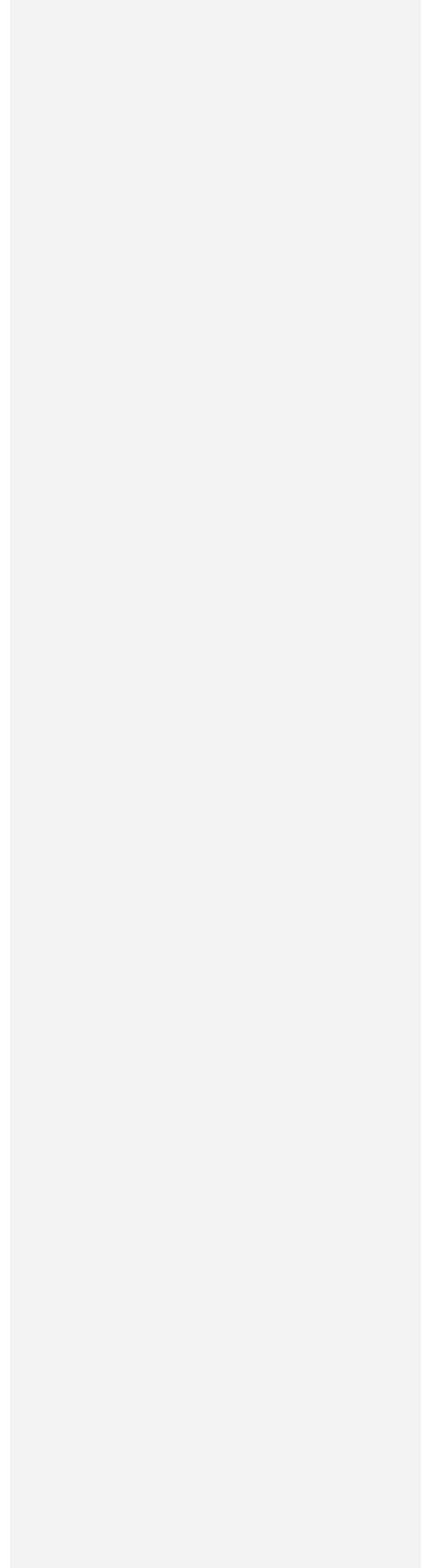
Good work

Doug

--

Doug Forbes, Ph.D.
Associate Professor of Sociology
University of Wisconsin-Stevens Point
Stevens Point, WI 54481
Office: 715-346-2038
dforbes@uwsp.edu

Appendix J.
Fall 2008 Course Evaluation News Posting



**Final 3
Assignments**

Oct 29, 2008

Hello Everyone,

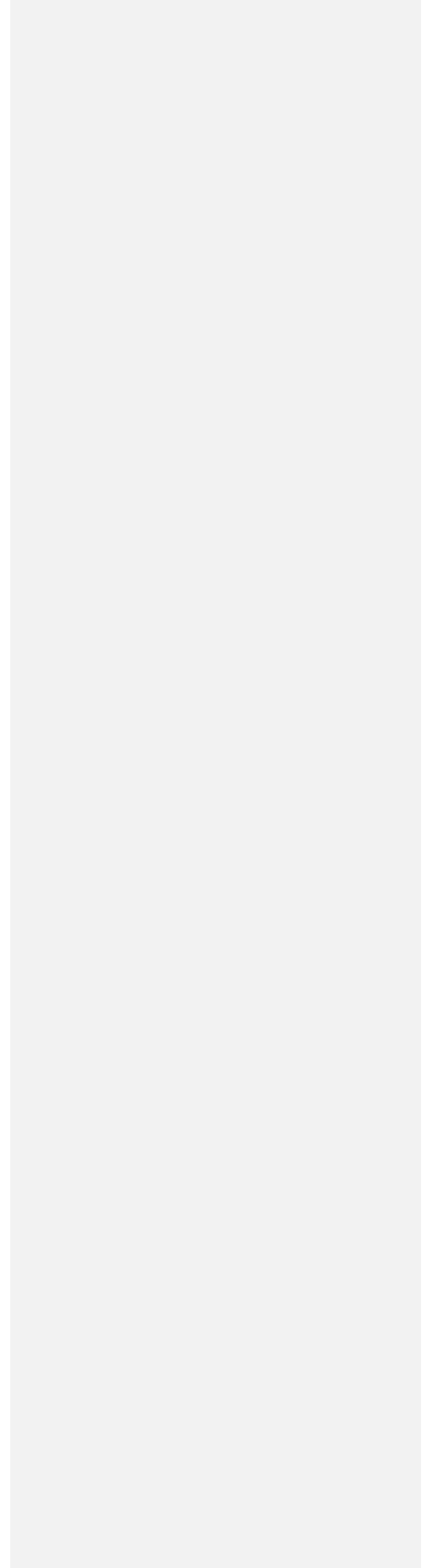
Just a quick reminder....Thursday (November 6th) is the deadline for you to complete the 3 final assignments:

1. [Course Evaluation](#)
2. Goods & Services Form (see attached)
3. Culminating Assignment

Please make sure you submit these ASAP. Also, please be sure that you download or copy anything you want from the course materials content pages by **December 6th**. You will continue to have access to your grades, discussion boards, and Dropbox for feedback until **December 6th**.

Thanks and Congratulations!!

Appendix K.
Fall 2008 Course Evaluation Non-Responder Email



Subject: MEER Course Evaluation

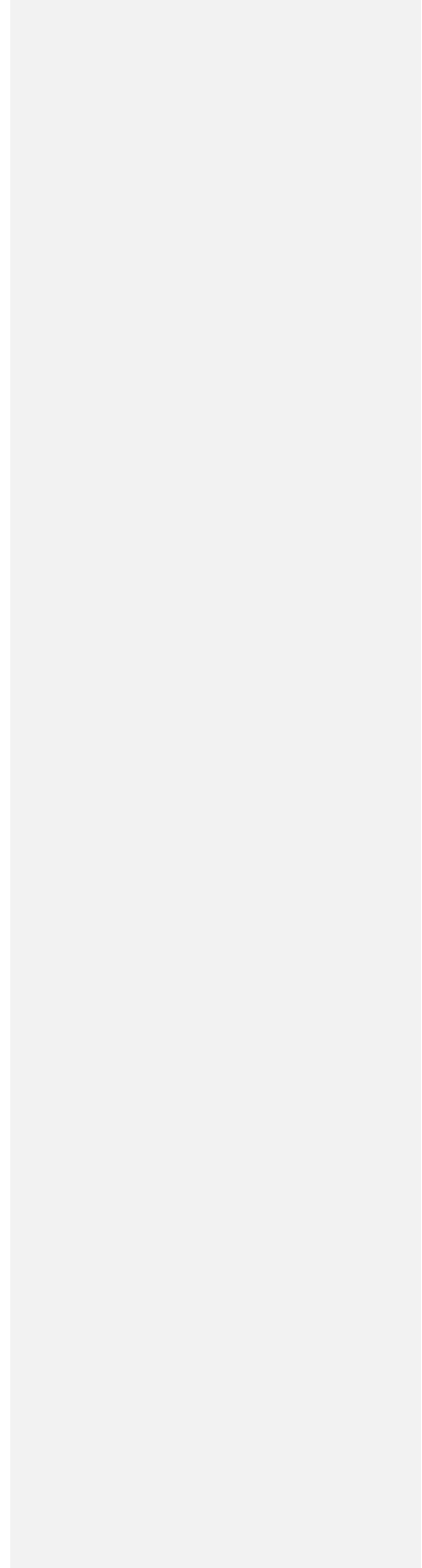
Congratulations on your participation in the first offering of the course “Making EE Relevant for Culturally Diverse Audiences.” Now that the MEER course is complete I am sure that you are probably taking some time to relax a little these days. I am writing to see if I can have you help me with the VERY last part of the course. I have not yet received a course evaluation from you. Please take 20-30 minutes out of your schedule to help provide feedback about the course. I have copied the link below for easier access. All you have to do is click on the link below and it will take you directly to the evaluation. Once you click on the submit button, your evaluation is automatically sent to me for compiling and reporting.

[CLICK HERE](#) to access the course evaluation.

Thanks for your help with all of this; your input provides valuable feedback that can help us to make this course a quality learning tool.

If you have any questions or concerns, please do not hesitate to contact me.

Appendix L.
Pilot Course Revisions Conference Call



**Suggestions for the Spring and Summer 2009
“Making EE Relevant for Culturally Diverse Audiences” (MEER) Online Course
12/17/2008**

Phone conversation: Gus Medina and Ali Cordie
2:00 Central Standard Time, December 17th, 2008

NOTE: Responses to the revision suggestions from the student evaluations are highlighted in red text below the suggestions.

OVERALL COURSE STRUCTURE REVISIONS SUGGESTIONS BY STUDENTS IN THE STUDENT EVALUATIONS

- Increase credit amount from 1 undergraduate/graduate credit to 2 credits

I'd recommend this course to other environmental educators, but with the warning that it is intense. Even people taking it for workshop credit should be prepared to put in a lot of time, especially for the Phase I and II assignments and the Culminating Assignment.

The amount of work in the course does not need to increase for the course to be offered for two credits, as many student evaluations indicated the course was very time-intensive already.

Increasing the course to two credits will happen for the summer course, because it is too late to offer the spring course for two credits.

- Include a separate page for the assignment due dates in the Content section

A separate “Due Dates” page has been included within the course Content section so it is posted in a more prominent location.

- Increase the number of discussion groups to three or four so the students have fewer postings to read, therefore resulting in richer discussions between students

The amount of discussion groups will increase to four for the spring semester. By increasing the amount of discussion groups, participants will be able to dedicate more time to less individual postings.

UNIT REVISION SUGGESTED BY STUDENTS IN THE COURSE EVALUATIONS

UNIT/ASSIGNMENT REVISIONS

- More case studies (e.g., discussions on applying cultural competency skills using case studies)

More case studies are extremely difficult to find. Also, reading more case studies probably will not benefit the participants as much because case studies take a long time to read and may not apply to their intended audience.

- Provide sample papers by previous students in the assignment descriptions

Sample papers will be included to the assignment descriptions for the In-Depth assignments. The samples will be taken from the fall 2008 course. Once a sample paper is identified, Ali will contact the author and ask permission to include it into the MEER course offered through UW-SP. Samples will not be included in the course material that is provided to faculty if/when it is offered at other universities. (Ali)

- More self reflection in the assignments and less summary of the readings. Students generally liked reading and relating the information to their particular EE program

The current Read and Respond assignments are going to be analyzed and some will be revised to Reflection Activities instead. This change, along with smaller discussion groups, will hopefully contribute to more in-depth, richer discussions on the Discussion Board. (Gus)

- Specific examples of EE programs that work with adult education and city planning

This request is very specific, and it will be dealt with on an individual basis by the instructor if needed.

- Include additional articles and resources in the “Additional Resources” section that have detailed information about cultural group values and their backgrounds in EE.
 - Hispanic
 - African Americans
 - Hmong
 - Asian
 - Native Americans

Articles have been included to the Additional Resources section, and will continue to be added as more are identified by the course manager and instructor.

The following article has been included so far:

Bengston, D., Schermann, M., Moua, M., Moua, L., Lee, T. T. (2008) [Listening to Neglected Voices: Hmong and Public Lands in Minnesota and Wisconsin](#). Society & Natural Resources. 21(10), 876-890.

ADDITIONAL REVISIONS

UNIT ONE REVISIONS

- Unit 1.3, Assignment #5: Clarify the two stages and seven steps that are included in Bennett's Model. (Gus)

UNIT TWO REVISIONS

Unit 2.1, Assignment #6: Question 2 the assignment description is unclear and will be rewritten. Also, the *Reply Required* component will be revised so that it is a *Reflection Activity*. (Gus)

Assignment #7: There is redundancy in the Introduction and Methodology sections. The assignment guidelines and description will be streamlined. (Gus)

UNIT THREE REVISIONS

Unit 3.1, Assignment 12: The length of the response post will be increased, because one paragraph is not enough to properly address the assignment. (Gus)

Assignment 13: The length of the assignment needs to be specified in the description. (Gus)

Unit 3.3: Change the assignment guidelines for the culminating assignment so they align with the rubric (1 page synopsis instead of 1 paragraph). (Ali)

INSTRUCTION REVISIONS

- Increase the feedback to individuals after each assignment. The instructor will post comments in the grades section in a column next to the grade.

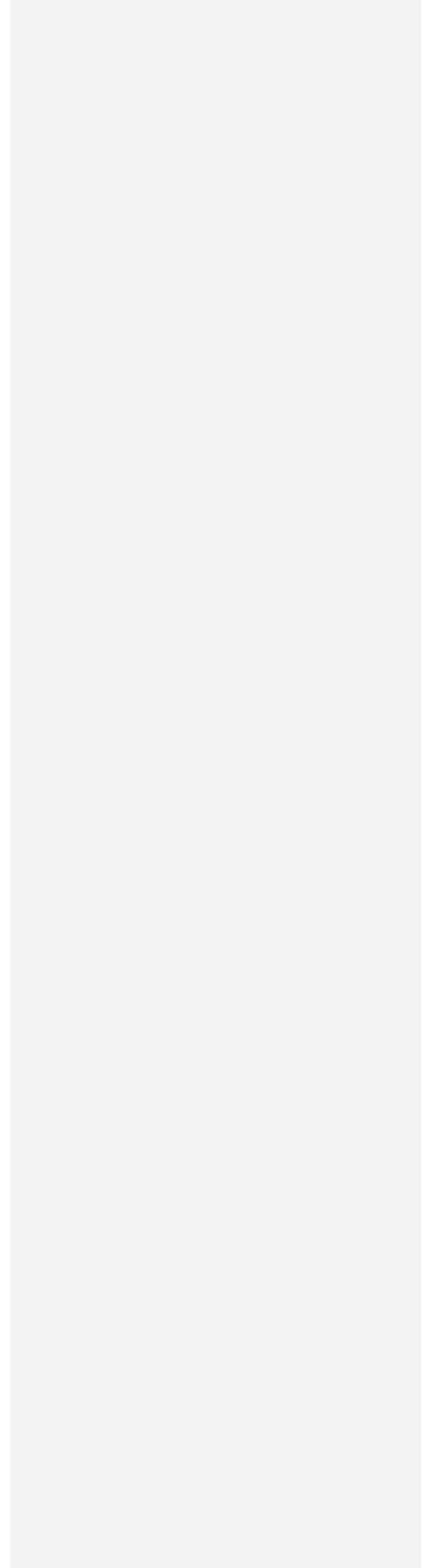
MISCELLANEOUS REVISIONS

- Post a message on the Discussion Board that encourages people to make only one or two well-developed discussion replies instead of many short ones. Also, if participants want to continue an individual conversation with another participant, they will be encouraged to do so via email correspondence.
- In the course description, emphasize that cultural competency is a continual, lifelong process and not a skill that is immediately acquire as a result of participating in the MEER course. The course aims to help participants begin to develop and understand the process of being a culturally competent individual and environmental educator.
- In the course description, emphasize that "culturally diverse audiences" is referring to ethnic and racial cultural diversity for the purposes of the MEER course.
- The definition of cultural diversity on the NAAEE webpage is too narrowly focused, and Gus will contact NAAEE try to expand on the definition (this definition is used in Unit

One).

- The overall points in the course in the course will be changed after all revisions to the assignments are complete. (Ali)
- Include a message on the Assignment Page that emphasizes that all students, regardless of credit or non-credit status, will be graded on all of the assignments.

Appendix M.
Pretest Knowledge Test and Self-Assessment



MEER Pre-Course Questionnaire

Page 1

Knowledge Test and Self Assessment

Please read the following description of the MEER Pre-Course Knowledge Test and Self Assessment before proceeding.

The purpose of this questionnaire is to determine the effectiveness and quality of the new online course, "Making EE Relevant for Culturally Diverse Audiences." The results will assist us in the evaluation and improvement of this course.

The questionnaire answers that you provide will be recorded in a confidential form. We do ask that you provide your name, but we assure you that it will only be used to keep track of which students have completed the questionnaire. We will not release any information that could identify you with your questionnaire results. Submitted questionnaire will not be available to anyone other than Alison Cordie.

This questionnaire will be available to complete until the first day of the course. The questionnaire takes about 20-30 minutes to complete. When you are finished completing the assessment, click the "Done" button.

Thank you for your participation in the "Making EE Relevant for Culturally Diverse Audiences" research project and for completing this questionnaire. Your input is important. We really appreciate the time and effort you are contributing.

1. First and Last Name:

2. Email:

3. Gender:

4. Have you ever taken a course related to cultural diversity prior to this course?

5. If you answered "Yes" to item number 4, please specify the number of courses you have taken related to cultural diversity prior to this course.
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Please leave blank if you answered "No" to item number 6.

MEER Pre-Course Questionnaire

Page 2

Multiple Choice Questions

Please note that if you do not know the answer, please choose the option "Don't Know." This will provide us with the most accurate response to the item.

8. Which of the following is not true about how culture impacts a person's interaction with the environment:

- All people have a cultural connection to the environment
- Cultures determine expectations of the environment
- Cultural views of the environment are constantly changing
- There are many cultures within a culture that perceive the environment differently
- All of the above
- None of the above
- Don't know

9. Based on Bennett's Developmental Model of Intercultural Sensitivity, the following sentence describes which stage:

"To solve this dispute, I need to change my behavior to account for the difference in status between me and my counterpart from the other culture."

- Acceptance of Difference
- Adaptation
- Defense Against Indifference

- Denial
- Integration
- Minimization of Defense
- Don't know

10. Studies have shown that people living in urban, impoverished areas often do not...

- Believe that environmental problems directly affect them in the city.
- Have transportation to visit natural areas outside of the city.
- Think animals, plants, and parks play an important role in their lives.
- All of the above
- None of the above
- Don't know

11. Misunderstanding other cultural perspectives toward the environment often...

- Distorts reality
- Leads to antagonism
- Obscures the truth
- All of the above
- None of the above
- Don't know

12. Which ethnic group typically uses an educational system that is best described by the use of traditional values, orientations, and principles, as well as concepts, technologies, and content of modern education?

- African Americans
- Asians
- Caucasians
- Hispanics
- Indigenous Americans

Don't know

13. The following are characteristics of a culturally competent organization except: The organization...

Addresses inequities to which their culturally diverse audience may be subject.

Creates a template that describes specific practices to follow to ensure they are culturally inclusive.

Defines a set of values and principles that articulate how to respond to cultural diversity and ensure equity of access to services.

Integrates relevant cultural knowledge throughout the environmental education programs and staff.

Uses the current demographics of the community to create partnerships with local organizations.

Don't know

14. A set of skills, knowledge, and attitudes that enhances an individual's ability to adapt to his or her interactions to be more congruent with other's expectations and preference, awareness of his or her own assumptions and values, and an understanding of and respect for other's values, beliefs, and expectations.

This statement is an example of...

Cultural Awareness

Cultural Competency

Diversity

Environmental Awareness

Ethnicity

Don't know

15. Which of the following is/are the main reason(s) the majority of African Americans living in urban, impoverished areas have difficulty interacting with their natural surroundings:

Historically slavery has denied the opportunity for African Americans to develop a positive relationship with the land.

There are too few natural areas that exist in urban environments.

These residents typically experience poor air quality, litter, and an unsafe social environment.

All of the above

None of the above

Don't know

16. Which of the items listed below can help an organization identify most of the issues that relate to a community.

Assessment Projects

Audience Identification

Comprehensive Planning

Concept Mapping

Organizational Goals

Don't know

17. Social network mapping, asset mapping, environmental typology, and meetings are all examples of:

Assessment Methods

Community Characteristics

Resident Studies

Organizational Planning

Don't know

18. The following describe important environmental justice concepts, except:

A focus on social and environmental issues, based on others' experience and an appreciation of diverse cultural perspectives.

An emphasis on the preservation of ecological integrity of natural resources.

Equal access to environmental education programs and resources.

Fair and equitable treatment of all people in regards to development, implementation, and enforcement of environmental laws, regulations, policies, and programs.

Don't know

19. The following are misunderstandings about why culturally diverse audiences participate less in environmental education programs, except:

- Environmental content and pedagogies do not address the needs of persons of color.
- Historically, environmental quality has not been an issue for people of color and therefore they are not interested now.
- People of color are not interested in environmental issues because they do not support environmental organizations.
- People of color have more pressing needs to worry about than protecting the environment.
- Don't know

20. What step is missing from the following list when developing a comprehensive plan for an organization?

- Define goals and community
 - Identify community characteristics
 - Identify assessment methods
 - Analyze results
 - Select and implement best strategies
- Complete live and/or phone interview
 - Conduct pre-project preparation
 - Evaluate the program
 - Perform statistical analyses
 - Report the findings
 - Don't know

21. When creating environmental education programs, the following items are important to take into account: • Working with school's curricula • Working as facilitators • Designing place-based projects • Working with parents or community members
These are demonstrations that an individual or an organization...

- Is culturally competent
- Uses inclusive methods
- Practices experiential education
- All of the above
- None of the above
- Don't know

22. When apply the characteristics of quality environmental education programs described by the North American Environmental Education Association's "Nonformal Environmental Education Programs: Guidelines for Excellence," educators most often:

- Align each of the characteristics with the needs of culturally diverse audiences.
- Adapt the characteristics using their own cultural perspectives.
- Use the characteristics from the perspectives of their intended audience.
- All of the above.
- None of the above.
- Don't know

23. When using or creating environmental education resources or programs that are culturally responsive, all of the following are included, except:

- A check list that educators can follow to be effective.
- An understanding of how individuals communicate and interact within the students' culture.
- Integrating within the curriculum content and examples that draw on the learners' cultural background.
- Taking into consideration the individual needs of the learner.
- Don't know

24. The key principle(s) of successful community-based environmental education programs and resources is/are...

- Environmental education planning that is a result of involvement with local residents.
- Environmental issues that directly apply to local residents.
- A focus on economic development, housing, youth, health, and the environment.
- All of the above.
- None of the above.
- Don't know

25. The best way for an organization to achieve cultural competency is:

- Continually adapt services that are respectful to other cultures.
- Having people of diverse cultural backgrounds.
- Having staff attend training on various cultures and cultural traditions.

- Inviting culturally diverse groups to attend the organization's programs.
- Don't know

MEER Pre-Course Questionnaire

Page 3

Rating Questions

To what extent do you agree or disagree with the following statements:

26. I have the ability to assess the cultural barriers within myself and my organization that are hindering my intended audience from participating in environmental education.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

27. I am able to apply cultural competency skills in building relationships and partnerships with members of my intended audience.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

28. I am able to interpret the key characteristics of quality environmental education resources and programs in relation to my intended audience.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

29. I am able to modify and create environmental education resources and programs that are inclusive and relevant to culturally diverse audiences.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

30. I am able to motivate culturally diverse audiences to participate in environmental education.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

Rating Questions

Using the scale provided, please rate each statement by choosing the response that best describes your perspective of yourself.

31. I recognize that there are cultural differences, but still feel that human beings are essentially the same and/or should conform to a standard acceptable behavior.

- Never
- Almost Never
- Infrequently
- Sometimes
- Frequently
- Almost Always
- Always

32. When planning and implementing programs, I take into account changing demographics in my community and modify the approaches I use to better meet the needs of the audience.

- Never
- Almost Never
- Infrequently
- Sometimes
- Frequently
- Almost Always
- Always

33. I try to recognize the multidimensional nature of individuals to avoid simplistic assumptions.

- Never
- Almost Never
- Infrequently

- Sometimes
- Frequently
- Almost Always
- Always

34. I consider the relevance of environmental education programs by examining the customs, values, language, perceptions, socio-economic level, and accessibility of our facility to the different target population's I want to serve.

- Never
- Almost Never
- Infrequently
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- Always

35. I try to acknowledge different viewpoints, suspend judgment and avoid the tendency to label unfamiliar ideas, and see new information and insights as another valued perspective.

- Never
- Almost Never
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36. I actively seek out new information to test my assumptions and minimize the chance of misunderstandings.

- Never
- Almost Never

- Infrequently
- Sometimes
- Frequently
- Almost Always
- Always

37. When I interact with someone that has a different perspective than mine, I feel that both of our perspectives are valid.

- Never
- Almost Never
- Infrequently
- Sometimes
- Frequently
- Almost Always
- Always

MEER Pre-Course Questionnaire

Page 5

Open-Ended Questions

In the space provided below, please answer the questions as concisely and accurately as possible. If you do not know the answer, please write "Don't know" in the space provided.

38. In the space provided, please summarize the concept of cultural competency in two sentences. If you do not know the answer, please type "Don't know" in the space provided.

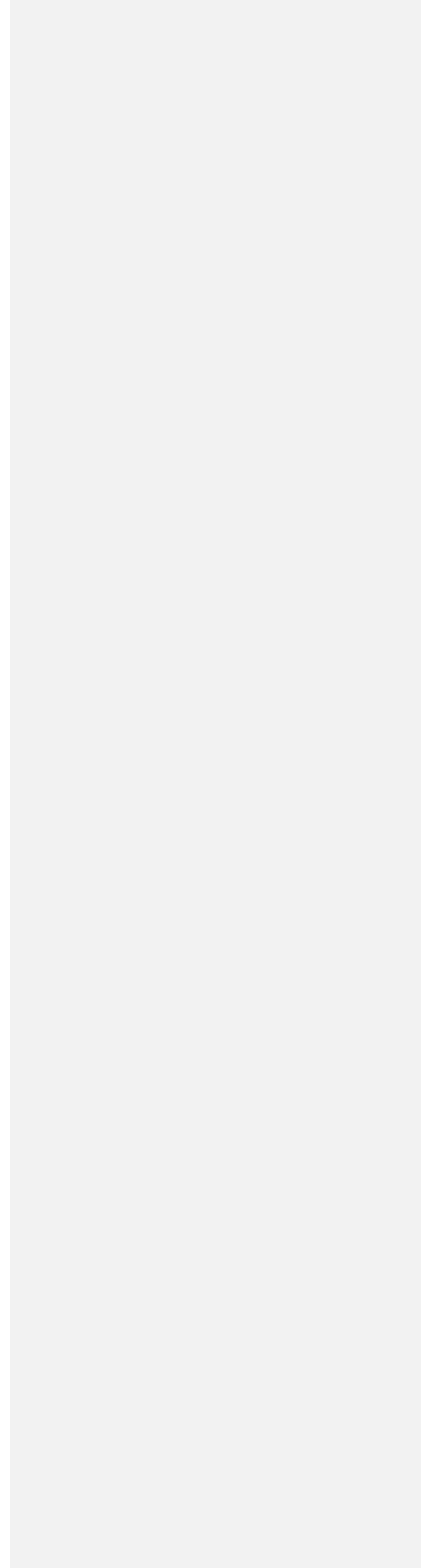


39. In the space provided, please describe how culture influences an individual's perspective of the environment. If you do not know the answer, please type "Don't know" in the space provided.

40. In the space provided, please summarize at least four different cultural perspectives on the environment.
If you do not know the answer, please type "Don't know" in the space provided.

41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.
If you do not know the answer, please type "Don't know" in the space provided.

Appendix N.
Posttest Knowledge Test and Self-Assessment



MEER Post-Course Questionnaire

Page 1

Knowledge Test and Self Assessment

Please read the following description of the MEER Post-Course Knowledge Test and Self Assessment before proceeding.

The purpose of this questionnaire is to determine the effectiveness and quality of the new online course, "Making EE Relevant for Culturally Diverse Audiences." The results will assist us in the evaluation and improvement of this course.

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1. First and Last Name:

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Please leave blank if you answered "No" to item number 4.

6. Have you ever attended a workshop or conference related to cultural diversity?

7. If you answered "Yes" to item number 6, please specify the number of workshops or conferences you have attended related to cultural diversity. Please leave blank if you answered "No" to item number 6.

MEER Post-Course Questionnaire

Page 2

Multiple Choice Questions

Please note that if you do not know the answer, please choose the option "Don't Know." This will provide us with the most accurate response to the item.

8. Which of the following is not true about how culture impacts a person's interaction with the environment:

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- Cultures determine expectations of the environment
- Cultural views of the environment are constantly changing
- There are many cultures within a culture that perceive the environment differently
- All of the above
- None of the above
- Don't know

9. Based on Bennett's Developmental Model of Intercultural Sensitivity, the following sentence describes which stage:

"To solve this dispute, I need to change my behavior to account for the difference in status between me and my counterpart from the other culture."

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- Denial
- Integration
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10. Studies have shown that people living in urban, impoverished areas often do not...

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- All of the above
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11. Misunderstanding other cultural perspectives toward the environment often...

- Distorts reality
- Leads to antagonism
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- All of the above
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12. Which ethnic group typically uses an educational system that is best described by the use of traditional values, orientations, and principles, as well as concepts, technologies, and content of modern education?

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Don't know

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MEER Post-Course Questionnaire

Page 3

Rating Questions

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- Strongly Agree
- Agree
- Somewhat Agree
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- Somewhat Disagree
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Rating Questions

Using the scale provided, please rate each statement by choosing the response that best describes your perspective of yourself.

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- Never
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37. When I interact with someone that has a different perspective than mine, I feel that both of our perspectives are valid.

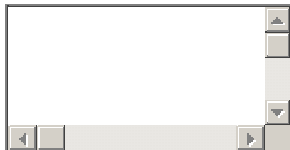
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MEER Post-Course Questionnaire

Open-Ended Questions

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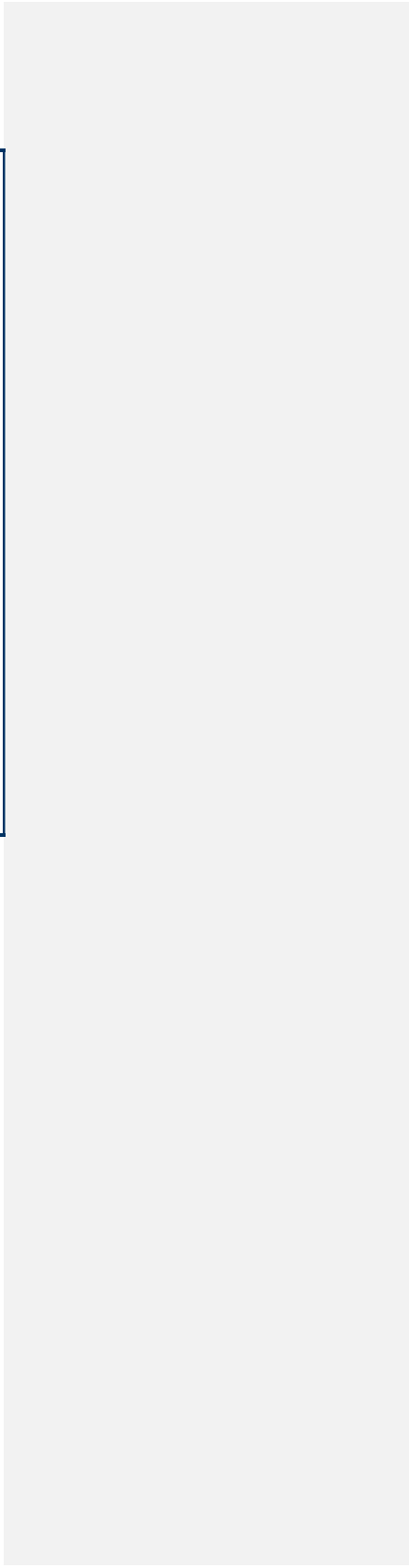
38. In the space provided, please summarize the concept of cultural competency in two sentences. If you do not know the answer, please type "Don't know" in the space provided.



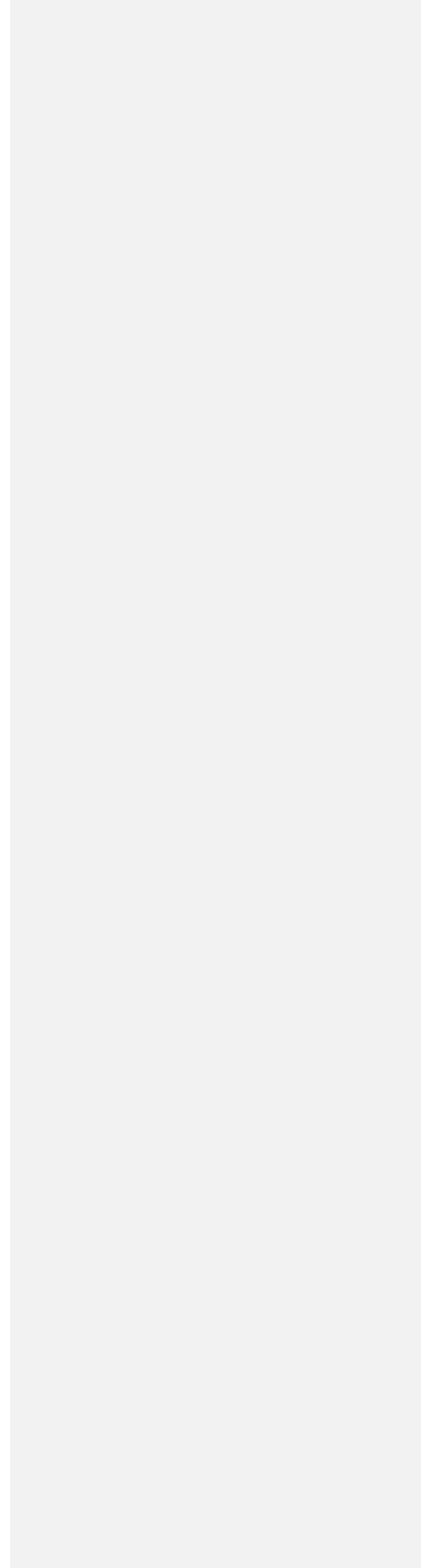
39. In the space provided, please describe how culture influences an individual's perspective of the environment. If you do not know the answer, please type "Don't know" in the space provided.

40. In the space provided, please summarize at least four different cultural perspectives on the environment.
If you do not know the answer, please type "Don't know" in the space provided.

41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.
If you do not know the answer, please type "Don't know" in the space provided.



Appendix O.
Validity Panel Pretest/Posttest Questionnaire Review



Gus and Lyn's Review (Combined):

Unit One

Objective 1: Upon completion of this unit learners will be able to:

Examine how their own culture impacts their perception and interaction with the environment.

Question

All of the following are true about culture except:

- a. **Cultures are determinative of expectations**
- b. Cultures are not static
- c. All people have a cultural connection
- d. There are many cultures within a culture

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree

Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

I see two problems with this item – first, it is too easy to guess the correct answer since all the other options use very simple language and a. contains a 5-syllable word with which most people would be unfamiliar. My guess is that nearly everyone would get the item correct on the pretest, but they would get it right for the wrong reasons.... that means low reliability.

You will pilot test, right, so you can talk to respondents as they take the test and also run your own reliability statistics.

Second, I see nothing in the item about the respondent's own culture or anything about the environment.

Question

Based on Bennett's Developmental Model of Intercultural Sensitivity, the following sentence describes which stage:

"To solve this dispute, I need to change my behavior to account for the difference in status between me and my counterpart from the other culture."

- a. Denial
- b. Defense against Indifference
- c. Minimization of Defense
- d. Acceptance of Difference**
- e. Adaptation
- f. Integration

Gus:

Strongly Agree

Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

Based on Bennett's Developmental Model of Intercultural Sensitivity, the following sentence describes which stage:

"To solve this dispute, I need to change my behavior to account for the difference in status between me and my counterpart from the other culture."

- a. Denial
- b. Defense against Indifference
- c. Minimization of Defense
- d. Acceptance of Difference**
- e. Adaptation
- f. Integration

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

I also see two problems with this item –it is too easy to guess the correct answer since “difference” is in the stem and in the correct answer My guess is that nearly everyone would get the item correct on the pretest, but they would get it right for the wrong reasons.... that means low reliability.

Second, I see nothing in the item about the respondent’s own culture or anything about the environment.

If knowing the stages of this model is important to understanding one’s own culture or the culture of others, perhaps you need an objective that includes being able to identify the stages ... or you need to get rid of this question.

Question

Cultural misunderstandings often...

- a. Obscure truth
- b. Distort reality
- c. Lead to antagonism
- d. **all of the above**
- e. none of the above

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This one also seems easy to guess since wise test takers believe that 90% of the time “all of the above” is the right answer if it is offered. So without even reading the question, the unknowledgeable will get the correct answer.

And I still see nothing in the item about the respondent’s own culture or anything about the environment.

Question

Rate your confidence in working with audiences from the same culture as your own.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree

Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

The above question is acceptable but the following item gets closer to measuring the objective. You might want to use both or just the one below.

How confident are you in describing how your culture has impacted your perceptions and interactions with the environment.

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This item might be a good pre-post item especially if it is contrasted with another item asking learners to rate their confidence in working with audiences from cultures different from their own.

This item may allow you to draw conclusions about changes in individual learner's confidence but seems to have nothing to do with their own cultural impacts or their perception and interaction with the environment.

Objective 2: Upon completion of this unit learners will be able to:

Summarize various cultural perspectives of the environment.

Question

Studies have shown that people living in urban, impoverished areas...

- a. Do not believe that environmental problems directly affect them in the city
- b. **Often do not have transportation to visit natural areas outside of the city**
- c. Animals, plants, and parks do not play an important role in their lives
- d. All of the above
- e. None of the above

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This one is easy to guess because you used the word "often" in only b. Also, a. has a typo (unusual in correct answers) and the structure of c. does not fit grammatically. Better:

Studies have shown that people living in urban, impoverished areas often do not...

- a. Believe that environmental problems directly affect them in the city
- b. Have transportation to visit natural areas outside of the city
- c. Think animals, plants, and parks play an **important** role in their lives
- d. All of the above
- e. None of the above

I would pilot test that version and see how the respondents answer and what they say about the item. I'm guessing c. and d. will be good distracters from the correct answer. Note that I changed one of the "believes" to "think" and that I struggled with keeping "important" in c. Note the options are now alphabetical, too.

Question

Which ethnic group typically uses an educational system that is best described by the use of traditional values, orientations, and principles, and the use of concepts, technologies, and content of modern education?

- a. Asians
- b. African Americans
- c. Caucasians
- d. Hispanics
- e. **Indigenous Americans**

Gus:

Strongly Agree
Agree
Neutral
Disagree

Strongly Disagree

Lyn:

Question

Which ethnic group typically uses an educational system that is best described by the use of traditional values, orientations, and principles, and the use of concepts, technologies, and content of modern education? Consider changing the words “use of” for at least one of these phrases. The characteristics described in the stem and the order of your response options got me to go for “Asians”, and I could certainly make a case for that answer based on my experiences with both groups. Be sure that the course materials support the answer you are calling correct and that the descriptions for Asians is in sharp contrast.

- a. Asians
- b. African Americans
- c. Caucasians
- d. Hispanics
- e. **Indigenous Americans**

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree

Agree

Neutral

Disagree

Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This item may be good for determining knowledge of cultural perspectives but does not address the environment.

Question

Rate your confidence in your ability to summarize various cultural perspectives of the environment.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree

Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This item would allow you to make statements about changes in confidence but not about changes in knowledge. You could ask students to “Rate your knowledge of at least 4 (6 whatever) different cultural perspectives on the environment.” OR “Rate your ability to summarize at least 4 (6 whatever) different cultural perspectives on the environment.” Then provide an appropriate scale. When you report the findings, you would have to say change was determined by self rating (as opposed to specific measures of knowledge.)

Objective 3: Upon completion of this unit learners will be able to:

Describe how culture influences an individual’s perspective of the environment.

Question

The following is/are the main reason(s) the majority of urban, impoverished residents have difficulty interacting with their natural surroundings:

- a. Historically slavery has denied the opportunity for African Americans to develop a positive relationship with the land
- b. **Poor air quality, litter, and an unsafe social environment**
- c. There are too few natural areas that exist in urban environments
- d. All of the above
- e. None of the above

Gus:

Strongly Agree

Agree

Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Unless the urban, impoverished a culture, this item doesn't address the objective. Better is to have a stem about African Americans who are urban/impoverished.

Question

Rate your confidence in describing how culture influences an individual's perspective of the environment.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This item would allow you to make statements about changes in confidence but not about changes in the ability to describe how culture influences an individual's perspective of the environment – very different things. Either change the stem or the objective.

Objective 4: Upon completion of this unit learners will be able to:

Summarize the concept of cultural competency.

Question

A set of skills, knowledge and attitudes that enhances an individual's...

- awareness of his or her own assumptions and values
- understanding of and respect for other's values, beliefs and expectations
- ability to adapt his or her interactions to be more congruent with other's expectations and preference.

Is an example of:

- a. Cultural Awareness
- b. **Cultural Competency**
- c. Diversity
- d. Ethnicity
- e. Environmental Awareness

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Question

All of the following are characteristics of a culturally competent organization except:

The organization...

- a. Addresses inequities that their intended audience may be subject to

- b. Creates a defined set of values and principles that articulate how to respond to diversity and ensure equity of access to services
- c. Creates a template that describes specific practices to follow to ensure they are culturally competent**
- d. Integrates relevant cultural knowledge throughout the educational programs and staff
- e. Is current on the demographics of the community and creates partnerships with local organizations

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

All of the following are characteristics of a culturally competent organization except:

The organization...I've suggested some changes in the structure of your response options to make them parallel. Alphabetize and this should work. it would be even better if you could remove "cultural" from all the options or add it to each.

- a. Addresses inequities ~~that~~ to which their intended audience may be subject ~~to~~
- b. ~~Creates a defined~~ **Defines a** set of values and principles that articulate how to respond to diversity and ensure equity of access to services
- c. Creates a template that describes specific practices to follow to ensure they are culturally competent**
- d. Integrates relevant cultural knowledge throughout the educational programs and staff
- e. ~~Is current on~~ **uses the current** demographics of the community ~~and to create~~ **creates** partnerships with local organizations

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Question

Rate your confidence in your ability to summarize the concept of cultural competency.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Unit Two:

Objective 1: Upon completion of this unit learners will be able to:

Prepare and use appropriate methods to engage and learn about their intended audience.

Question

_____ can help an organization identify all of the issues that relate to a community.

- a. Assessment Projects
- b. Audience Identification
- c. **Comprehensive Planning**

- d. Concept Mapping
- e. Goal Planning

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

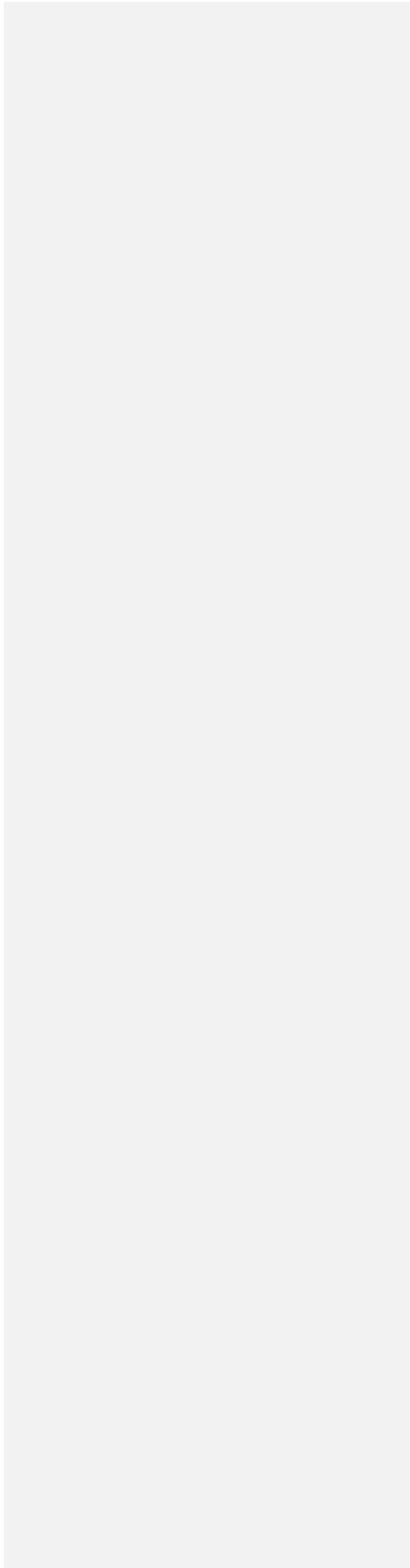
_____ can help an organization identify **all** of the issues that relate to a community.

- a. Assessment Projects
- b. Audience Identification
- c. **Comprehensive Planning**
- d. Concept Mapping
- e. **Goal Planning**

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.



Several issues: The item is at the knowledge level and the objective is an application objective. Stem contains “all”, which is unlikely for any of these options. “Planning” in two response options probably means one of them is right – good for guessing, reducing reliability.

Question

Social network mapping, asset mapping, environmental typology, and meetings are all examples of:

- a. **Assessment methods**
- b. Community characteristics
- c. Community assessments
- d. Organizational planning methods

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

Social network mapping, asset mapping, environmental typology, and meetings are all examples of:

- a. **Assessment methods**
- b. Community characteristics
- c. Community **assessments**

d. Organizational planning methods

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

A couple issues: The item is at the knowledge level and the objective is an application objective. "Assessment" in two response options probably means one of them is right – good for guessing, reducing reliability.

Question

All of the following describe important EJ concepts except:

- a. An emphasis on social and environmental issues, based on others' experience and an appreciation of diverse cultural perspectives
- b. An emphasis on the preservation of the ecological integrity of natural resources**
- c. Equal access to environmental education
- d. Fair and equitable treatment of all people in regards to development, implementation, and enforcement of environmental laws, regulations, policies, and programs

Gus:

Strongly Agree
Agree
Neutral

Disagree
Strongly Disagree

Lyn:

Question

All of the following describe important EJ concepts except:

- a. An emphasis on social and environmental issues, based on others' experience and an appreciation of diverse cultural perspectives
- b. An emphasis on the preservation of the ecological integrity of natural resources
- c. Equal access to environmental education
- d. Fair and equitable treatment of all people in regards to development, implementation, and enforcement of environmental laws, regulations, policies, and programs

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Several issues: The item is at the knowledge level and the objective is an application objective. Stem contains abbreviation "EJ", which is unfair on the pretest UNLESS you think it is important that the knowledgeable know what EJ means. In which case you are not measuring application... "An emphasis" in two response options probably means one of them is right – good for guessing, reducing reliability.

Question

Rate your confidence in preparing and using appropriate methods to engage and learn about your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

Rate your **confidence** in preparing and using appropriate methods to engage and learn about your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Objective 2: Upon completion of this unit learners will be able to:

Assess the barriers within themselves and their organization that are hindering their intended audience from participating in EE.

Question

All of the following are misconceptions about why culturally diverse audiences are underrepresented in environmental education programs except:

- a. **Environmental content and pedagogies do not address the needs of persons of color**
- b. Historically, environmental quality has not been an issue for people of color and therefore they are not interested now
- c. People of color are not interested in environmental issues because they don't support environmental organizations
- d. People of color have more pressing needs than to worry about protecting the environment

Gus:

Strongly Agree

Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

All of the following are misconceptions about why culturally diverse audiences are underrepresented in environmental education programs **except**:

- a. **Environmental content and pedagogies do not address the needs of persons of color**
- b. Historically, environmental quality has not been an issue for people of color and therefore they are not interested now
- c. People of color are not interested in environmental issues because they don't support environmental organizations
- d. People of color have more pressing needs than to worry about protecting the environment

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

The item is at the knowledge level and the objective is an application objective.

Question

What step is missing from the following list when developing a comprehensive plan for an organization:

- Define goals and community
 - Identify community characteristics
 - Identify assessment methods
 - Analyze results
 - Select and implement best strategies
- a. Complete live and/or phone interviews
 - b. **Conduct pre-project planning**
 - c. Evaluate the program
 - d. Perform statistical analyses
 - e. Report the findings

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

What step is missing from the following list when developing a comprehensive **plan** for an organization:

- Define goals and community
- Identify community characteristics
- Identify assessment methods

- Analyze results
 - Select and implement best strategies
- a. Complete live and/or phone interviews
 - b. **Conduct pre-project planning**
 - c. Evaluate the program
 - d. Perform statistical analyses
 - e. Report the findings

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

A couple issues: The item is at the knowledge level and the objective is an application objective. Stem contains abbreviation “plan” and one option contains plan... if I guess, I’m right and your reliability is lower.

Question

Rate your confidence in your ability to assess the barriers within yourself and your organization that are hindering your intended audience from participating in EE.

Not Confident
Somewhat Confident

Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

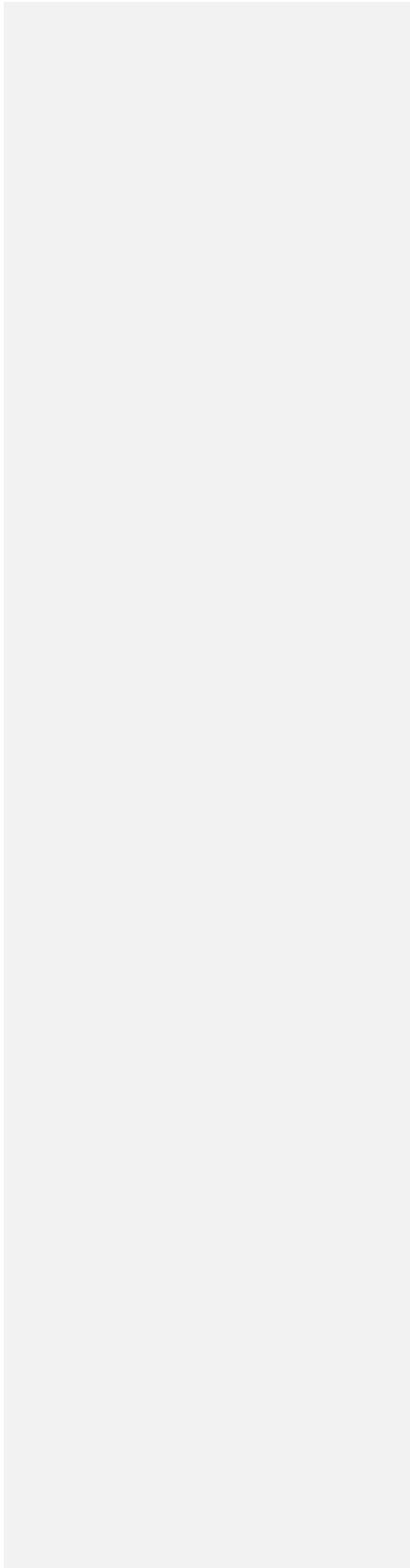
Question

Rate your confidence in your ability to assess the barriers within yourself and your organization that are hindering your intended audience from participating in EE.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral



Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Objective 3: Upon completion of this unit learners will be able to:

Apply cultural competency skills in building relationships and partnerships with members of their intended audience.

Question

When creating environmental education programs, the following items are important to take into account:

- Working with school's agenda
- Working as facilitators
- Designing place-based projects
- Working with parents or community members
- Incorporating needs and perspectives of students

These are demonstrations that an individual or organization...

- a. Is inclusive of many cultures
- b. **Practices culturally competency**
- c. Uses experiential education techniques
- d. All of the above
- e. None of the above

Gus:

Strongly Agree
Agree

Neutral
Disagree
Strongly Disagree

Lyn:

Objective 3: Upon completion of this unit learners will be able to:

Apply cultural competency skills in building relationships and partnerships with members of their intended audience.

Question

When creating environmental education programs, the following items are important to take into account:

- Working with school's agenda
- Working as facilitators
- Design place-based projects
- Work with parents or community members

These are demonstrations that an individual or organization...

- a. Is inclusive of many cultures
- b. **Practices culturally competency** *This language doesn't make sense to me.*
- c. Uses experiential education techniques
- d. All of the above
- e. None of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree

Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Issues: The item is at the knowledge or comprehension level and the objective is an application objective. Correct answer doesn't make sense.

Question

The best way for an organization to achieve cultural competency is:

- a. **Continually adapting services that are respectful to other cultures**
- b. Hiring people of diverse cultural backgrounds
- c. Having staff attend trainings on various cultures and cultural traditions
- d. Inviting culturally diverse groups to attend the organization's programs

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Issues: The item is at the knowledge or maybe comprehension level and the objective is an application objective.

Question

Rate your confidence in your ability to apply cultural competency skills in building relationships and partnerships with members of your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

Rate your confidence in your ability to apply cultural competency skills in building relationships and partnerships with members of your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Unit Three

Objective 1: Upon completion of this unit learners will be able to:

Interpret the key characteristics of quality environmental education resources and programs in relation to their intended audience.

Question

When applying the characteristics of quality environmental education programs described by NAAEE's "Nonformal Environmental Education Programs: Guidelines to Excellence," most often educators:

- a. Align each of the characteristics with the needs of culturally diverse audiences
- b. Apply the characteristics using their own cultural perspectives**
- c. Apply the characteristics from the perspectives of their intended audience

- d. Do none of the above
- e. Do all of the above

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

When **applying** the characteristics of quality environmental education programs described by NAAEE's "Nonformal Environmental Education Programs: Guidelines to Excellence," most often educators: [Change the language of the options so that none of them includes "apply"](#).

- a. Align each of the characteristics with the needs of culturally diverse audiences
- b. Apply the characteristics using their own cultural perspectives**
- c. **Apply** the characteristics from the perspectives of their intended audience
- d. Do none of the above
- e. Do all of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Question

Rate your confidence in your ability to interpret the key characteristics of quality environmental education resources and programs in relation to your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

Rate your confidence in your ability to interpret the key characteristics of quality environmental education resources and programs in relation to your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Objective 2: Upon completion of this unit learners will be able to:

Identify and adapt environmental education programs and resources to address the interests and concerns of their intended audience.

Question

The key principle(s) of successful community-based education is/are...

- a. **An education plan created as a result of community involvement**
- b. Education based in the community
- c. Education about environmental issues at a local level
- d. Focus on economic development, housing, youth, health, and the environment

Gus:

Strongly Agree
Agree
Neutral

Disagree
Strongly Disagree

Lyn:

Question

The key principle(s) of successful **community**-based education is/are...

- a. **An education plan created as a result of **community** involvement**
- b. Education based in the **community**
- c. Education about environmental issues at a local level
- d. Focus on economic development, housing, youth, health, and the environment

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Issues: The item is at the knowledge level and the objective is a synthesis (plus comprehension) objective. It is also really easy to guess – “community” reduces the option to a or b, and the use of the article “an” is different from all the other options, so I’d guess “a” and get it right. You’ve reduced your reliability again.

Question

Culturally responsive teaching includes all of the following except:

- a. A **checklist** that teachers can follow to be effective educators
- b. An understanding of how individuals communicate and interact within the students' cultures
- c. Integrating within the curriculum content and examples that draw on the learners' cultural background.
- d. Taking into consideration the individual needs of the learner.

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Changed check list to checklist.

Lyn:

Question

Culturally responsive **teaching** includes all of the following except:

- a. A **check list that teachers** can follow to be effective educators
- b. An understanding of how individuals communicate and interact within the students' cultures
- c. Integrating within the curriculum content and examples that draw on the learners' cultural background.
- d. Taking into consideration the individual needs of the learner.

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This is easy to guess and again the cognitive level of the item does not match the objective.

Question

Rate your confidence in your ability to modify or create an environmental education program that is inclusive and relevant to culturally diverse audiences.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree

Strongly Disagree

Lyn:

Question

Rate your confidence in your ability to modify or create an environmental education program that is inclusive and relevant to culturally diverse audiences.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Objective 3: Upon completion of this unit learners will be able to:

Apply the knowledge and skills to motivate their intended audience to participate in environmental education.

Question

Rate your confidence in your ability to motivate a culturally diverse audience to participate in environmental education.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

Gus:

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Lyn:

Question

Rate your confidence in your ability to motivate a culturally diverse audience to participate in environmental education.

Not Confident
Somewhat Confident

Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

[See comments above.](#)

Additional Comments

Gus:

These are difficult concepts to capture in a close-ended evaluation instrument. Although many of the questions by themselves are insufficient to capture the objective they are intended to measure, the combined questions should provide the information needed. Overall these questions look fine.

Dr. Sivek's Review:

Question

All of the following are true about culture except:

- a. **Cultures are determinative of expectations**
- b. Cultures are not static
- c. All people have a cultural connection
- d. There are many cultures within a culture

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree X
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

The item seems to assess *facts* about culture, not *how* one's own culture impacts perception. Include foils that focus more on the *how*

Question

Based on Bennett's Developmental Model of Intercultural Sensitivity, the following sentence describes which stage:

"To solve this dispute, I need to change my behavior to account for the difference in status between me and my counterpart from the other culture."

- a. Denial
- b. Defense against Indifference
- c. Minimization of Defense
- d. Acceptance of Difference**
- e. Adaptation
- f. Integration

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral

Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Cultural misunderstandings often...

- a. Obscure truth
- b. Distort reality
- c. Lead to antagonism
- d. **all of the above**
- e. none of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

The correct answer seems too obvious. More plausible foils are needed.

Question

Rate your confidence in working with audiences from the same culture as your own.

Not Confident

Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

It's a good question to include but doesn't really assess the objective. The objective is knowledge-focused. This question is attitudinal.

For objective 1, shouldn't there be something more about how cultures determine one's worldview?

Objective 2: Upon completion of this unit learners will be able to:

Summarize various cultural perspectives of the environment.

Question

Studies have shown that people living in urban, impoverished areas...

- a. Do not believe that environmental problems directly affect them in the city
- b. **Often do not have transportation to visit natural areas outside of the city**
- c. Believe that Animals, plants, and parks do not play an important role in their lives
- d. All of the above
- e. None of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree x
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Which ethnic group typically uses an educational system that is best described by the use of traditional values, orientations, and principles, and the use of concepts, technologies, and content of modern education?

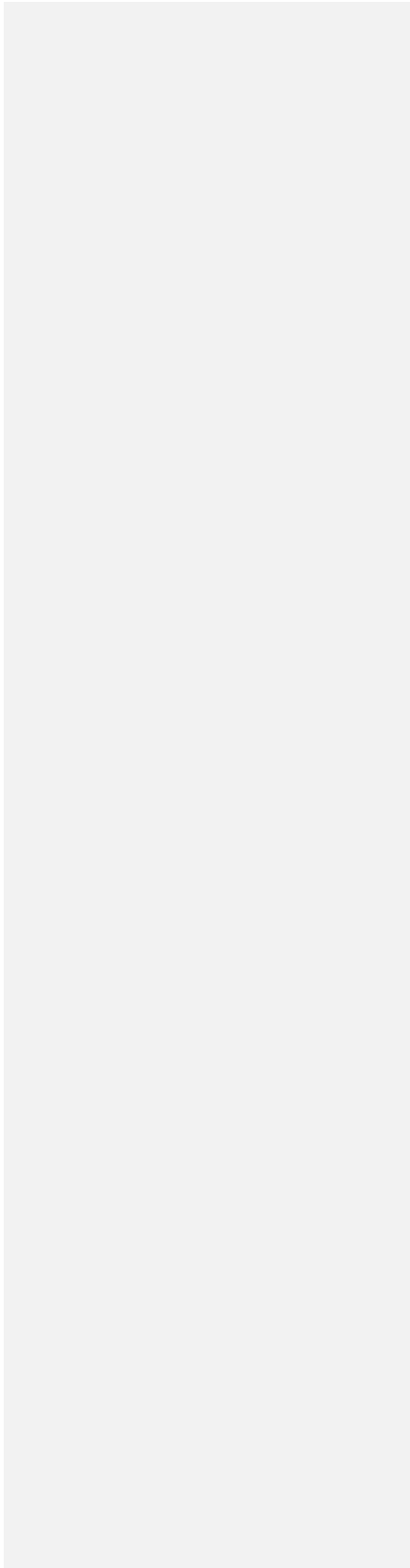
- a. Asians
- b. African Americans
- c. Caucasians
- d. Hispanics
- e. **Indigenous Americans**

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree x
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question



Rate your confidence in your ability to summarize various cultural perspectives of the environment.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree X
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

...though technically it measures *perception* of knowledge of cultures, not actual knowledge

Objective 3: Upon completion of this unit learners will be able to:

Describe how culture influences an individual's perspective of the environment.

Question

Which of The following is/are the main reason(s) the majority of urban, impoverished residents have difficulty interacting with their natural surroundings:

- a. Historically slavery has denied the opportunity for African Americans to develop a positive relationship with the land
- b. These residents typically experience **Poor air quality, litter, and an unsafe social environment**

- c. There are too few natural areas that exist in urban environments
- d. All of the above
- e. None of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree x
Agree
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Rate your confidence in describing how culture influences an individual's perspective of the environment.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree X
Neutral
Disagree

Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Though again this assesses attitude, not knowledge

More items are needed to adequately assess this objective

Objective 4: Upon completion of this unit learners will be able to:

Summarize the concept of cultural competency.

Question

A set of skills, knowledge and attitudes that enhances an individual's...

- awareness of his or her own assumptions and values
- understanding of and respect for other's values, beliefs and expectations
- ability to adapt his or her interactions to be more congruent with other's expectations and preference.

Is an example of:

- a. Cultural Awareness
- b. **Cultural Competency**
- c. Diversity
- d. Ethnicity
- e. Environmental Awareness

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

As worded, it seems to be a simple recall question. It also seems an open-ended question is needed to assess this objective.

Question

All of the following are characteristics of a culturally competent organization except:

The organization...

- a. Addresses inequities that their intended audience may be subject to
- b. Creates a defined set of values and principles that articulate how to respond to diversity and ensure equity of access to services
- c. Creates a template that describes specific practices to follow to ensure they are culturally competent**
- d. Integrates relevant cultural knowledge throughout the educational programs and staff
- e. Is current on the demographics of the community and creates partnerships with local organizations

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Rate your confidence in your ability to summarize the concept of cultural competency.

Not Confident
Somewhat Confident

Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Same comment as the other attitudinal questions...

Unit Two:

Objective 1: Upon completion of this unit learners will be able to:

Prepare and use appropriate methods to engage and learn about their intended audience.

Question

_____ can help an organization identify all of the issues that relate to a community.

- a. Assessment Projects
- b. Audience Identification
- c. **Comprehensive Planning**
- d. Concept Mapping
- e. Goal Planning

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Social network mapping, asset mapping, environmental typology, and meetings are all examples of:

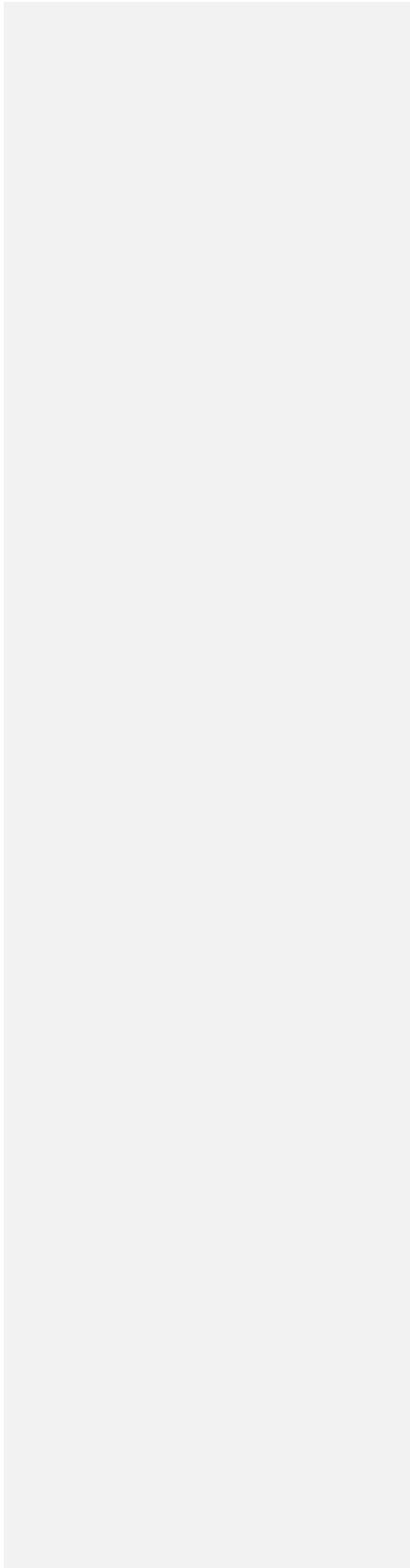
- a. **Assessment methods**
- b. Community characteristics
- c. Community assessments
- d. Organizational planning methods

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral x
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question



All of the following describe important EJ ← spell it out? concepts except:

- a. An emphasis on social and environmental issues, based on others' experience and an appreciation of diverse cultural perspectives
- b. An emphasis on the preservation of the ecological integrity of natural resources**
- c. Equal access to environmental education
- d. Fair and equitable treatment of all people in regards to development, implementation, and enforcement of environmental laws, regulations, policies, and programs

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

This question doesn't assess methods, though it seems to be an important question.

Question

Rate your confidence in preparing and using appropriate methods to engage and learn about your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Attitude...

Objective 2: Upon completion of this unit learners will be able to:

Assess the barriers within themselves and their organization that are hindering their intended audience from participating in EE.

Question

All of the following are misconceptions about why culturally diverse audiences are underrepresented in environmental education programs except:

- a. **Environmental content and pedagogies do not address the needs of persons of color**
- b. Historically, environmental quality has not been an issue for people of color and therefore they are not interested now
- c. People of color are not interested in environmental issues because they don't support environmental organizations
- d. People of color have more pressing needs than to worry about protecting the environment

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree

Neutral
Disagree
Strongly Disagree x

If you do not agree, please provide suggestions to improve the questions.

The wording of the stem is very complex – “all,” “misconceptions,” “underrepresented,” and “except;” combined with “not” in three of the four foils.

Question

What step is missing from the following list when developing a comprehensive plan for an organization?

- Define goals and community
 - Identify community characteristics
 - Identify assessment methods
 - Analyze results
 - Select and implement best strategies
- a. Complete live and/or phone interviews
 - b. **Conduct pre-project planning**
 - c. Evaluate the program
 - d. Perform statistical analyses
 - e. Report the findings

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Question

Rate your confidence in your ability to assess the barriers within yourself and your organization that are hindering your intended audience from participating in EE.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

attitude

Objective 3: Upon completion of this unit learners will be able to:

Apply cultural competency skills in building relationships and partnerships with members of their intended audience.

Question

When creating environmental education programs, the following items are important to take into account:

- Working with school’s agenda ←**What is a “school’s agenda?”**

- Working as facilitators
- Design place-based projects
- Work with parents or community members

These are demonstrations that an individual or organization...

- Is inclusive of many cultures
- Practices culturally competency**
- Uses experiential education techniques
- All of the above
- None of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

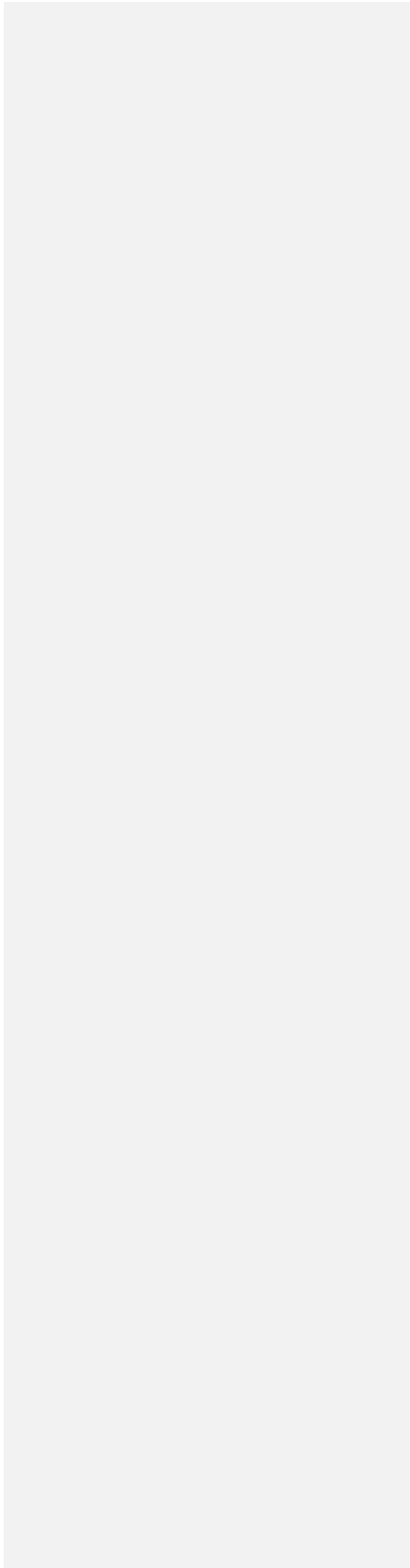
If you do not agree, please provide suggestions to improve the questions.

Question

The best way for an organization to achieve cultural competency is:

- Continually adapting services that are respectful to other cultures**
- Hiring people of diverse cultural backgrounds
- Having staff attend trainings on various cultures and cultural traditions
- Inviting culturally diverse groups to attend the organization's programs

This question provides the necessary data to determine whether the objective was achieved.



Strongly Agree
Agree
Neutral x
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

The foils seem a little too obvious

Question

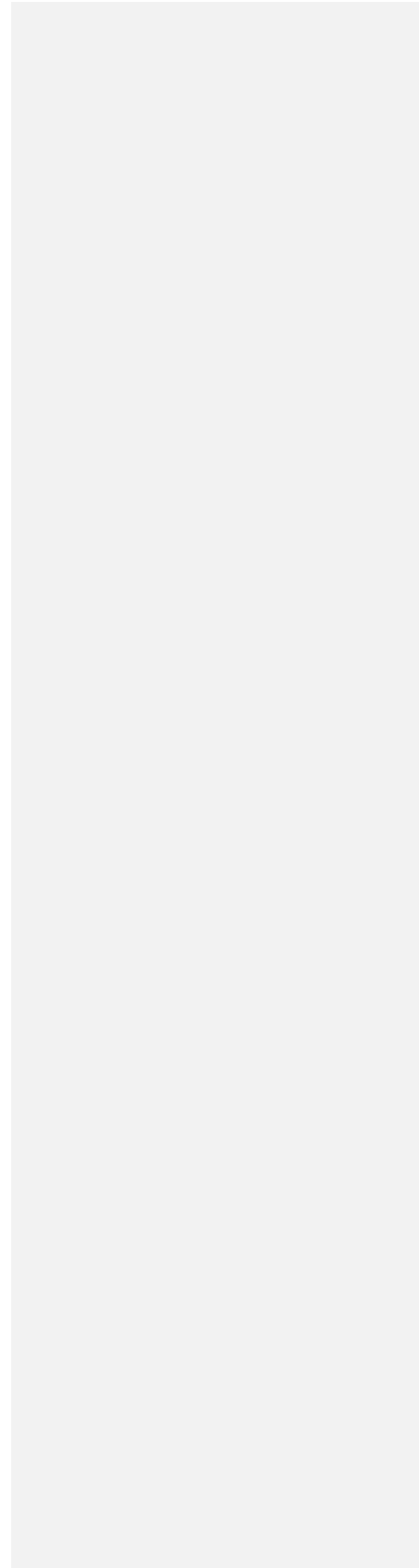
Rate your confidence in your ability to apply cultural competency skills in building relationships and partnerships with members of your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.



attitude

Unit Three

Objective 1: Upon completion of this unit learners will be able to:

Interpret the key characteristics of quality environmental education resources and programs in relation to their intended audience.

Question

When applying the characteristics of quality environmental education programs described by NAAEE’s “Nonformal Environmental Education Programs: Guidelines to Excellence,” most often educators:

- a. Align each of the characteristics with the needs of culturally diverse audiences
- b. Apply the characteristics using their own cultural perspectives**
- c. Apply the characteristics from the perspectives of their intended audience
- d. Do none of the above
- e. Do all of the above

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral x
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

I would add one or two more foils and delete the “all...” or “none...” options. Also, one content item doesn’t seem to sufficiently assess this objective.

Question

Rate your confidence in your ability to interpret the key characteristics of quality environmental education resources and programs in relation to your intended audience.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree x...
Neutral
Disagree
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Objective 2: Upon completion of this unit learners will be able to:

Identify and adapt environmental education programs and resources to address the interests and concerns of their intended audience.

Question

The key principle(s) of successful community-based education is/are...

- a. **An education plan created as a result of community involvement**
- b. Education based in the community
- c. Education about environmental issues at a local level
- d. Focus on economic development, housing, youth, health, and the environment

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree x

If you do not agree, please provide suggestions to improve the questions.

Question

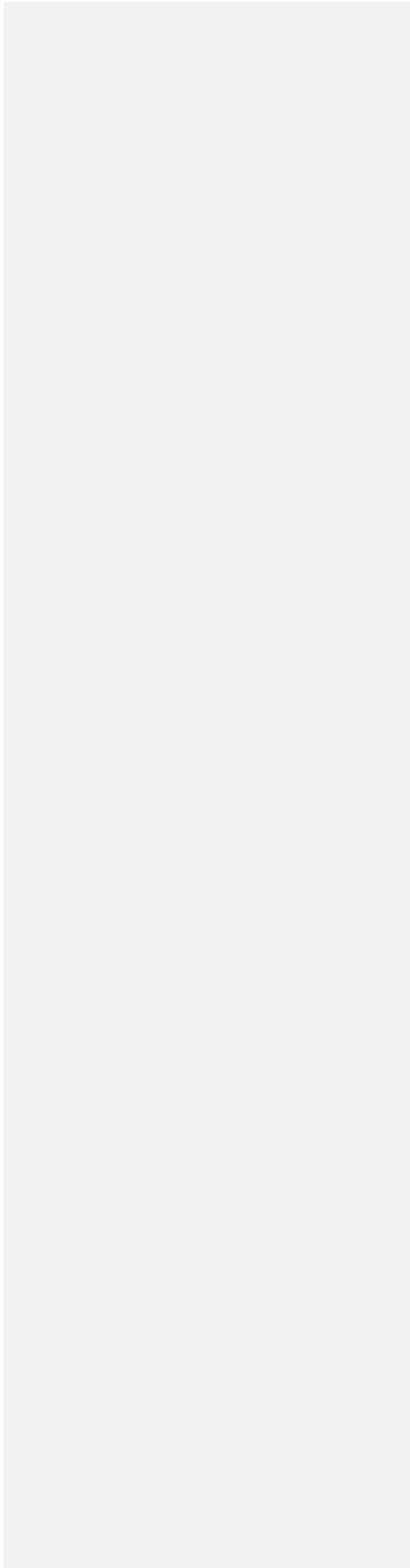
Culturally responsive teaching includes all of the following except:

- a. **A check list that teachers can follow to be effective educators**
- b. An understanding of how individuals communicate and interact within the students' cultures
- c. Integrating within the curriculum content and examples that draw on the learners' cultural background.
- d. Taking into consideration the individual needs of the learner.

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.



The item doesn't seem to address the *skills* (as the objective suggests, or focus on programs or resources.

Question

Rate your confidence in your ability to modify or create an environmental education program that is inclusive and relevant to culturally diverse audiences.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree x
Strongly Disagree

If you do not agree, please provide suggestions to improve the questions.

Add wording “resources” and “programs”

Objective 3: Upon completion of this unit learners will be able to:

Apply the knowledge and skills to motivate their intended audience to participate in environmental education.

Question

Rate your confidence in your ability to motivate a culturally diverse audience to participate in environmental education.

Not Confident
Somewhat Confident
Neutral
Confident
Very Confident

This question provides the necessary data to determine whether the objective was achieved.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree x

If you do not agree, please provide suggestions to improve the questions.

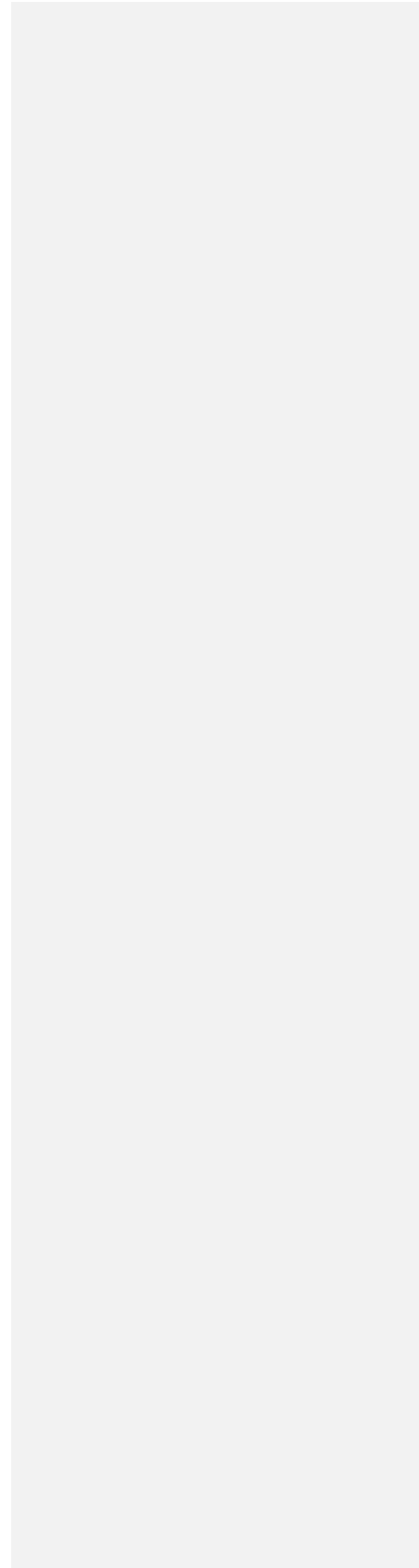
This one item only assess perception, not ability.

Please use the space provided below to include any suggestions that you feel will improve this instrument.

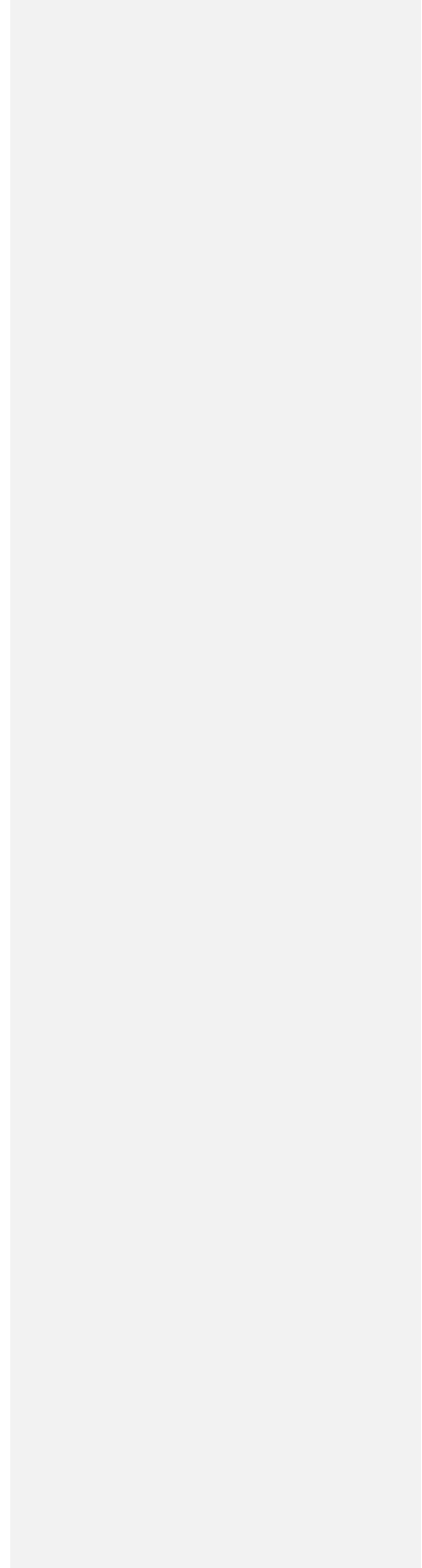
Several of the objectives call for alternative assessments to multiple choice items. For example, being able to “summarize” or “apply” knowledge. The multiple choice items actually seem to be measuring “self perceived ability to” summarize or apply. I think you need some alternative assessment methods or you need to change your objectives to reflect that your measuring “perceptions of skills/abilities” not the skills/abilities themselves.

Dr. Forbe’s Review:

See Appendix I.



Appendix P.
Fall 2008 Marketing



Education Online Courses offered through the University of Wisconsin – Stevens Point

Making EE Relevant for Culturally Diverse Audiences

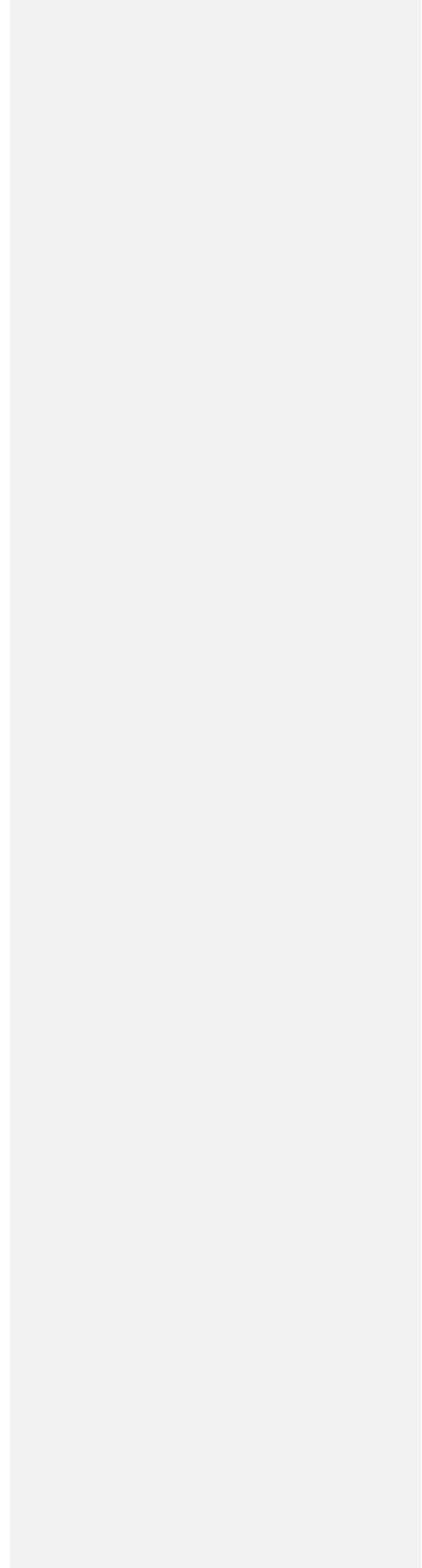
This 10-week on-line course is designed to provide course participants with the basic knowledge and skills needed to make EE relevant to culturally diverse audiences. Through this course participants will broaden their perspective of EE to encompass interests and issues of concern to culturally diverse audiences, assess barriers to participation among culturally diverse audiences, and apply cultural competency skills in building relationships and partnerships with members of an audience they intend to work with in the future. Environmental educators must understand how to work with and involve diverse populations to ensure that their perspectives are heard and that they participate fully in environmental decisions being made at the local, regional, and national levels. This online course has been developed in collaboration with national EE experts who represent diverse cultural and ethnic backgrounds. Although there are no prerequisites for this course, a working understanding of environmental education is essential for success in this course. Participants may obtain one undergraduate or graduate credit from the University of Wisconsin-Stevens Point. It is also available as a non-credit workshop for those not seeking college credit. All participants, regardless of location, are eligible for the in-state tuition rate.

To learn more, contact Ali Cordie (acordie@uwsp.edu).

To learn more about EETAP visit the EETAP website at <http://www.eetap.org/>

Fall 2008 course dates: To be determined

Appendix Q.
Fall 2008 Treatment Group Pretest Knowledge Test and Self-Assessment Email



Subject: MEER Pre-Course Questionnaire

Dear Course Participant,

Thank you for your participation in the new online course, “Making EE Relevant for Culturally Diverse Audiences” (MEER)!

I would appreciate for you to share your knowledge and time with me by completing a Pre-Course Knowledge Test and Self Assessment for EETAP’s new course and for my thesis research project. This research is designed so there are two groups involved in the project; the course participants (treatment group) and non-course participants (control group). Both groups will take the same test before and after the course is administered for the first time this fall 2008 semester.

Participation in this research project is completely voluntary, but we really hope that you will help us and complete the pre-and post-course assessments. Please be assured that no information that could identify individuals who participate in this project will be released. We do ask that you provide your name, but this information is only used to keep track of which research participants have and have not completed the pre and post-course assessments. All responses will be kept confidential.

The Pre-Course Knowledge Test and Self Assessment should only take about 20 minutes to complete. If you agree to participate in this research project, click on the link below to access the assessment.

Please do not hesitate to contact either of us if you have any questions. We would like to thank you for your interest in EETAP’s online courses and your contributions in advancing research in the field of environmental education, and specifically, the new online course.

Please complete the following assessment by September 2, 2008.

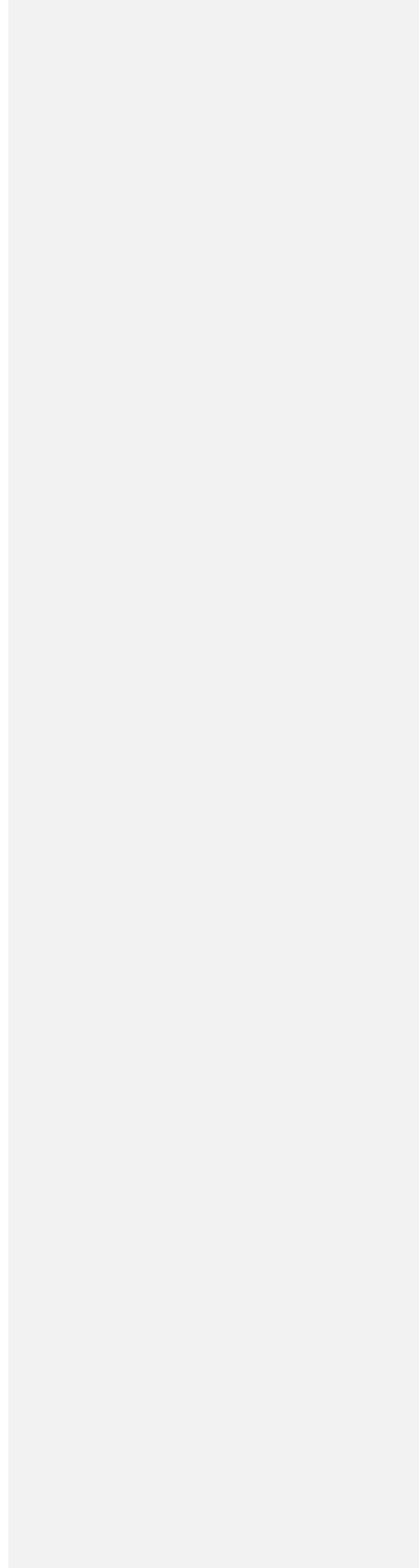
Respectfully,

Dr. Richard Wilke, UW-System Distinguished Professor, EETAP Director
Environmental Education and Training Partnership
(715) 346-4766
rwilke@uwsp.edu

Ali Cordie, Graduate Assistant
Environmental Education and Training Partnership
(715) 346-4748
acordie@uwsp.edu

[CLICK HERE](#) to access the MEER Pre-Course Knowledge Test and Self Assessment

Appendix R.
Fall 2008 Pretest News Posting



Heading: MEER Pre-Course Knowledge Test and Self Assessment

Hello MEER course participants!

If you have not already done so, please complete the MEER Pre-Course Knowledge Test and Self Assessment before you look at the course content.

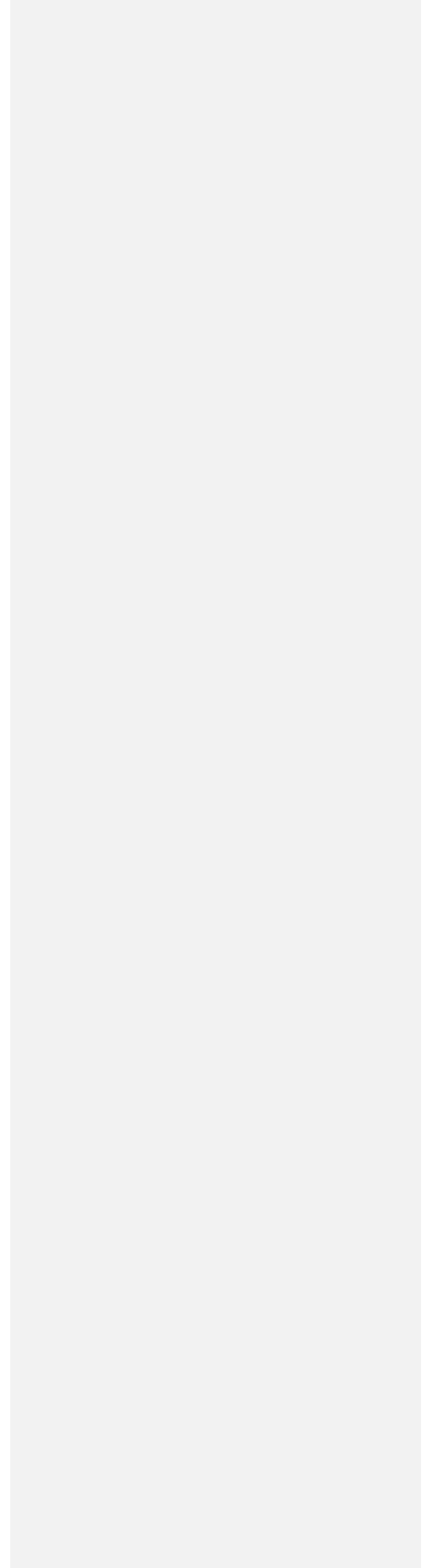
This assignment was due **yesterday, September 2nd**.

To access the assessment, please [CLICK HERE](#).

Thank you to everyone who has completed the assessment! The information that you have provided is really helpful in making this course a quality learning experience!

~Ali

Appendix S.
Fall 2008 Treatment Group Pretest Non-Responder Email



Subject: MEER Post-Course Questionnaire

Congratulations on your participation in the first offering of the new course “Making EE Relevant for Culturally Diverse Audiences.” I understand that things can get pretty busy at the beginning of the semester, but I am writing to see if I can have you help me with one task before the MEER course really gets started this semester. I have not yet received a pre-course knowledge assessment from you. Please take 20-30 minutes out of your schedule to complete this important component of this research project. I have copied the link below for easier access. All you have to do is click on the link below and it will take you directly to the pre-course knowledge assessment. Once you click on the submit button, your pre-course knowledge assessment is automatically sent to me for compiling and reporting.

[CLICK HERE](#) to access the post-course knowledge assessment.

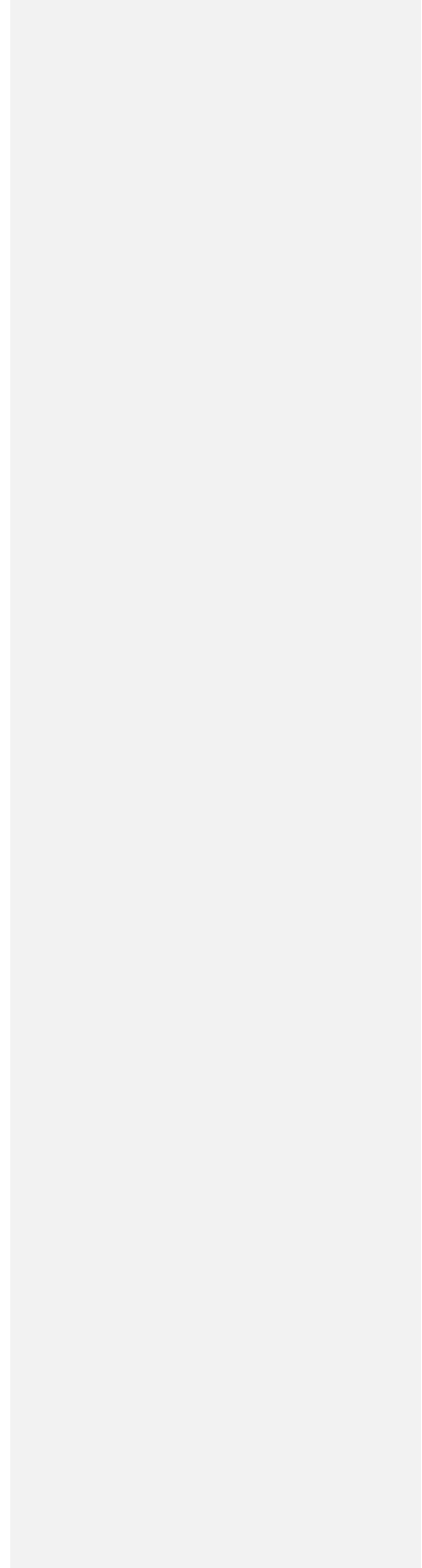
Thanks for your help with all of this; your input provides valuable feedback that can help us to make this course a quality learning tool.

If you have any questions or concerns, please do not hesitate to contact me.

Ali Cordie

Online Course Graduate Assistant
Environmental Education & Training Partnership
University of Wisconsin-Stevens Point
College of Natural Resources
Stevens Point, WI 54481
(715) 346-4748

Appendix T.
Fall 2008 Treatment Group Posttest Non-Responder Email



Subject: MEER Post-Course Questionnaire

Congratulations on your participation in the second offering of the course “Making EE Relevant for Culturally Diverse Audiences.” Now that the MEER course is complete I am sure that you are probably taking some time to relax a little these days. I am writing to see if I can have you help me with one of the last tasks of this course. I have not yet received a post-course knowledge assessment from you. Please take 20-30 minutes out of your schedule to complete this important component of this research project. I have copied the link below for easier access. All you have to do is click on the link below and it will take you directly to the post-course knowledge assessment. Once you click on the submit button, your post-course knowledge assessment is automatically sent to me for compiling and reporting.

[CLICK HERE](#) to access the post-course knowledge assessment.

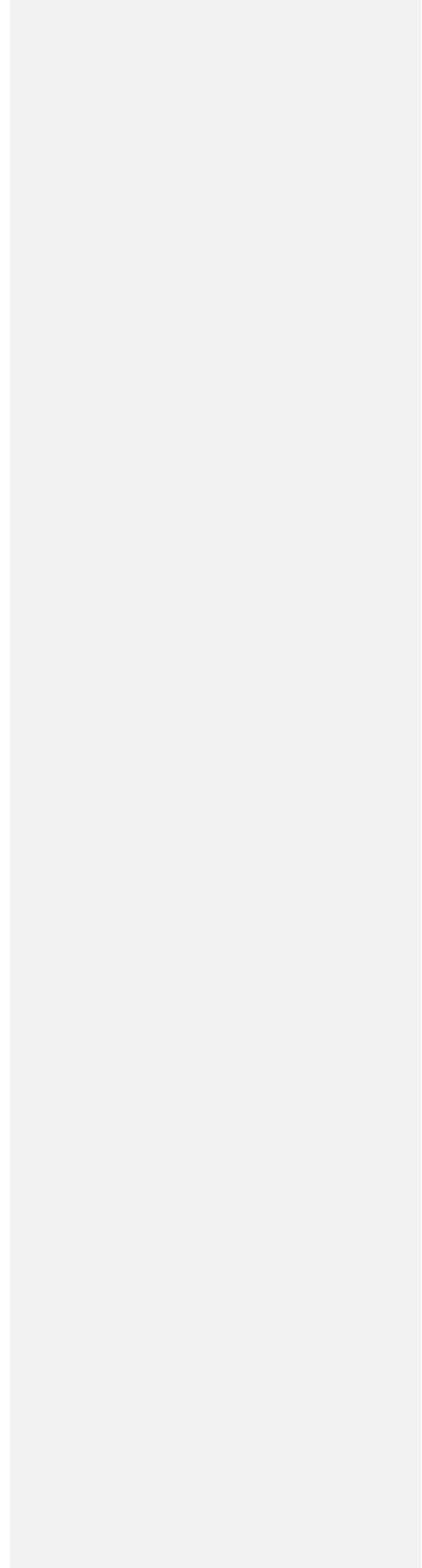
Thanks for your help with all of this; your input provides valuable feedback that can help us to make this course a quality learning tool.

If you have any questions or concerns, please do not hesitate to contact me.

Ali Cordie

Online Course Graduate Assistant
Environmental Education & Training Partnership
University of Wisconsin-Stevens Point
College of Natural Resources
Stevens Point, WI 54481
(715) 346-4748

Appendix U.
Fall 2008 Control Group Pretest Knowledge Test and Self-Assessment Email



Subject: Research Questionnaire and EETAP Online Course Voucher Opportunity

Greetings and Congratulations!

You have been selected by the Environmental Education and Training Partnership (EETAP) and the University of Wisconsin – Stevens Point to be involved in a unique and valuable research project. EETAP is conducting a survey to determine if there is significant knowledge gained as a result of our new online course, “Making Environmental Education Relevant for Culturally Diverse Audiences” (MEER).

This research is designed so there are two groups involved in the project; the course participants (treatment group) and non-course participants (control group). Both groups will take the same test before and after the course is administered for the first time this fall 2008 semester.

Because you have shown interest in EETAP’s online courses before by contacting us for more information about the courses, we wanted to give you the opportunity to become involved in this research project as a member of the non-course participant control group. If you successfully complete the pre-course and post-course assessments you will receive a voucher for \$50 off the enrollment fee in one of EETAP’s environmental education online courses. Please respond quickly, as we will accept the first 50 individuals who respond.

Participation in this research project is completely voluntary, but we really hope that you will help us and complete the pre-and post-course assessments. Please be assured that no information that could identify individuals who participate in this project will be released. We do ask that you provide your name, but this information is only used to keep track of which research participants have and have not completed the pre and post-course assessments. All responses will be kept confidential.

The pre-course assessment should only take about 20 minutes to complete. If you agree to participate in this research project, click on the link below to access the assessment. We will email the first 50 respondents the post-course assessment in November once the MEER course has ended. The \$50 voucher will be sent to you once we receive both the pre-and post-course assessments.

Please do not hesitate to contact either of us if you have any questions. We would like to thank you for your interest in EETAP’s online courses and your contributions in advancing research in the field of environmental education, and specifically, the new online course.

Please complete the following assessment by September 5, 2008.

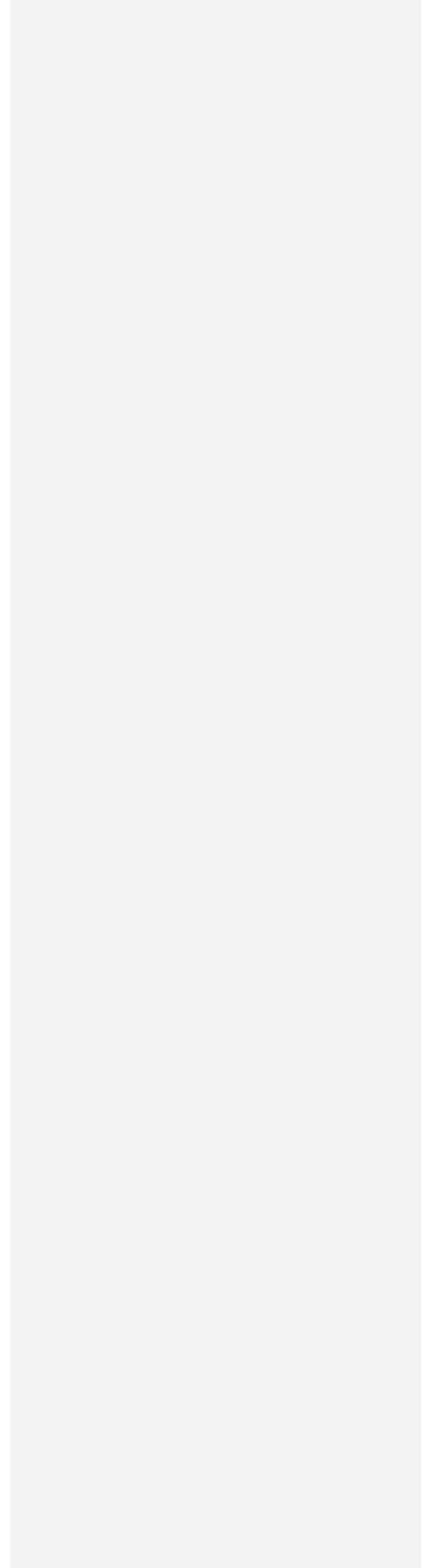
Respectfully,

Dr. Richard Wilke, UW-System Distinguished Professor, EETAP Director
Environmental Education and Training Partnership
(715) 346-4766
rwilke@uwsp.edu

Ali Cordie, Graduate Assistant
Environmental Education and Training Partnership
(715) 346-4748
acordie@uwsp.edu

[CLICK HERE](#) to access the MEER Pre-Course Knowledge Test and Self Assessment

Appendix V.
Fall 2008 Control Group Posttest Knowledge Test and Self-Assessment Email



Subject: Control Group MEER Post-Course Knowledge Test and Self-Assessment

Greetings!

Thank you for being an environmental education research participant in the project that the Environmental Education and Training Partnership (EETAP) and the University of Wisconsin – Stevens Point (UW-SP) is conducting this fall. In September you submitted a pre-course knowledge assessment for the new online course, “Making Environmental Education Relevant for Culturally Diverse Audiences” (MEER) that has been created by EETAP and UW-SP. The research is designed so there are two groups involved in the project; the course participants (treatment group) and non-course participants (control group). Both groups will take the same test before and after the course is administered for the first time this fall 2008 semester. Since the MEER course is coming to an end this week, it is time to administer and collect the post-course assessment for both groups.

Participation in this research project is completely voluntary, but we really hope that you will help us and complete the pre-and post-course assessments. Please be assured that no information that could identify individuals who participate in this project will be released. We do ask that you provide your name, but this information is only used to keep track of which research participants have and have not completed the pre and post-course assessments. All responses will be kept confidential.

The pre-course assessment should only take about 20 minutes to complete. If you agree to participate in this research project, click on the link below to access the assessment. Once we receive your completed post-course assessment, a voucher for \$50 off the enrollment fee of one of EETAP’s environmental education online courses will be sent to you.

Please do not hesitate to contact either of us if you have any questions. We would like to thank you for your interest in EETAP’s online courses and your contributions in advancing research in the field of environmental education, and specifically, the new online course.

Please complete the following assessment by November 20th, 2008.

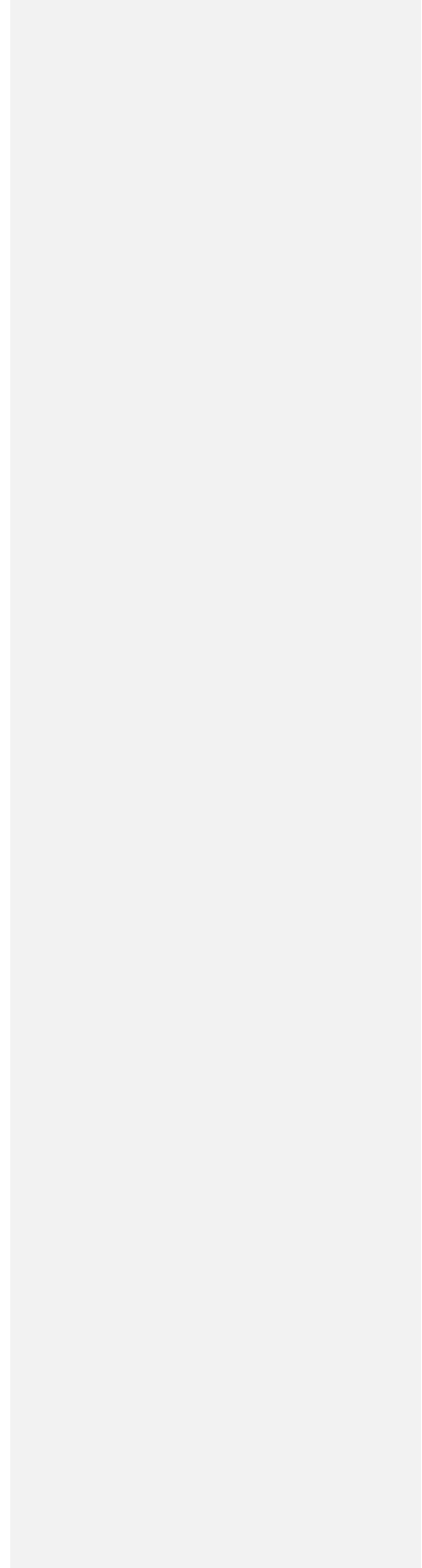
Respectfully,

Dr. Richard Wilke, UW-System Distinguished Professor, EETAP Director
Environmental Education and Training Partnership
(715) 346-4766
rwilke@uwsp.edu

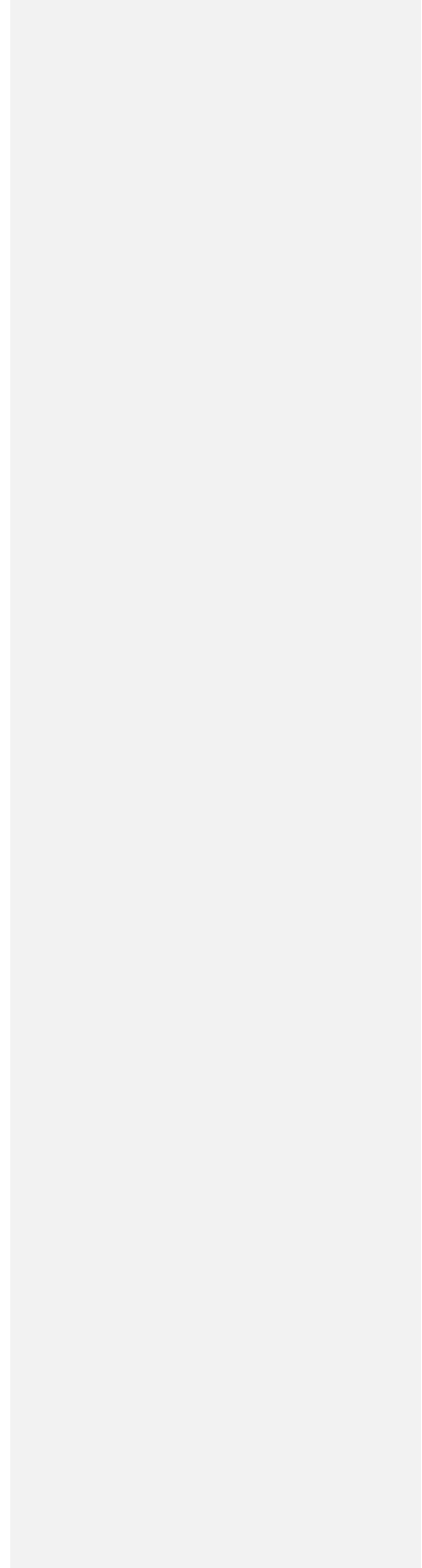
Ali Cordie, Graduate Assistant
Environmental Education and Training Partnership
(715) 346-4748
acordie@uwsp.edu

acordie@uwsp.edu

[CLICK HERE](#) to access the Post-Course Assessment



Appendix W.
Fall 2008 Control Group Posttest Non-Responder Email



Subject: Control Group Posttest Knowledge Assessment

Thank you and congratulations on your participation in the Environmental Education and Training Partnership and the University of Wisconsin – Stevens Point research project this past fall! I am writing to see if I can have you help me with the VERY last part of being a research project participant. I have not yet received a post-course knowledge assessment from you. Please take 20-30 minutes out of your schedule to help provide feedback about the course. I have copied the link below for easier access. All you have to do is click on the link below and it will take you directly to the post-course knowledge assessment. Once you click on the submit button, your post-course knowledge assessment is automatically sent to me for compiling and reporting.

[CLICK HERE](#) to access the post-course knowledge assessment.

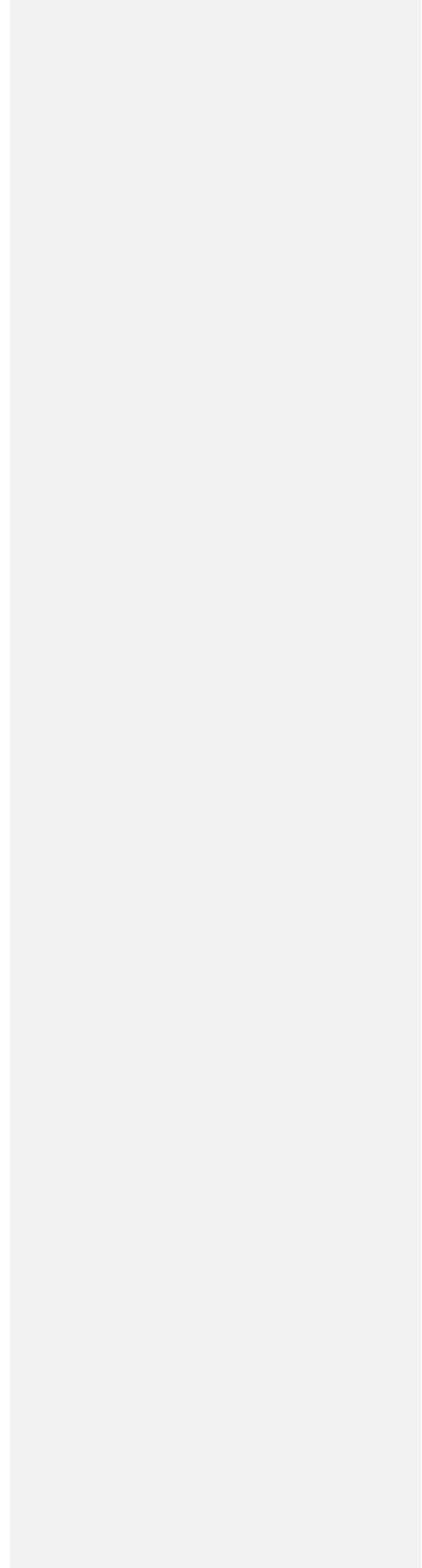
Thanks for your help with all of this; your input provides valuable feedback that can help us to make this course a quality learning tool.

If you have any questions or concerns, please do not hesitate to contact me.

Ali Cordie

Online Course Graduate Assistant
Environmental Education & Training Partnership
University of Wisconsin-Stevens Point
College of Natural Resources
Stevens Point, WI 54481
(715) 346-4748

Appendix X.
Course Evaluation Open-Ended Response Results Fall 2008



5. In the space provided, please explain how within the next six months you intend to assess the barriers to participation among culturally diverse audiences in the environmental education programs at your organization as a result of taking this course.

1. *Learn Spanish, develop bilingual site literature, and involve local families in outdoor programs like canoeing.*
2. *I will discuss what I learned with my co-workers. I will also spend time looking at our education and outreach goals to see if there are barriers to participation by diverse groups.*
3. *I'm going to interview leaders of the different communities my organization serves.*
4. *I will provide a synopsis of suggestions/recommendations to the Visitor Services staff. This way we can have an open discussion and implement any new techniques if needed.*
5. *set up community meetings to address the concerns of local groups*
6. *look for other ways to communicate, such as community leaders etc. rather than rely on regular media*
7. *I will continue to update the multicultural plan for the park. It will be shared not only to park staff but to a planning meeting tomorrow with national park rangers.*
8. *I plan to discuss the information I've learned from the course with my education team and brainstorm ways we can make our programs more culturally competent.*
9. *Will make community contacts to discuss partnerships.*
10. *I will make plans to talk with some groups connected to the diverse audience we want to reach.*
11. *Checking on language compatibility, ADA compliance for meeting rooms, accessibility for area folks to get to a convenient meeting room, Historical cultural points of view-legal issues- and needs for current program(s) to be able to reach out to more audiences and advertising more widely in different platforms.*
12. *I will start asking diverse people to help me assess already existing programs and activities and revamp where necessary. I also plan on looking at our website and chatting with other departments to see how they are trying to be more CC.*
13. *I plan to look more closely at the family and social life of the populations I am working with to better serve their passions and needs.*
14. *I will work with an organization to create a partnership for an environmental education program in our area.*
15. *I will provide a training workshop/meeting for ee volunteers and include information on reaching culturally diverse audiences. I will also use contacts that I have made through assignments in this class to invite broader audiences to the refuge for programs, and for offsite programs.*
16. *I intend to expand my interviews with Hispanic subjects to get more information and then take to co-workers to discuss how we can get around the barriers.*
17. *I will implement the plan I formed and articulated in the Culminating Assignment - basically to get some additional staff training in working with my chosen audience, conduct some research into the best ways to connect with that audience and what topics or techniques are most effective, and implement what I learn from the research.*
18. *I will be working with a committee of volunteers to increase the number of environmental educators from culturally diverse audiences who participate in our programs, as well as setting goals for diversity and inclusiveness within the state. We will be identifying stakeholders, potential audiences and doing formative evaluation with those groups.*
19. *I am presenting what I learned to my team at work. We will develop and outreach to urban areas specifically to the Hispanic community.*
20. *While redesigning our program we will work with teachers of partner schools to ensure we are using techniques that work for their culturally diverse students.*

21. <i>By integrating more involvement with teachers when developing programs so that we may better serve the needs of the culturally diverse students.</i>
22. <i>I will talk with the residential customers I want to target instead of simply assuming I know why they are not recycling.</i>
23. <i>[No Answer Entered]</i>
9. Please state at least one way you have adapted or intend to adapt an EE program(s) at your organization so it is more inclusive to culturally diverse audiences?
1. <i>Develop programs that showcase Hispanic culture and contributions.</i>
2. <i>We are going to look more in-depth at a culutural community to better understand their environmental knowledge, behaviors, interests, and communication prferences.</i>
3. <i>Changing the location of programs to make them more accessible.</i>
4. <i>I will make sure to conduct a survey of local communitas to find out their environmental concerns/issues. Then I will try to incorporate these into my programs.</i>
5. <i>make bi-lingual material available</i>
6. <i>Improved volunteer training for cultural awareness and outreach</i>
7. <i>[No Answer Entered]</i>
8. <i>I intend to provide more spanish materials for school programs and work with our graphic designer to be more inclusive of other cultures on print materials and use graphics that are more universal.</i>
9. <i>Discussion of publishing materials in spanish.</i>
10. <i>Discuss putting info on our web site im Spanish.</i>
11. <i>multi language posters, advertizing, handout materials.</i>
12. <i>I plan on including more specifics about how certain cultures utilize wetlands and waterfowl, directly relate information to the daily lives of the students, and try to find representatives of different cultures who have aided to wetlands and waterfowl.</i>
13. <i>I will adjust any future ee programs to take out examples that do not relate to the local environment and use examples that show what is around the participants.</i>
14. <i>Work with a Hispanic store to promote program needs</i>
15. <i>I have invited different groups, both in culture, age and race to our programs.</i>
16. <i>We intend to adapt all of our offerings at some point, by making htem accessible to teh Hispanic community, teachign teh in Spanish, or creating totally differetn programs to meet Hispanic needs.</i>
17. <i>I would like to adapt at least one of our education programs for use with my chosen culture/audience. I plan to include different facilitation techniques, such as storytelling and role playing, which seem to be more effective with my audience, in this adaptation.</i>
18. <i>We will be soliciting presentations that incorporate diversity and inclusiveness for our annual conference as well as offering scholarships for participation of culturally diverse educators.</i>
19. <i>[No Answer Entered]</i>
20. <i>[No Answer Entered]</i>
21. <i>I would like recruit bilingual volunteers to help with our field programs.</i>
22. <i>I am not sure what program I will tweak to attract a more culturally diverse audience.</i>
23. <i>[No Answer Entered]</i>
10. Please state at least one way you have applied or will you apply the cultural competency skills in building relationships and partnerships with members of the intended/selected audience?
1. <i>Work with area community centers in involve local culture into refuge activities and enviromental education.</i>
2. <i>I will keep a more open mind and be respectful of cultural backgrounds.</i>
3. <i>I have been building partnerships with diverse communities that are within my organization's</i>

town.
4. <i>I will recommend additional training of all individuals involved in the EE programs to make them more sensitive to other cultures and their environmental concerns.</i>
5. <i>recognize that all parties are equal and there is no privilege</i>
6. <i>improved communication with area cultural groups and leaders</i>
7. <i>Complete more of my community survey of communication links.</i>
8. <i>I intend to build partnerships with organizations with more diversity (which is lacking in our staff).</i>
9. <i>[No Answer Entered]</i>
10. <i>[No Answer Entered]</i>
11. <i>Staff training for historical cultural perspectives needs to be shared with more levels of staff in a whole department training exercise. This perspective will help us work with our 68sister68 department in tribal jurisdictions with a clearer understanding of timelines and the concept of time for review.</i>
12. <i>I want to directly connect with my students and find ways that wetlands and waterfowl are directly related to them and their daily lives.</i>
13. <i>I will investigate the culture of my audience so that I am properly competent in working with that population.</i>
14. <i>I will be more aware of involving a diverse group when planning any program.</i>
15. <i>I have contacted Hispanic counterparts in Florida and the Caribbean to trade ideas and brainstorm on ee development for our similar programs to meet the needs of local audiences.</i>
16. <i>We intend to reach out and accept help from organization in the Hispanic community.</i>
17. <i>I am more aware now of what my culture brings to my relationships with our Tribal partners, and am better able to check some of my biases and behaviors at the door so we can work more effectively together.</i>
18. <i>I am beginning to formulate a partnership between two committees within our organization (the diversity and conference planning committee) so that they can work together to promote diversity and inclusiveness at the conference.</i>
19. <i>[No Answer Entered]</i>
20. <i>[No Answer Entered]</i>
21. <i>By researching more about the audience so that I can be constantly improving my cultural competency skills.</i>
22. <i>I haven't done this yet. I will be more patient in dealing with Spanish-speaking customers and ask for feedback from staff members and trusted colleagues to assess my cultural competency.</i>
23. <i>[No Answer Entered]</i>
11. Overall, what did you like most about the course?
1. <i>Content</i>
2. <i>I enjoyed the readings.</i>
3. <i>The in-depth project.</i>
4. <i>I enjoyed the wonderful readings and the assignments that were thought provoking and provided solutions to some of the existing concern related to our EE programs.</i>
5. <i>the activities</i>
6. <i>online interaction with diverse students-ideas from many areas, organizations to share</i>
7. <i>The readings actually. really. They did provide many aha moments of gotcha in a learning way.</i>
8. <i>Somewhat self paced, the unit on cultural perspectives we most useful, discussion board</i>
9. <i>The readings were very good and informative.</i>
10. <i>The readings were very informative.</i>
11. <i>It made me think twice about things I haven't really thought about before- comfort zones, language difficulties, room and site accessibility.</i>

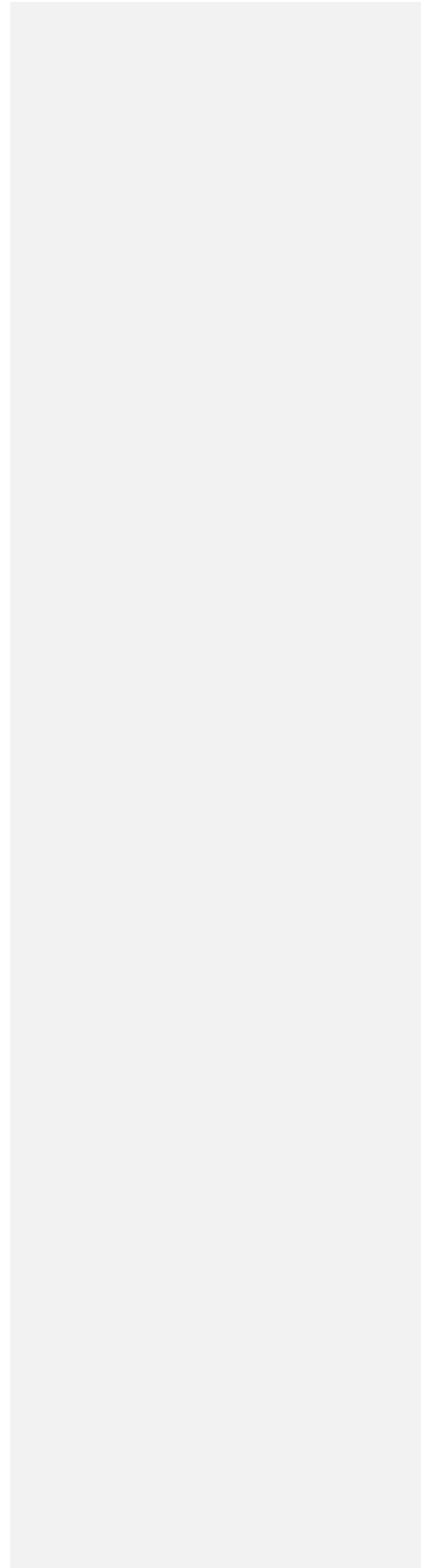
12. Chatting with other EE providers and getting their inputs about working with diverse audiences.
13. Very interesting articles.
14. The wealth of information and variety of information
15. Being able to see other peoples viewpoints and their ideas.
16. Exploring the Hispanic culture, meeting peole and talking to them about their environmental views.
17. The subject matter was very interesting, and especially the final assignment helped me put my thoughts together into something I can actually use in my job. Sometimes it's hard to see how what we learn translates into action, so this assignment really helped me do that.
18. I enjoyed the readings. They were well choosen and helped me deepen my understanding of the process of becoming culturally competent.
19. [No Answer Entered]
20. [No Answer Entered]
21. The readings.
22. Participating in online discussions with other members of my group. While initially I felt like an outsider, as I often do in professional gatherings of environmental educators, I grew to appreciate their different perspectives. I enjoyed reading about their struggles to reach diverse audiences in jobs and settings that are very different from my own.
23. [No Answer Entered]
12. What aspects of the course could be improved to better meet your EE, professional, or other needs?
1. [No Answer Entered]
2. [No Answer Entered]
3. More case studies. Perhaps small group e-mail discussions on applying cultural competency skills using case studies. Lots more feedback from the professor. Guided discussions. Self reflection to challenge our own beliefs/stereotypes. Less assignments that require summarizing of readings.
4. I really enjoyed the class and have no suggestions for improvement. It was organized and pretty self-explanatory. Wonderful class and I would recommend it to others!
5. sample papers by previous students
6. more specific information on cultural group values, backgrounds on EEmore resources
7. The directions for each assignment could point out the number of the assignment. Things happened very fast and resulted in me havong to look it up all the time.
8. I would have liked more information on cultural perspectives and more studies on how to reach particular audiences (ie. hispanic) and gaining more of an understanding of different cultures. For example, I liked the article on environemtal education and black parents but I felt it was somewhat bias since the sample size was so small. I would have liked to see more articles like that. Also, I found printing and reading some of the material and certain assignments to be rather tedious. I got too bogged down in trying to download and print all the information that I didn't have a lot of time to regurgitate it. I also wasn't ever clear about when assignemnts were due-maybe have the due date on the assignment.
9. Feedback from instructor was practivally nonexistent. It really wasn't a course but a list of reading materials.
10. More involvment from the instructor. This course was pretty much 68read the article, then post a comment68.
11. Real life examples pertinent to more than the 68student68 life. Programs that look at adult education, town and city planning, current cultural issues and how they are being approached by other jurisdictions- Mid west tribal concerns vs the NW, Canadian, S, or SE tribes.
12. I feel like I didn't get hardly any instructor feedback on my assignments. I would like to know

<p>what I get marked down on so that it can clarify confusions I may have about the subject. Also VER TIME CONSUMING for professionals that have fukll time jobs, kids, other obligations, etc. Maybe cut their work load down compared to students taking the course for credit.</p>
<p>13. More of a dialog with the participants and professor. If the professor had so much experience relative to the course topic, why didn't he share more?</p>
<p>14. More direction from the instructor or reviewers</p>
<p>15. Maybe a way where participants can download some of the materials they actually use so they can be shared and tweeked around the country.</p>
<p>16. [No Answer Entered]</p>
<p>17. I would have liked more feedback and interaction with the instructor. Most of the time, I felt more like I was doing almost an independent study, but along with a group of other people. I don't feel like I got much instruction out of the course, other than completing the readings and assignments. I got more from other participants' feedback, I think. Which is valuable, but I still would like to hear more from the instructor, and receive regular feedback other than just a grade. I also didn't get as much out of the read and respond-type activities. I liked better the ones were the reading led to a question related to my own programs, rather than just a regurgitation of what it was about. Questions led to better discussion among participants, I think.</p>
<p>18. I felt as though I didn't get enough feedback throughout the course. Smaller groups of four people or so would have been helpful to create a conversation among the participants. There were too many participants in each group to really get to know other participants and offer valuable feedback. In other online courses I have taken there was a mechanism for the instructor to post comments to the entire group on things that were noticed repeatedly throughout the posts. That way we have the opportunity to get additional feedback from the instructor without creating the burden of the instructor responding to everyone's individual posts. I work with environmental education providers and don't do direct service with traditional ee learners, I found at times the course was difficult to adapt the assignments to meet my needs. I also felt that most of the assignments were not personal enough to create conversation among participants. Assignments should entail giving specific examples from our own work rather than listing points from a reading or they should require posting questions that group members can respond to.</p>
<p>19. [No Answer Entered]</p>
<p>20. [No Answer Entered]</p>
<p>21. While I contribute to the development of our programs, many of the topics we dealt with I have little influence on in our organization so the assignments were difficult.</p>
<p>22. The pacing of this course was frustrating. I never felt like I got the rhythm of it. I found myself constantly checking the syllabus because I was worried about falling behind. Some of the Read and Respond assignments felt shallow, and not every article was compelling. Having assignments due twice a week felt grueling, although that's my fault; I had WAY too much going on in my life to maximize the benefit of taking the MEER course. However, I still don't understand why this course had to be so short. I'm used to a college fall semester running from August until December, so why was this course a September to November sprint?</p>
<p>23. [No Answer Entered]</p>
<p>13. Comments or suggestions:</p>
<p>1. [No Answer Entered]</p>
<p>2. I think even smaller discussion groups would be better. I often didn't have enough time to read everyone's posts and when I did, I skimmed most of them. I would also stretch the course out over a few more weeks. Most of the time, I had to do my classwork outside of work. Having 2 assignments due a week sometimes got to be a lot.</p>
<p>3. I wanted to be challenged a lot more than I actually was. The most I got out of the class was when I challenged myself to go above and beyond for the in-depth activity. I got a lot out of it</p>

<i>because I was interacting with other people. I found it very difficult to interact in the discussion page because I felt the discussion topics were summaries of the readings. We weren't posing questions or challenging each others values. I expected a lot more questioning.</i>
4. [No Answer Entered]
5. <i>grade work faster to provide feedback</i>
6. <i>extend class timeframe or reduce assignment load for workshop attendeesmid term assignment was not very practical and took a great deal of time</i>
7. <i>Have each student create a protfolio of products which could be commented on at the end by the student as an assignment.</i>
8. <i>Sorry I didn't get to all the assignments. I wasn't taking the course for a grade so I didn't feel impelled to do the assignments so I'm sorry you took the time to grade them. I didn't feel like I needed a grade since I was taking the course for non-credit and was more interested in the information.</i>
9. [No Answer Entered]
10. [No Answer Entered]
11. <i>The articles selected on programs were great. Could we see what's going on currently or take the articles to how the situations were resolved?</i>
12. <i>Overall a great class! I learned so much and had a great time! Thank you!</i>
13. [No Answer Entered]
14. [No Answer Entered]
15. <i>Great job, it was interesting and enlightening.</i>
16. [No Answer Entered]
17. <i>I like this course and I think you should keep it, because it's a really critical subject for a lot of EE practitioners (and likely will become more so in the future). However, I think it does need a little adaptation and tweaking. A great start though! This is my 3rd UWSP online course, and I'll keep coming back for more.</i>
18. [No Answer Entered]
19. <i>grading assignments has taken too long...if there can't be faster turnover then students should be given more time to complete assignmentsstudents shoudl be expected to use spell check before submitted responses...soem discussion board posting were atrocious.</i>
20. [No Answer Entered]
21. [No Answer Entered]
22. <i>I'd recommend this course to other environmental educators, but with the warning that it is intense. Even people taking it for workshop credit should be prepared to put in a lot of time, especially for the Phase I and II assignments and the Culminating Assignment.</i>
23. [No Answer Entered]
37. Where did you hear about this course?
1. <i>email from university</i>
2. <i>NAAEE</i>
3. <i>Environmental Education Association of Illinois' list serve.</i>
4. <i>From a monthly newsletter sent out by may agency via e-mail</i>
5. <i>email</i>
6. <i>UWSP and EE list serves</i>
7. <i>Angela</i>
8. <i>email-listserve?</i>
9. [No Answer Entered]
10. [No Answer Entered]

11. <i>From Angela</i>
12. <i>EE network.</i>
13. <i>EE listserves</i>
14. <i>EE Newsletter</i>
15. <i>My supervisor forwarded the email to me concerning the possiblity of scholarships to take the class.</i>
16. <i>online</i>
17. <i>Many listservs, the USFWS, and from Angela Lamar.</i>
18. <i>NAAEE emails</i>
19. <i>from taking previous courses online thru UWSP</i>
20. <i>[No Answer Entered]</i>
21. <i>Posting at work.</i>
22. <i>I got an email about it, probably from NAAEE.</i>
23. <i>e-mail</i>
38. How can we make more people aware of the opportunity to take this course?
1. <i>send it statewide as well</i>
2. <i>[No Answer Entered]</i>
3. <i>?</i>
4. <i>Keep advertising!!</i>
5. <i>work through florida master naturalist programs in our state</i>
6. <i>Make some improvements, then advertise also in nonformal EE venues</i>
7. <i>keep the same but add an agency specific course.</i>
8. <i>promote to state env. ed organizations. ie. Texas Association for Environmental Education (TAAE), Texas Environemtal Education Advisory Committee (TEEA)</i>
9. <i>[No Answer Entered]</i>
10. <i>[No Answer Entered]</i>
11. <i>List it on the planning forums and offer CEU's and seminar credit</i>
12. <i>Find EE networks and have them advertise to everyone they know. I would be more than happy to help with the three networks I belong to.</i>
13. <i>[No Answer Entered]</i>
14. <i>Keep it in any Environmental newsletter and on your website.</i>
15. <i>Post on NAAEE website, send to PLT coordinators etc.</i>
16. <i>[No Answer Entered]</i>
17. <i>Keep spreading the word through as many contact lists and listservs as possible! If you don't already, go through the state NAAEE Affiliates to reach folks in every state.</i>
18. <i>[No Answer Entered]</i>
19. <i>list serves, state EE organizations</i>
20. <i>[No Answer Entered]</i>
21. <i>Unsure.</i>
22. <i>An email to the NC-ee listserv is the best way to reach environmental educators in North Carolina.</i>
23. <i>[No Answer Entered]</i>

Appendix Y.
Spreadsheet of Pretest and Posttest Knowledge Test and Self-Assessment Open-Ended
Responses Concepts and Categories

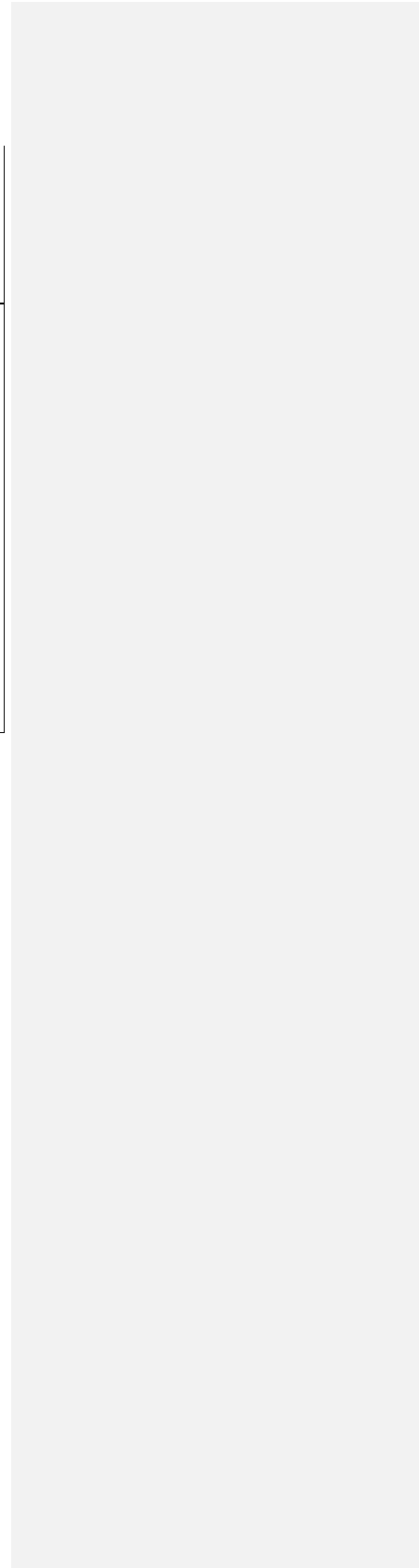


Question 38. In the space provided, please summarize the concept of cultural competency in two sentences.

Concept	Number of Participants	Category
<p><i>1. Knowledge of your own and others' cultural perspectives, and with that knowledge be respectful of those perspectives.</i></p>	Treatment 08 Pretest = 4	<p>Knowledge of one's own cultural influences and respect for others' cultural perspectives.</p>
	Treatment 08 Posttest = 0	
	Control Pretest = 8	
	Control Posttest = 6	
	Treatment 09 Pretest = 7	
	Treatment 09 Posttest = 1	
<p><i>2. Sensitivity to the perspectives and beliefs of other cultures' values and acting accordingly.</i></p>	Treatment 08 Pretest = 4	<p>Knowledge of one's own cultural influences and respect for others' cultural perspectives.</p>
	Treatment 08 Posttest = 2	
	Control Pretest = 5	
	Control Posttest = 10	
	Treatment 09 Pretest = 3	
	Treatment 09 Posttest = 6	
<p><i>3. Understanding various cultural perspectives and adapting how an organization functions in accordance to the many cultural perspectives.</i></p>	Treatment 08 Pretest = 2	<p>Understanding other cultural perspectives, resulting in inclusiveness behavior that creates an effective work environment.</p>
	Treatment 08 Posttest = 3	
	Control Pretest = 6	
	Control Posttest = 3	

	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 2	
4. <i>Cultural competency is being able to work effectively with other cultural groups because it is understanding how one's own culture impacts how other cultures are viewed, and it is being respectful and inclusive of all cultures.</i>	Treatment 08 Pretest = 0	Understanding other cultural perspectives, resulting in inclusiveness behavior that creates an effective work environment.
	Treatment 08 Posttest = 2	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	
5. <i>Cultural competency is continual process of developing awareness of other cultures and developing skills to adapt behavior to effectively and respectfully interact with cultures other than one's own.</i>	Treatment 08 Pretest = 0	Continual process of developing skills that creates culturally inclusive behavior.
	Treatment 08 Posttest = 3	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 4	
6. <i>Don't Know</i>	Treatment 08 Pretest = 7	Don't Know
	Treatment 08 Posttest = 1	
	Control Pretest = 14	
	Control Posttest = 15	

	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 0	
7. [No Answer]	Treatment 08 Pretest = 7	No Answer Entered
	Treatment 08 Posttest = 6	
	Control Pretest = 3	
	Control Posttest = 2	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	



Question 39. In the space provided, please describe how culture influences an individual's perspective of the environment.

Concept	Number of Participants	Category
<p>1. <i>It is dependent upon the geographical location of an individual or group.</i></p>	Treatment 08 Pretest = 3	It is connected to the geographical location and situation of an individual.
	Treatment 08 Posttest = 2	
	Control Pretest = 1	
	Control Posttest = 1	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 2	
<p>2. <i>Traditions and experiences as well as social interactions throughout life impact how individuals view and interact with the environment.</i></p> <p><i>“Culture implies a pattern of behaviors, communication, actions, customs, beliefs, and values of a social group. The social group dictates the norms in which people operate, thus influencing their perspectives on the environment.” ~Fall 2008 Control Group Participant</i></p>	Treatment 08 Pretest = 5	It impacts how individuals view and interact with the environment based on traditions and experiences.
	Treatment 08 Posttest = 2	
	Control Pretest = 15	
	Control Posttest = 12	
	Treatment 09 Pretest = 4	
	Treatment 09 Posttest = 6	
<p>3. <i>It determines how individuals interpret and utilize the environment based on their values and respect.</i></p> <p><i>“A person’s culture instills the values he/she holds in respect to everything around him/her. Therefor[e], an individual’s perspective of the environment will be influenced by his/her</i></p>	Treatment 08 Pretest = 3	Determines value, importance, and levels of respect.
	Treatment 08 Posttest = 1	
	Control Pretest = 3	
	Control Posttest = 4	

values..." ~Fall 2008 Control Group participant	Treatment 09 Pretest = 4	
	Treatment 09 Posttest = 2	
4. Religious beliefs form an individual's perspective.	Treatment 08 Pretest = 0	Determines value, importance, and levels of respect.
	Treatment 08 Posttest = 0	
	Control Pretest = 2	
	Control Posttest = 1	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	
5. It influences what issues are most important or pressing to an individual, including what environmental issues are most important.	Treatment 08 Pretest = 0	Determines value, importance, and levels of respect.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 2	
6. Did not directly answer the question: African-American leaders in my area taught me that they tend to consider "family" to include much more extended family than Caucasians	Treatment 08 Pretest = 0	Did not answer question.
	Treatment 08 Posttest = 2	
	Control Pretest = 5	
	Control Posttest = 1	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
7. <i>It influences an individual's perspective of the environment through what they perceive the environment to be and how they value and interact with the environment.</i>	Treatment 08 Pretest = 0	It impacts how individuals view and interact with the environment based on traditions and experiences.
	Treatment 08 Posttest = 2	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 4	
8. <i>It determines how an individual uses natural resources.</i>	Treatment 08 Pretest = 0	Determines value, importance, and levels of respect.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
9. <i>It is based on individual opinions.</i>	Treatment 08 Pretest = 0	Did not answer question.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 1	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
10. <i>Don't Know</i>	Treatment 08 Pretest = 6	Don't Know
	Treatment 08 Posttest = 1	
	Control Pretest = 6	
	Control Posttest = 14	
	Treatment 09 Pretest =	
	Treatment 09 Posttest =	
11. <i>[No Answer]</i>	Treatment 08 Pretest = 0	No Answer Entered
	Treatment 08 Posttest = 5	
	Control Pretest = 4	
	Control Posttest = 2	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	

Question 40. In the space provided, please summarize at least four different cultural perspectives on the environment.

Concept	Number of Participants	Category
<p><i>1. Disinterest in the environment because an individual believes that it is not applicable to their daily life and needs.</i></p>	Treatment 08 Pretest = 0	Dependent upon on the level that an individual's needs are met.
	Treatment 08 Posttest = 0	
	Control Pretest = 1	
	Control Posttest = 4	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 2	
<p><i>2. Conservation and preservation of the environment are important based on scientific studies and ethical choices.</i></p>	Treatment 08 Pretest = 2	Based on scientific studies and ethical values.
	Treatment 08 Posttest = 3	
	Control Pretest = 10	
	Control Posttest = 10	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 2	
<p><i>3. It should be used for use of its natural resources.</i></p>	Treatment 08 Pretest = 4	Resource use and/or economic implications.
	Treatment 08 Posttest = 1	
	Control Pretest = 8	
	Control Posttest = 4	

	Treatment 09 Pretest = 4	
	Treatment 09 Posttest = 3	
4. <i>Humans have dominion over the environment.</i>	Treatment 08 Pretest = 4	Resource use and/or economic implications.
	Treatment 08 Posttest = 2	
	Control Pretest = 3	
	Control Posttest = 7	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
5. <i>Religious or spiritual connections that teach the environment should be respected and protected because it is sacred.</i>	Treatment 08 Pretest = 4	Cultural traditions and value systems determine how individuals value the environment.
	Treatment 08 Posttest = 2	
	Control Pretest = 9	
	Control Posttest = 6	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 3	
6. <i>The idea that nature can fix itself, a cornucopian approach.</i>	Treatment 08 Pretest = 1	Resource use and/or economic implications.
	Treatment 08 Posttest = 0	
	Control Pretest = 2	
	Control Posttest = 1	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
7. <i>Apprehension and fear because the environment is hostile.</i>	Treatment 08 Pretest = 1	Dependent upon on the level that an individual's needs are met.
	Treatment 08 Posttest = 1	
	Control Pretest = 8	
	Control Posttest = 1	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	
8. <i>Socioeconomic status determines what type of opportunities and interactions individuals have with the environment and the extent to which they can be concerned about environmental issues.</i>	Treatment 08 Pretest = 1	Dependent upon on the level that an individual's needs are met.
	Treatment 08 Posttest = 3	
	Control Pretest = 2	
	Control Posttest = 2	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 3	
9. <i>It is dirty and is associated with difficult work.</i>	Treatment 08 Pretest = 0	Dependent upon on the level that an individual's needs are met.
	Treatment 08 Posttest = 0	
	Control Pretest = 3	
	Control Posttest = 2	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
10. Resources should be equally distributed to all people.	Treatment 08 Pretest = 0	Traditions and/or morals determine how individuals value the environment.
	Treatment 08 Posttest = 0	
	Control Pretest = 1	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
11. Humans are inherently a part of nature and connected to it.	Treatment 08 Pretest = 1	Traditions and/or morals determine how individuals value the environment.
	Treatment 08 Posttest = 1	
	Control Pretest = 6	
	Control Posttest = 0	
	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 1	
12. Only the government and business sector should deal with environmental issues.	Treatment 08 Pretest = 0	Individual and organizational decisions and policies.
	Treatment 08 Posttest = 0	
	Control Pretest = 1	
	Control Posttest = 3	

	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 0	
<i>13. Environmentally responsible behavior is a product of how individuals were raised.</i>	Treatment 08 Pretest = 0	Traditions and/or morals determine how individuals value the environment.
	Treatment 08 Posttest = 1	
	Control Pretest = 1	
	Control Posttest = 1	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
<i>14. Individual and Organizational</i>	Treatment 08 Pretest = 0	Individual and organizational decisions and policies.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 1	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
<i>15. Environmental quality effects human health and social wellbeing.</i>	Treatment 08 Pretest = 0	Environmental and social justice issues related to specific ethnic groups.
	Treatment 08 Posttest = 2	
	Control Pretest = 0	
	Control Posttest = 0	

	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 1	
16. <i>Ethnic traditions determine cultural perspectives.</i>	Treatment 08 Pretest = 0	Traditions and/or morals determine how individuals value the environment.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	
17. <i>Hispanic migrant workers are concerned with pesticide use.</i>	Treatment 08 Pretest = 0	Environmental and social justice issues related to specific ethnic groups.
	Treatment 08 Posttest = 3	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
18. <i>Urban residents are concerned of pollution and social violence.</i>	Treatment 08 Pretest = 0	Environmental and social justice issues related to specific ethnic groups.
	Treatment 08 Posttest = 3	
	Control Pretest = 0	
	Control Posttest = 0	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 2	
19. <i>Native Americans have traditionally strong spiritual connections to preserving and interacting with the natural environment.</i>	Treatment 08 Pretest = 0	Environmental and social justice issues related to specific ethnic groups.
	Treatment 08 Posttest = 3	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
20. <i>Asians often have a strong connection to the environment through resources used in traditional practices and products.</i>	Treatment 08 Pretest = 0	Environmental and social justice issues related to specific ethnic groups.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
21. <i>Don't Know</i>	Treatment 08 Pretest = 11	Don't Know
	Treatment 08 Posttest = 4	
	Control Pretest = 15	
	Control Posttest = 19	

	Treatment 09 Pretest = 10	
	Treatment 09 Posttest = 5	
22. <i>[No Answer]</i>	Treatment 08 Pretest = 1	No Answer Entered
	Treatment 08 Posttest = 5	
	Control Pretest = 5	
	Control Posttest = 2	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	

Question 41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.

Concept	Number of Participants	Category
<p><i>1. Make it directly apply to their life by providing relevant environmental situations and options for addressing them.</i></p>	Treatment 08 Pretest = 1	<p>Create a connection through relevancy to individual's or cultural groups' needs and experiences.</p>
	Treatment 08 Posttest = 3	
	Control Pretest = 9	
	Control Posttest = 7	
	Treatment 09 Pretest = 6	
	Treatment 09 Posttest = 9	
<p><i>2. Create hands-On, experiential learning opportunities that encourage audience participation.</i></p>	Treatment 08 Pretest = 1	<p>Incorporate a variety of teaching methods.</p>
	Treatment 08 Posttest = 1	
	Control Pretest = 4	
	Control Posttest = 4	
	Treatment 09 Pretest = 4	
	Treatment 09 Posttest = 2	
<p><i>3. Incorporate several cultural viewpoints in the programs to be more inclusive.</i></p>	Treatment 08 Pretest = 1	<p>Include a diversity of cultural perspectives.</p>
	Treatment 08 Posttest = 2	
	Control Pretest =	
	Control Posttest = 2	

	Treatment 09 Pretest = 4	
	Treatment 09 Posttest = 2	
4. <i>Learn about the cultural traditions, perspective, and other factors of the audience before the program and use this knowledge to engage them.</i>	Treatment 08 Pretest = 3	Create a connection through relevancy to individual's or cultural groups' needs and experiences.
	Treatment 08 Posttest = 1	
	Control Pretest = 3	
	Control Posttest = 6	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 2	
5. <i>Encourage the audience to share with each other and learn from each other about environmental topics.</i>	Treatment 08 Pretest = 2	Incorporate a variety of teaching methods.
	Treatment 08 Posttest = 1	
	Control Pretest = 2	
	Control Posttest = 2	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 1	
6. <i>Apply teaching methods that address multiple intelligences.</i>	Treatment 08 Pretest = 2	Incorporate a variety of teaching methods.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 1	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	
7. Create appropriate marketing methods and public outreach practices.	Treatment 08 Pretest = 1	Organizational methods and practices.
	Treatment 08 Posttest = 6	
	Control Pretest = 1	
	Control Posttest = 1	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 0	
8. Work with the audience doing specific conservation practices.	Treatment 08 Pretest = 1	Introduce conservation through modeling specific behaviors and providing projects.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
9. Recruit youth into environmental education careers.	Treatment 08 Pretest = 0	Organizational methods and practices.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 0	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
10. Create organizational policies that address cultural diversity and promote inclusiveness.	Treatment 08 Pretest = 0	Organizational methods and practices.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
11. Provide information and examples that will be interesting and motivating for the audience.	Treatment 08 Pretest = 0	Create a connection through relevancy to individual's or cultural groups' needs and experiences.
	Treatment 08 Posttest = 0	
	Control Pretest = 2	
	Control Posttest = 1	
	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 1	
12. Participate in diversity training and professional development opportunities.	Treatment 08 Pretest = 0	Organizational methods and practices.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 1	

	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 1	
13. Model responsible environmental behavior through your words and actions.	Treatment 08 Pretest = 0	Introduce conservation through modeling specific behaviors and providing projects.
	Treatment 08 Posttest = 0	
	Control Pretest = 1	
	Control Posttest = 1	
	Treatment 09 Pretest = 1	
	Treatment 09 Posttest = 1	
14. Bring programs to your intended audience at their school or a community center.	Treatment 08 Pretest = 0	Introduce conservation through modeling specific behaviors and providing projects.
	Treatment 08 Posttest = 0	
	Control Pretest = 1	
	Control Posttest = 1	
	Treatment 09 Pretest =	
	Treatment 09 Posttest =	
15. Assess your audience's level of knowledge and provide programs at the appropriate level.	Treatment 08 Pretest = 1	Incorporate a variety of teaching methods.
	Treatment 08 Posttest = 0	
	Control Pretest = 3	
	Control Posttest = 1	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
16. <i>Be respectful to all cultural viewpoints to encourage a safe and open environment for students.</i>	Treatment 08 Pretest = 0	Include a diversity of cultural perspectives.
	Treatment 08 Posttest = 0	
	Control Pretest = 4	
	Control Posttest = 2	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
17. <i>Have a culturally diverse staff.</i>	Treatment 08 Pretest = 0	Organizational methods and practices.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
18. <i>Provide programs that are accessible to everyone (geographically, economically, and socially).</i>	Treatment 08 Pretest = 0	Assess the community's needs and incorporate program accessibility factors and/or environmental and social justice issues.
	Treatment 08 Posttest = 2	
	Control Pretest = 0	
	Control Posttest = 2	

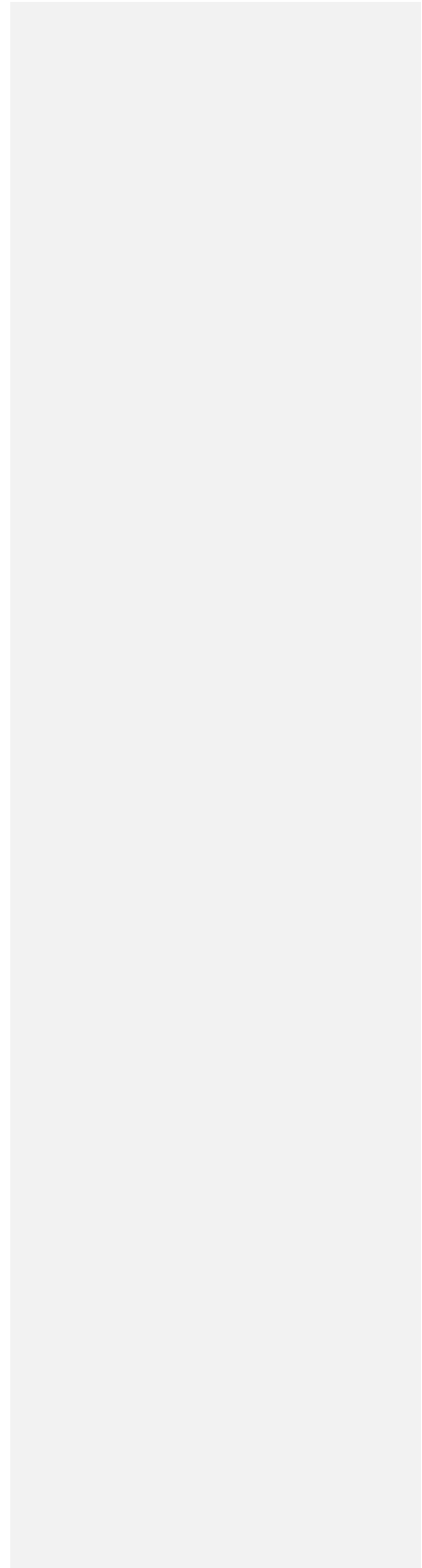
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 2	
19. <i>Include many stakeholders that represent a diverse segment of our community in planning and implementing environmental education.</i>	Treatment 08 Pretest = 0	Organizational methods and practices.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 1	
20. <i>Include social, political and environmental justice issues.</i>	Treatment 08 Pretest = 0	Assess the community's needs and incorporate program accessibility factors and/or environmental and social justice issues.
	Treatment 08 Posttest = 2	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 2	
21. <i>Use place-based education where the audience lives to help bring understanding and improvement to the area.</i>	Treatment 08 Pretest = 0	Create a connection through relevancy to individual's or cultural groups' needs and experiences.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	

	Treatment 09 Pretest = 3	
	Treatment 09 Posttest = 3	
22. <i>Understand the needs and priorities of audience and assess their comfort level regarding environmental issues.</i>	Treatment 08 Pretest = 0	Create a connection through relevancy to individual's or cultural groups' needs and experiences.
	Treatment 08 Posttest = 2	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 0	
23. <i>Use community assessment methods to identify barriers underrepresentation in environmental education program among certain cultural groups</i>	Treatment 08 Pretest = 0	Assess the community's needs and incorporate program accessibility factors and/or environmental and social justice issues.
	Treatment 08 Posttest = 1	
	Control Pretest = 0	
	Control Posttest = 0	
	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 7	
24. <i>Broad/Vague</i> <i>"Make it simple. Make it interesting. Make it fun."</i> ~Fall 2008 Control Group Participant	Treatment 08 Pretest = 0	Did not answer the question.
	Treatment 08 Posttest = 0	
	Control Pretest = 5	
	Control Posttest = 2	

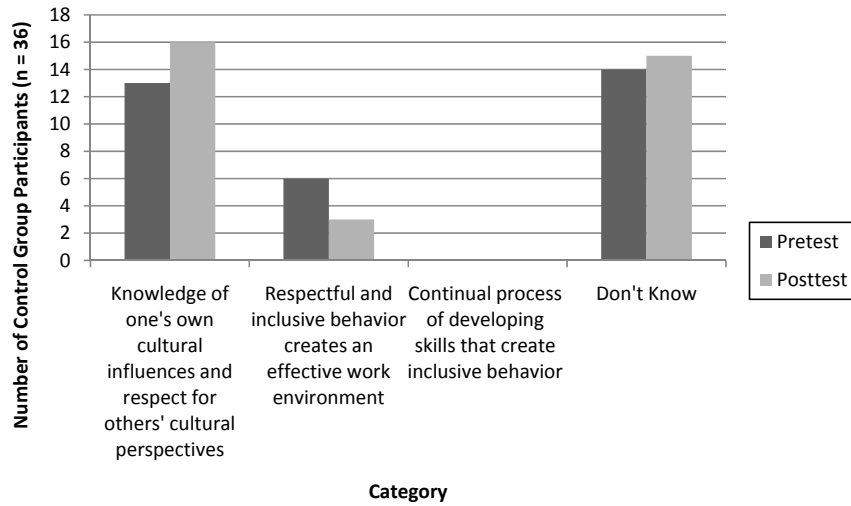
	Treatment 09 Pretest = 2	
	Treatment 09 Posttest = 0	
25. <i>Did not answer directly/Misinterpreted the Question</i>	Treatment 08 Pretest = 2	Did not answer the question.
	Treatment 08 Posttest = 0	
	Control Pretest = 2	
	Control Posttest = 2	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
26. <i>Take audience to a natural area to teach them about the environment.</i>	Treatment 08 Pretest = 0	Introduce conservation through modeling specific behaviors and providing projects.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 1	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
27. <i>Have members of diverse cultural backgrounds teach lessons as a way to provide examples for the audience.</i>	Treatment 08 Pretest = 0	Create a connection through relevancy to individual's or cultural groups' needs and experiences.
	Treatment 08 Posttest = 0	
	Control Pretest = 0	
	Control Posttest = 1	

	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	
28. <i>Don't Know</i>	Treatment 08 Pretest = 5	Don't Know
	Treatment 08 Posttest = 1	
	Control Pretest = 12	
	Control Posttest = 12	
	Treatment 09 Pretest = 3	
	Treatment 09 Posttest = 2	
29. <i>[No Answer]</i>	Treatment 08 Pretest = 0	No Answer Entered
	Treatment 08 Posttest = 5	
	Control Pretest = 4	
	Control Posttest = 1	
	Treatment 09 Pretest = 0	
	Treatment 09 Posttest = 0	

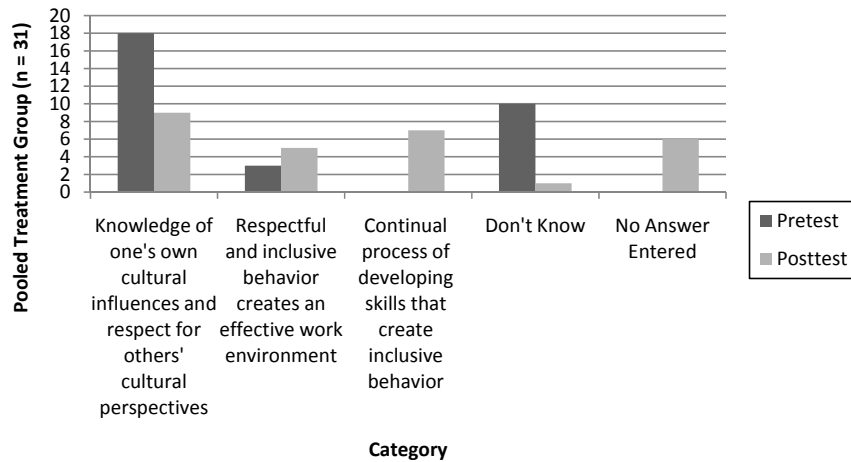
Appendix Z.
Graphs of Pretest and Posttest Knowledge Test and Self-Assessment Open-Ended Responses



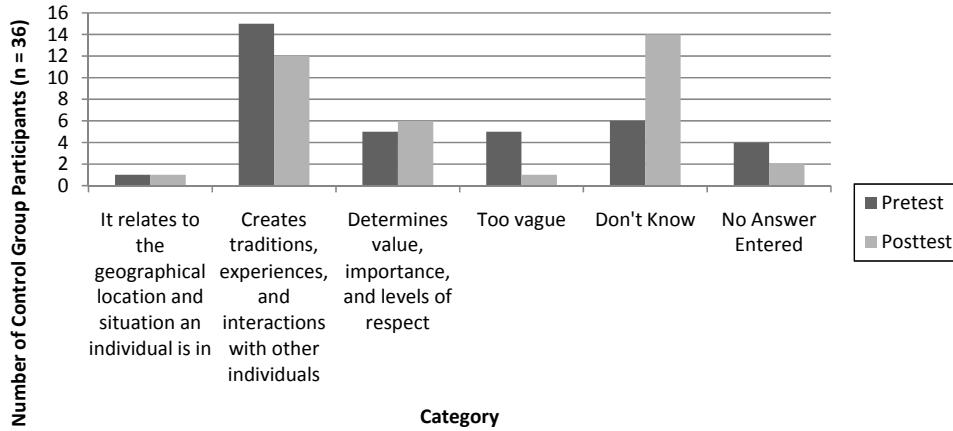
Question 38. In the space provided, please summarize the concept of cultural competency in two sentences.



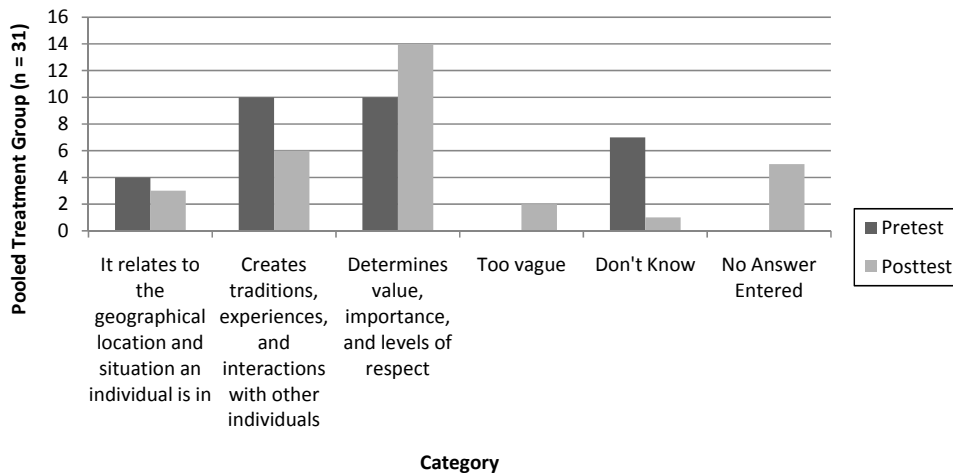
Question 38. In the space provided, please summarize the concept of cultural competency in two sentences.



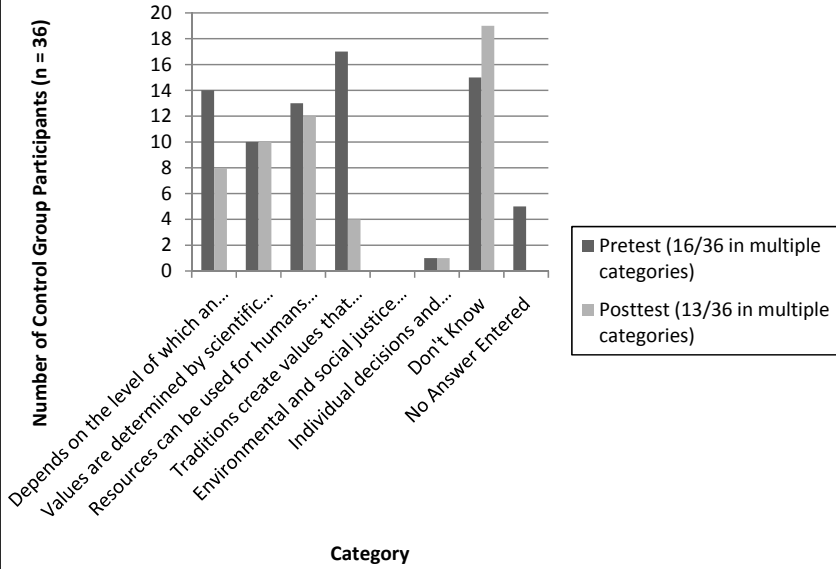
Question 39. In the space provided, please describe how culture influences an individual's perspective of the environment.



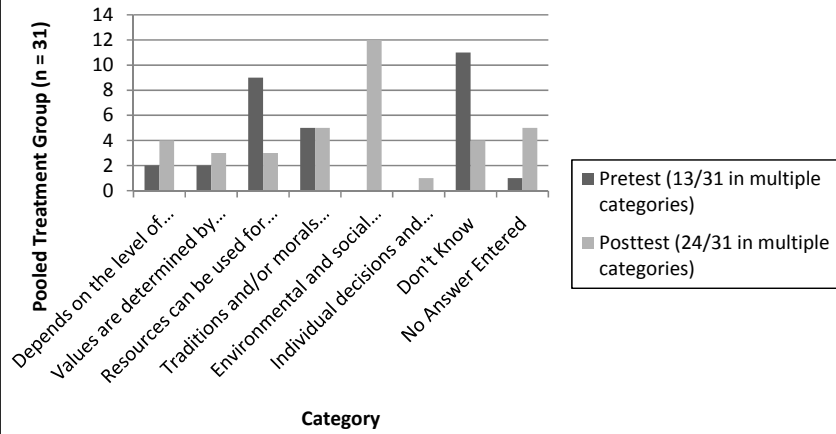
Question 39. In the space provided, please describe how culture influences an individual's perspective of the environment.



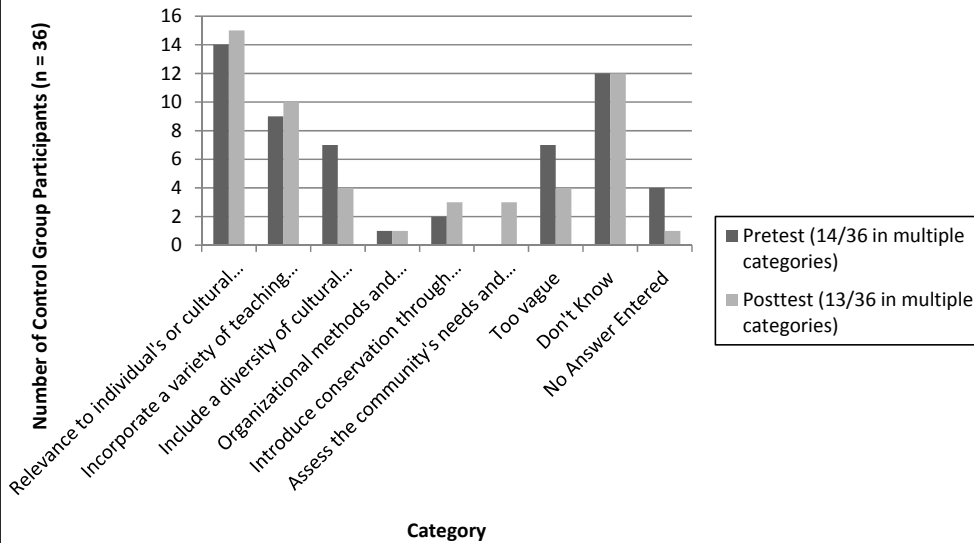
Question 40. In the space provided, please summarize at least four different cultural perspectives on the environment.



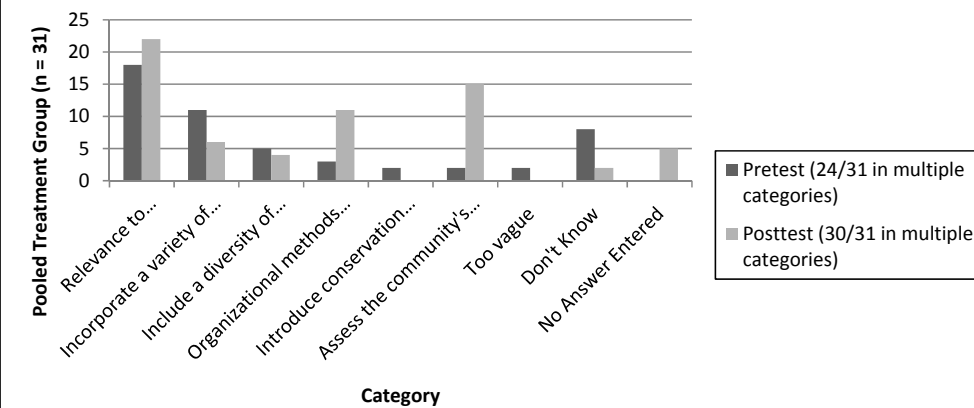
Question 40. In the space provided, please summarize at least four different cultural perspectives on the environment.



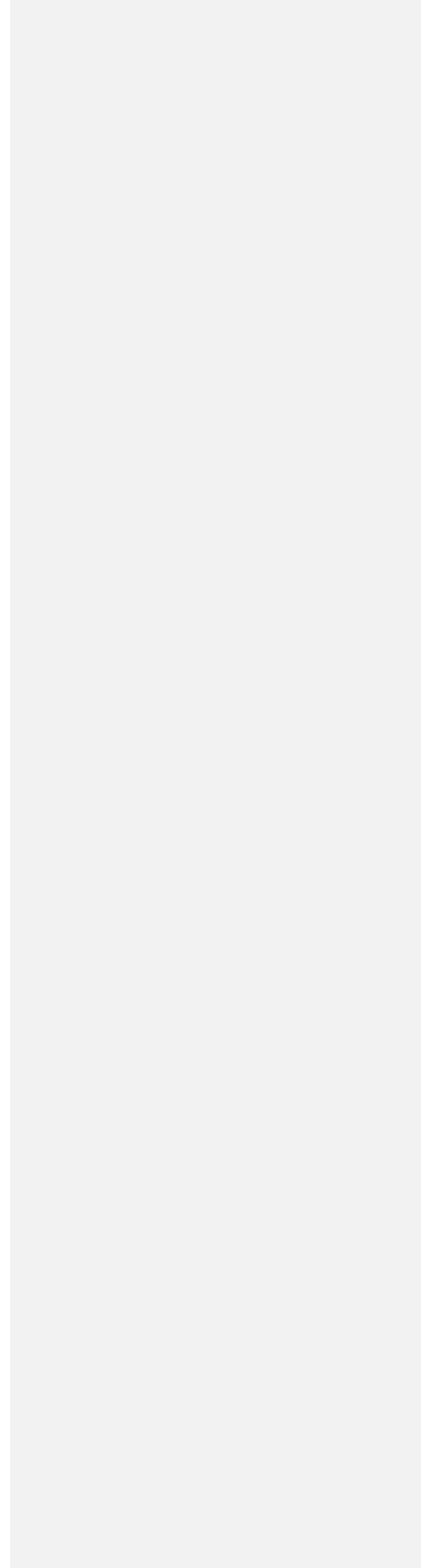
Question 41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.



Question 41. In the space provided, please describe three ways you are able to apply your knowledge and skills to motivate your intended audience to participate in environmental education.



Appendix AA.
Course Evaluation Open-Ended Response Results Spring 2009



<p>5. In the space provided, please explain how within the next six months you intend to assess the barriers to participation among culturally diverse audiences in the environmental education programs at your organization as a result of taking this course.</p>
<p>1. <i>I intend to have my colleagues work through the process of discovering their own assumptions about the cultural context that our program works within. Then guide them through the process of assessing barriers that are created by our own cultural assumptions.</i></p>
<p>2. <i>Outreach to the public</i></p>
<p>3. <i>By evaluating current practices at the organization where I work and by surveying community members to determine the extent to which current programming is working (or not).</i></p>
<p>4. <i>Attempt to get their input on how things are done and what would make it easier for them to participate by asking these questions to the local director of the community association.</i></p>
<p>5. <i>I plan on conducting interviews with African-Americans that are using the refuge for fishing to discuss further the various questions I asked earlier in the course. Also, since the tourist season is upon us, I want to conduct some informal interviews on not only African-Americans, but also other diverse groups, as I am presented with the opportunity. I want to find out more about what they know about the refuge and what they do while here. Maybe I can learn enough to meet them on their own playing field if they aren't able/willing to come to the refuge.</i></p>
<p>6. <i>I plan to just think about wordings and how I present information in class.</i></p>
<p>7. <i>In planning my new Environmental Sciences course and developing lessons for other science classes I will use student interviews to find out what barriers exist. I will also try to learn more about each culture of my students.</i></p>
<p>8. <i>I will evaluate case studies used in my social studies class to make sure they are relevant to all of the students in my class room and address the interests of my diverse audience.</i></p>
<p>9. <i>reassessing my lesson plans and targeting areas that are culturally relevant to my audience</i></p>
<p>10. <i>[No Answer Entered]</i></p>
<p>11. <i>As I develop our environmental education program, I will take into account the culturally diverse audience our school serves and use the information I learn from these communities to shape the program so it reflects the needs and concerns of the diverse population we serve so all feel included and valued in our environmental education program.</i></p>
<p>12. <i>I am more aware of the limitations and issues concerning culturally diverse audiences and intend to make a concerted effort to assess diverse participants of my programs to see how they are reacting to the current lessons I teach, and then evaluate what needs to be changed to make them more relevant to their lifestyles.</i></p>
<p>13. <i>As I was recently laid off from my position...in the future, I will utilize community resources to get a sense of barriers to different audiences, as well as speak directly with potential participants about their ee interests and how i can make my programs most accessible to them and the rest of the community.</i></p>
<p>9. Please state at least one way you have adapted or intend to adapt an EE program(s) at your organization so it is more inclusive to culturally diverse audiences?</p>
<p>1. <i>I intend to adapt one of our current lessons so it is culturally sensitive and utilizes more cultural perspectives in the activity.</i></p>
<p>2. <i>Getting to know my audience as best as possible. Continue to immerse myself in the local culture</i></p>
<p>3. <i>Provisions for different languages. Involvement of local community members in determining the needs of the organization and programming.</i></p>
<p>4. <i>[No Answer Entered]</i></p>
<p>5. <i>After learning more through interviews, I will use that information to add to our programming. I also want to include more diverse children in our photos in flyers and news releases so it might entice those groups to read the text and act on what they read.</i></p>

6. <i>I plan to make sure all students have resources available to them.</i>
7. <i>The course will include an activity that shows a connection to local issues or experiences. Example- water quality unit we will look at the water quality of local streams and creeks.</i>
8. <i>Students in my Contemporary Issues class choose a local problem to research and solve. When suggesting topics I will include a variety of local environmental issues that interest all the students in my class.</i>
9. <i>making lessons more culturally relevant</i>
10. <i>[No Answer Entered]</i>
11. <i>I will use the information I gathered from learning about the immediate community around our school (the community with the Columbus zip code of 43205) to inform the development of our environmental education program.</i>
12. <i>With all groups I hope to be able to make a point to state why what I am teaching should be important to them specifically, how and where they live.</i>
13. <i>I will communicate with the participants and/or their teachers (if in a school setting) to ask for input.</i>
10. Please state at least one way you have applied or will you apply the cultural competency skills in building relationships and partnerships with members of the intended/selected audience?
1. <i>I will apply my cultural competency skills as I approach different cultures in my work area and begin to build partnerships with my intended audience in the future.</i>
2. <i>Really trying to understand the culture by learning about the history and demographics</i>
3. <i>Will continue to work on establishing and increasing local partnerships that provide support to all involved.</i>
4. <i>Have discovered new contacts in the community. Also understand that it is important that everyone understands the parameters of a partnership (good idea to put them in writing) before a formal partnership goes too far forward.</i>
5. <i>I plan on contacting the folks who are involved in the Freedman's Society in our local town to see if there is some way we can partner in an educational program. Since they have connections with the life saving station that used to be at our refuge, they will hopefully want to provide assistance and possibly volunteer with our programs.</i>
6. <i>I will make sure that all students are able to research different cultures and ways of doing different things. I will have students take the perspectives from other cultures and beliefs.</i>
7. <i>I can now understand why my 7th graders did not seem engaged in my ecology lessons. The lessons were fun, but not anything they could relate to.</i>
8. <i>By completing the Intended Audience assignments, I learned how to meet the needs of my Hispanic students more effectively. I'll continue to use what I learned during my interviews with students as I plan lessons.</i>
9. <i>making sure content does not exclude any audience members; increase my empathy for different perspectives</i>
10. <i>[No Answer Entered]</i>
11. <i>I will use the relationships I built with the Near East Side Pride Center to help increase participation in the development of our environmental education program.</i>
12. <i>I always had the mindset of everyone is equal and should be treated the same, and while everyone should be equal in their rights and opportunities, everyone is not the same and should not be treated in such a way. If so, they aren't going to learn!</i>
13. <i>I will make sure I'm not making assumptions about the audience, but rather asking them to help guide me.</i>
11. Overall, what did you like most about the course?
1. <i>The texts and supplemental information provided.</i>

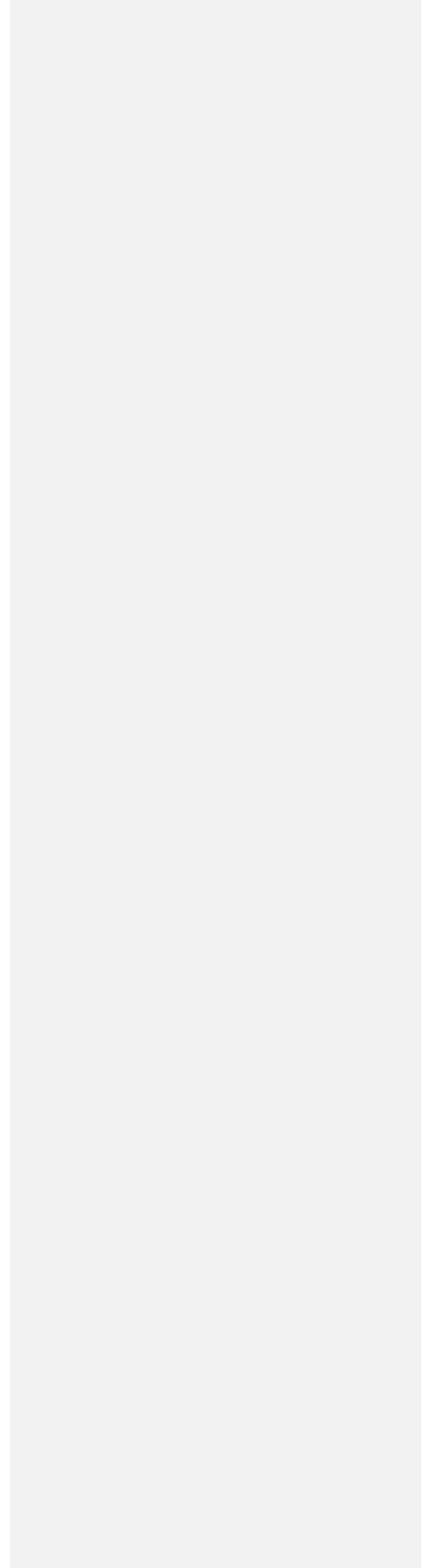
2. <i>Reading and posting to other participants.</i>
3. <i>The layout of it was very good. The order of activities and assignments was likewise very good, as was the content itself. Very helpful.</i>
4. <i>Discussion with other participants.</i>
5. <i>That's a difficult question to answer. I've taken many online courses through my life, but this one was so focused on something I am passionate about. It was great to have others who are also passionate and shared so willingly. Having classmates from India and Canada also enlightened me. I liked that even though there were others from USFWS, we weren't all placed in the same group. I tried to keep up with the other groups to see what the other FWS folks were saying, but that didn't last too long. It was good to have another FWS staffer in my group. Also, I liked the pace of the course. Even though I fell behind due to personal reasons, it was good that we didn't have a lot of time to complete things. This helped keep things fresh and meaningful.</i>
6. <i>I thought it was good to look at the demographics of my school and realize the students I actually teach.</i>
7. <i>All the different resources and articles</i>
8. <i>I like the flow; each unit leads right into the next. I also liked the variety of readings available.</i>
9. <i>online format</i>
10. <i>[No Answer Entered]</i>
11. <i>I really thought that the assignment about knowing your audience was great. It helped me learn more about one cultural community our school serves and it gave me a starting point to begin to develop my environmental education program.</i>
12. <i>I liked the fact that we could be open and honest about our opinions and views, and often others had the same thoughts and concerns.</i>
13. <i>The intergroup discussions</i>
12. What aspects of the course could be improved to better meet your EE, professional, or other needs?
1. <i>Require the professor to engage in the program and actively lead and instruct throughout the course. Have the assignment due dates listed on the actual assignments and/or on the discussion board. It was hard to keep track of which assignment was due when, especially since they were not due in the same order as when they were assigned. I also recommend breaking down the different concepts addressed in the Phase II assignment and lead the participants through the process providing more depth and providing more opportunities for the students to actually develop more cultural competency skills. There was little continuity between the Phase I & II assignments and the cumulative assignment. It felt like two unrelated parts and both did not provide enough depth to fully create a viable outcome. This possibly could be compensated by hiring a professor that is engaged in the course and works with the students throughout the course instead of only commenting long after the discussion has finished and assignments are due.</i>
2. <i>Do not particularly care for the layout of the course. Too much flipping back and forth. If you are going to put spring break on the calendar, then give it to the students. The information used should not be 10-15 yrs old. We should have current articles to read.</i>
3. <i>The manner by which assignments and due dates were shared was confusing. Too many different sources of information made it very difficult to follow. Also, taking points off for late work, though understandable, conflicts directly with current educational research in how to deal with student grading.</i>
4. <i>This course has a very strong EE program focus. Not all of us are directly involved in providing programming that we are hoping to draw culturally diverse groups to participate in. Some of us want to reach out to these groups for other reasons.</i>
5. <i>At this time, I cannot think of anything. I've found that in the past it takes awhile for me to ponder that question. I usually end up responding to that question later on. I'll definitely keep your e-mail address handy.</i>

6. <i>I thought the course needs more feedback and maybe alternative assignments for people that do not have EE programs.</i>
7. <i>A little longer time frame.</i>
8. <i>I found the assignments to be vague at times; I had to look at other discussion posts to see how other people were fulfilling the requirements.</i>
9. <i>amount of work for this one credit course was overwhelming; could have been better suited for classroom teachers (it was much more appropriate for EE programs that work with schools); feedback on assignments could have been given in a more timely fashion or due dates should be pushed back; Course could have spanned more weeks</i>
10. <i>This was my first online course, and I think it was difficult for me to be involved with the course the same as if I had been attending a face-to-face class.</i>
11. <i>None...the course was outstanding and I really learned a lot about culturally diverse audiences and how to include them in the planning and participation of an environmental education program,</i>
12. <i>Although I liked learning about one specific group (chose by each student) I would have liked to have had units on various diverse groups in general and ways to work with them in programming. I guess that would be difficult since you can't really group all Latinos, or all African-Americans into one group though. I would have liked to have seen more incorporation of disabled groups (physical, mental, emotional) and elderly.</i>
13. <i>More people in the intergroup discussions...this would have been the best mechanism for learning, but my group was so small that we didn't have a large enough pool of insight to make learning well-rounded.</i>
13. Comments or suggestions:
1. <i>As the course was conducted, I could have done the same work by purchasing a CD with the content on it and done it on my own timeline. The benefits of taking a course through a university was not apparent in this course and it was very disappointing.</i>
2. <i>The instructor seemed to hold the students to a higher expectation level. We had deadlines that if we did not meet we lost points; however, the instructor took his own time grading them and providing feedback. This class was suppose to teach us about cultural sensitivity, but the instructor showed little sensitivity for my situation (even though having a family member in ICU usually seems like an emergency that folks normally understand can sometimes extend deadlines). For the last part of the class I felt I received no feedback or direction.</i>
3. <i>You might want to reconsider the credits given to this course. The workload is much higher than the one credit suggests, especially for someone who has taken other courses within the same organization. I believe that two or even three credits would be a much fairer indication of the amount of work needed to complete the program.</i>
4. <i>Provide a wider array of the partnerships that can happen between groups. Didn't like that some articles were referred to more than once. If you keep do use the same material more than once, then indicate that now the idea is to look at the same scenario from a different perspective.</i>
5. <i>Not at this time. Thanks!</i>
6. <i>[No Answer Entered]</i>
7. <i>More space between due dates. I am a full time teacher and spend 2 hours at night grading as it is. To have 2 things due Mondays and Thursdays was hectic.</i>
8. <i>[No Answer Entered]</i>
9. <i>see above</i>
10. <i>[No Answer Entered]</i>
11. <i>I thoroughly enjoyed this course and would recommend it to others.</i>
12. <i>I'd love to take additional diversity courses. I realize that this is still a new endeavor, but please consider expanding on it, and offering additional courses.</i>

13. [No Answer Entered]

37. Where did you hear about this course?
1. From an email from Angela Lemar
2. Email
3. Online search
4. UWSP
5. Online e-mail notice about the scholarship availability.
6. Weather Channel Environmental Education Grant
7. from NEEF grant
8. NEEF
9. email
10. The NC-EE listserv
11. It was part of the grant I won.
12. PAEE and UWSP websites
13. COEEA-CT outdoor and environmental ed association
38. How can we make more people aware of the opportunity to take this course?
1. At this point, I would not recommend advertising it as part of the Steven's Point online EE courses. The other course, EE Evaluation that took two years ago was at a much higher caliber and this course does not compare.
2. Emails/
3. Market it internationally. One option is The International Educator (www.tieonline.com), a newspaper for international teachers around the world.
4. Announce at conferences
5. Have the instructors at NCTC talk it up more. I don't think I've ever heard any of them mention it. (Maybe they do now--I haven't been there since last May.) Maybe send testimonials to refuges and other sites especially after surveying past participants to see how they have used the course at their site. I think post-course follow up is very useful.
6. Send it to PTSB in Wyoming for a class people can take or to NSTA so they can put it in a mass e-mail.
7. emails to school districts
8. Send pamphlets to schools to put up in teacher work areas.
9. send emails/notification to school superintendents; send to state programs for distribution
10. [No Answer Entered]
11. Online promotion to teachers, outdoor educators, and others interested in environmental education.
12. Contact local, state and federal environmental organizations and agencies; school districts; scouting councils; YMCA's and Boys and Girls Clubs
13. [No Answer Entered]

Appendix AA.
Spring 2009 Course Revisions Conference Call



Spring 2009 Course Revisions Conference Call

5/7/2009 9:00 AM CST

Gus Medina

Ali Cordie

CHANGES NEEDED TO MEER COURSE

In the overall introduction indicate that assignments are structured to build toward the final assignment.

Unit 1.1

Assignment 2: Provide guidance for reply.

Unit 1.2

Assignment 3: Provide guidance for reply.

Assignment 4: Provide parameters for selection of intended audience.

Assignment 4, Reply: A reply needed is not indicated but it does appear under grades. Suggest that no reply be requested and that points be removed from grading chart. Recalculate points needed for grade.

Unit 2.1

Assignment 6: This assignment is confusing. Clarify. Reply needs reworking.

Assignment 7, Phase I: Clarify whether objectives are for working with the intended audience or the study. Revise the template for presenting the study.

Assignment 7, Phase II: Clarify that abstract needs to be included with the study. Add appendix to study report. For discussion, place emphasis on significance.

Assignment 7, Phase II, Reply: Text indicates 5 points, grading sheet shows 10 points.

Unit 2.2

Assignment 8: Indicate that some of the readings are the same as before.

Assignment 9: Site evidence for claim

Unit 2.3

Assignment 11: Provide a cultural context for discussing the case.

Unit 3.1

Introduction: Revise introduction – include more about using diverse cultural perspectives when using the Guidelines.

Assignment 12: Replace question mark at end of number 2 with a period. Item 3, “no more than one paragraph;” this is not enough space. Suggest participants select two characteristics.

Assignment 13: Item two needs to be clearer, revise. Specify a length for reply under item 3.

Unit 3.2

Assignment 14: I choose the Wonders in Nature-Wonders in Neighborhoods article because I previously worked at a zoo in New York. FYI: I attempted to use the link at the bottom of the synopsis and got a “page not found” error message. This is the new link: <http://denverzoo.org/education/win.asp> .

Assignment 15: Under assignment guidelines: Stress that the plan should be something the participant is able to implement. Refine format and make sure format and rubric match.