

THE EVALUATION AND REVISION OF AN ONLINE COURSE
ENTITLED
“APPLIED ENVIRONMENTAL EDUCATION PROGRAM
EVALUATION”

By
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A Thesis
submitted in partial fulfillment of the
requirements for the degree

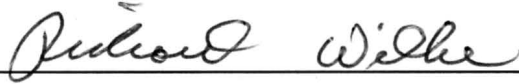
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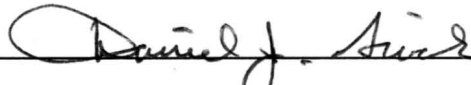
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ABSTRACT

The Environmental Education and Training Partnership and the U.S. Fish and Wildlife Service, National Conservation Training Center developed the “Applied Environmental Education Program Evaluation” (AEEPE) online course to provide environmental educators, natural resource professionals and university students with the knowledge and skills necessary to develop evaluation tools and apply them to a specific education program or research study. Since the fall of 2004, approximately 180 educators from 40 states/U.S. territories and 6 countries have enrolled in the course. Former course participants have already evaluated and made improvements to over 100 programs serving more than 125,000 people annually across the nation. The purpose of this study was to conduct both formative and summative evaluations and knowledge assessments to evaluate the effectiveness of the course. Likert scale items from student questionnaires, along with open-ended question responses and informal instructor interviews, helped guide revisions of the course to improve its design, structure and content for subsequent offerings. Additionally, a quasi-experimental nonequivalent pretest posttest control group design was used to measure knowledge change in course participants (experimental group) as a result of taking this online course. The results of the knowledge test for the AEEPE online course indicate a statistically significant increase in the course participants’ knowledge. Moreover, a statistically significant difference was found between course participant and non-participant (control group) knowledge posttests results. The course is successfully helping course participants increase their knowledge of environmental education program evaluation.

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CHAPTER ONE INTRODUCTION

- I. RESEARCH PROBLEM**
- II. SUB-PROBLEMS**
- III. IMPORTANCE OF THE STUDY**
- IV. HYPOTHESIS**
- V. LIMITATIONS**
- VI. DEFINITIONS OF TERMS**
- VII. ABBREVIATIONS**
- VIII. ASSUMPTIONS**

I. RESEARCH PROBLEM

The purpose of this study is to evaluate and revise the online course entitled “Applied Environmental Education Program Evaluation” (AEEPE) offered by the University of Wisconsin – Stevens Point (UW-SP) and to design, implement and analyze a pretest/posttest to ascertain if participants’ knowledge changed as a result of this course.

II. SUB-PROBLEMS

1. **Fall 2004 Evaluation.** Evaluate whether the course is effectively delivered through implementing student questionnaires for the fall 2004 course offering.

2. **First Revision.** Apply fall 2004 evaluation results to make revisions that improve course design, structure and content for the spring 2005 course offering.

3. **Spring 2005, Summer 2005, Fall 2005 Knowledge Pretest/Posttest.**
Evaluate whether participants' knowledge changed as a result of their participation in the course through the design and implementation of participant (experimental group) and non-participant (control group) knowledge pretest/posttests before and after the spring 2005, summer 2005 and fall 2005 course offerings.

4. **Spring 2005, Summer 2005, Fall 2005 Evaluations/Student Questionnaires.** Continue to evaluate whether the course is effectively delivered through implementing student questionnaires for the spring 2005, summer 2005 and fall 2005 course offerings, respectively.

5. **Participant (experimental group) and Non-participant (control group) Knowledge Pretest/Posttest Result Comparison.** Analyze and interpret the participant and control group's knowledge using pretests and posttests to determine if participants' knowledge changed as a result of the course offerings in spring 2005, summer 2005 and fall 2005.

6. **Second, Third and Fourth Course Revisions.** Apply spring 2005, summer 2005 and fall 2005 evaluation results to make additional revisions for improvement of the summer 2005, fall 2005 and spring 2005 course offerings.

III. IMPORTANCE OF THE STUDY

Historically, the field of EE has lacked strength in its ability to support and produce routine assessment and evaluation (Coyle, 2005). Coyle (2005) called for program evaluation to be incorporated into the culture of the field. One of the recommended ways of meeting this goal is to provide training to EE professionals so that the evaluation of program effectiveness becomes a routine occurrence rather than an exception (Coyle, 2005). In 2003 the National Project for Excellence in Environmental Education, initiated by the North American Association for Environmental Education (NAAEE) took the lead in advancing the field of EE. A writing team comprised of EE professionals from a variety of backgrounds and organizational affiliations authored a set of Guidelines for Excellence that act as standards for the development and implementation of quality EE programs. Evaluation and assessment are essential components of the entire Guidelines series. For example, the Guidelines for the Preparation and Professional Development of Environmental Educators has an entire theme devoted to assessment and evaluation. It highlights the importance that professional preparation plays in providing “educators with tools for assessing learner progress and evaluating the effectiveness of their own programs” (NAAEE, 2004a, p.23).

Environmental educators and natural resource professionals are beginning to recognize the importance of program evaluation as budget allocation programming decisions are increasingly being based on performance measures and achievement of specified outcomes. With this increased focus on evaluation in the field of EE, professionals are responding to this shift in focus by seeking out opportunities to

advance their knowledge and skills. In 2002, a needs assessment conducted by the Non Formal Commission of the NAAEE (2002) revealed a significant need and interest in a course on program evaluation for nonformal environmental educators. In an attempt to address this gap in the field of EE, a design team consisting of EE and evaluation experts utilized resources available from the U.S. Fish and Wildlife Service/National Conservation Training Center (FWS/NCTC), UW-Extension and NAAEE to design a course in EE program evaluation. Through this cooperative effort the “Applied Environmental Education Program Evaluation” course was made available to nonformal environmental educators and natural resource professionals through an online platform at the UW-SP. The decision to offer this course through an online platform was based on the success and research results of a previously offered online course at UW-SP entitled “Fundamentals of Environmental Education.”

The U.S. Department of Education’s National Center for Education Statistics (2002) reported that during the 12-month 2000–2001 academic year, 56 percent (2,320) of all 2-year and 4-year Title IV-eligible, degree-granting institutions offered distance education courses for any level or audience. This is a significant increase from the 34 percent that was reported the previous academic year (Wilcox, 2004). In addition, 12 percent of all institutions indicated that they planned to start offering distance education courses in the next 3 years. Distance education is expanding in post-secondary institutions across the U.S. University administrators, faculty and staff have taken advantage of the fact that a larger percentage of adult learners have access to computers in their homes. A recent survey conducted by Opinion Research

Corporation's CARAVAN poll involving 2,000 respondents discovered that three-in-four American adults (76%) own a computer (Opinion Research Corporation Website, 2006). The asynchronous nature of distance education courses brings about a convenient learning environment that allows motivated professionals the opportunity to learn without being forced to leave their place of employment.

Distance education, in the field of EE, plays a vital role in connecting nonformal working professionals with advanced career development opportunities. An online program evaluation course provides these same environmental educators with knowledge, skills and abilities to design and implement evaluation plans at their work places. A valid evaluation plan can provide sound evidence in support of the success of a particular EE program. It can also point to improvements that can be made in the process of developing a quality EE program. Implementing effective EE program evaluation can lead to EE program sustainability, resulting in the initiation or continuance of funding, community support and administrative cooperation. There are also long term benefits to the general public as better designed and evaluated programs can cultivate better quality EE programs fostering an increase in environmental literacy, ultimately leading to greater protection of our natural resources (Wilke & Jeppesen, 2004).

In evaluating the effectiveness of the “Applied Environmental Education Program Evaluation” course through a series of knowledge pretest/posttests, knowledge gained as a result of the course content can be ascertained. Formative and summative evaluations of the “Applied Environmental Education Program

Evaluation” online course will provide feedback for improving the course design, content and structure.

IV. HYPOTHESIS

A significant statistical difference ($p < 0.05$) will be found between participant (experimental group) and non-participant (control group) gains in knowledge (pretest/posttest results) for the spring 2005, summer 2005 and fall 2005 semesters.

V. THE LIMITATIONS

1. Questions posed in the questionnaires are a measure of student personal satisfaction and therefore may contain conscious or subconscious misrepresentative responses.
2. Different students will be evaluating the course during the first, second, third and fourth evaluations.
3. Students who do not complete or pass the online course will not evaluate it.
4. The effectiveness of this online course will not be compared to other online or classroom courses.
5. The study will be limited to participants (experimental group) of the “Applied Environmental Education Program Evaluation” online course or prospective

course participants (control group) that have contacted EETAP for information on both online courses.

VI. DEFINITIONS OF TERMS

Asynchronous – A type of two-way communication that occurs with a time delay, allowing participants to respond at their own convenience. Literally not synchronous, in other words, not at the same time. Example of an application of asynchronous communication is an electronic bulletin board (TAMU ODE Website, 2006).

Concern – A student questionnaire item was labeled as an item of concern if it received a total mean score less than 4.00. A score less than 4.00 coincides with a response at or below neutral (i.e., disagree/with some difficulty, strongly disagree/with great difficulty or not at all).

Control Group – An additional set of research subjects that did not participate in the AEEPE online course.

Desire2Learn Online Platform – Computer software that allows for instruction to be administered as an online course at UW-SP.

Distance Education – Also referred to as online learning; courses offered online that do not require the student to be on campus for most or all class participation. Students can work with course materials at their own

convenience or they can work collaboratively on class projects using tools like chat and discussion groups (bulletin boards). (OSU OIT Website, 2006)

Environmental Education (EE) – A process that enables people to acquire knowledge, skills and positive environmental experiences in order to analyze issues, assess benefits and risks, make informed decisions and take responsible actions to achieve and sustain environmental quality. (NAAEE, 1993)

Experimental Group – Research subjects that did participate in the AEEPE online course.

Online – Connected to, served by, or available through a system and especially a computer or telecommunications system (as the Internet). (Webster.com, 2004)

Online Course – A course that is taken through the Internet.

Nonformal Education – Nonformal education has been defined as any intentional and systematic educational enterprise (usually outside of traditional schooling) in which content is adapted to the unique needs of the students (or unique situations) to maximize learning and minimize other elements which often occupy formal school teachers (i.e., taking roll, enforcing discipline, writing reports, supervising study hall, etc.). (Etlng, 1993)

Program Evaluation – Evaluation is the systematic collection of information about the activities, characteristics and outcomes of programs to make judgments, improve effectiveness and inform decision makers (Patton, 1997b).

VII. ABBREVIATIONS

AEEPE: Applied Environmental Education Program Evaluation course offered by UW-SP

EE: Environmental Education

EETAP: Environmental Education and Training Partnership

EPA: Environmental Protection Agency

FEE: Fundamentals of Environmental Education online course offered by UW-SP

FWS/NCTC: U.S. Fish and Wildlife Service/National Conservation Training Center

NAAEE: North American Association for Environmental Education

UW-Extension: University of Wisconsin-Extension

UW-SP: University of Wisconsin-Stevens Point

VIII. ASSUMPTIONS

1. Comments and suggestions from all course evaluations were considered when revising the course for future offerings.

2. Revisions made to the course changed aspects of its delivery before it was offered again in spring 2005, summer 2005, fall 2005 and spring 2006 respectively.
3. Students contributing feedback in the course questionnaires were the same registered participants that completed the online course lessons and assignments.
4. Students taking the course pretest/posttests were the registered participants that began and completed the AEEPE online course lessons and assignments.
5. Non-participants taking the course pretest/posttests were the same control group participants at the start and finish of the data collection.

CHAPTER TWO LITERATURE REVIEW

- I. INTRODUCTION**
- II. DEFINING ENVIRONMENTAL EDUCATION AND ENVIRONMENTAL LITERACY**
 - A. Environmental Education**
 - B. Environmental Literacy**
- III. NONFORMAL ENVIRONMENTAL EDUCATION**
 - A. Environmental Education Program Evaluation**
 - B. Current Programs of Study for Nonformal Educators in Program Evaluation**
- IV. DISTANCE EDUCATION**
 - A. History**
 - B. Advantages**
 - C. Disadvantages**
 - D. Distance Education Research**
- V. AEEPE ONLINE COURSE DEVELOPMENT**
 - A. Course Content Resource**
 - B. Technology Used in Course Design**
- VI. EVALUATION OF ONLINE COURSE**
 - A. Formative and Summative Evaluations**
 - B. Knowledge Pretest/Posttest Questionnaire**
- VII. SUMMARY**

I. INTRODUCTION

A needs assessment done by the Nonformal Commission of the NAAEE revealed an overwhelming need for training in the area of program evaluation. Two hundred seventeen respondents were asked the question, “Which of the following knowledge/skills would you like to learn or enhance?” Out of the 16 areas identified, program evaluation/assessment ranked second in overall importance (NAAEE, 2002). NAAEE responded to this revelation by creating a set of guidelines for nonformal educators that focus on the key characteristics necessary in building a quality EE program. These guidelines were developed to provide a framework for nonformal environmental educators to use in the development and administrative phases of their

distinct programs (NAAEE, 2004*b*). There were six key characteristics of high quality nonformal EE programs introduced in these guidelines. Key characteristic #6 focuses entirely on evaluation goals (NAAEE, 2004*b*).

As George O’Hearn pointed out in one of his editorials, EE has been difficult to evaluate (O’Hearn, 1982). Even so, in this time of budgetary constraints and lack of enthusiastic informed political support, the need for program evaluation is even more important than ever before (O’Hearn 1982). Perhaps because of these difficulties facing nonformal environmental educators in the field of evaluation, they have spoken out and requested additional training. By offering an online course for nonformal environmental educators focusing on program evaluation/assessment, an identified need is being directly addressed.

The Environmental Education and Training Partnership (EETAP) provided the finances and support necessary for the development, implementation, evaluation and revision of the “Applied EE Program Evaluation” online course. The United States Environmental Education Protection Agency’s Office of Environmental Education provides funding for EETAP and its partners. EETAP is administered and managed by UW-SP and it works in collaboration with a number of partner organizations including: NAAEE, National Audubon Society, Council for EE, Project WET, Project Learning Tree (PLT), Northern Illinois University Department of Teaching and Learning and Association for Supervision & Curriculum Development (EETAP, 2006).

EETAP at UW-SP has been instrumental in providing leadership in the field of EE since 2000. Most recently, in supporting the development of two online EE

courses (FEE and AEEPE online courses), EETAP has successfully continued in its commitment to provide professional development opportunities and support for nonformal and formal educators worldwide.

II. DEFINING ENVIRONMENTAL EDUCATION AND ENVIRONMENTAL LITERACY

A. Environmental Education

The field of EE first emerged as a defined concept within the confines of two significant historical happenings: The United Nations Conference on the Environment and the 1977 Intergovernmental Conference on Environmental Education. The Belgrade Charter was drafted at the United Nations Conference, on the field of EE as an attempt to define the concept. EE was defined as "...a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments and skills to work individually and collectively toward solutions of current problems and the prevention of new ones" (UNESCO-UNEP, 1976, p.3). Further development in the field of EE occurred one year after the Belgrade Charter was drafted. Lauded as one of the most important and influential documents in EE, The Tbilisi Declaration constitutes a framework of principles and guidelines that led formal and nonformal education efforts on national, regional and global fronts (UNESCO, 1978). These guidelines clearly stated that EE, "should prepare the individual for life through an understanding of the major problems of the contemporary world, and the provision of skills and attributes needed to play a

productive role towards improving life and protecting the environment with due regard given to ethical values” (UNESCO, 1978, p.24). The Tbilisi declaration also explicitly stated the objectives of EE as: awareness, knowledge, attitudes, skills and participation (UNESCO, 1978). Researchers of today have taken and expanded the initial concepts of EE. Hungerford, Peyton and Wilke (1980) developed a framework to guide the development of EE curricula in a manner that would be consistent with guiding principles established at Tbilisi. The framework includes four progressive goal levels for EE curriculum:

Level 1: Ecological Foundations

Level 2: Conceptual Awareness - Issues and Values

Level 3: Investigation and Evaluation

Level 4: Environmental Action Skills - Training and Application

How do we know if a nonformal EE program is meeting and perhaps exceeding these goals? This can be determined through the methodical and thorough evaluation of the EE program in question. The “Applied Environmental Education Program Evaluation” online course will enable nonformal educators and natural resource professionals to gain the skills necessary to begin the methodical and thorough evaluation of their EE programs.

B. Environmental Literacy

Disinger and Roth (1992) defined environmental literacy as an ability to ascertain and interpret the overall well-being of specific environmental systems in order to participate in the maintenance, restoration and improvement of these

systems. Additionally Roth states that “environmental literacy should be defined in terms of observable behaviors. That is, people should be able to demonstrate in some observable form what they have learned – their knowledge of key concepts, skills acquired, disposition toward issues and the like” (Roth, 1992). In general, environmental educators agree that the development of environmentally literate citizens is an overarching goal of EE.

The U.S. Forest Service (USFS) has included environmental literacy as an integral part of their 2005-2010 strategic plan. Through a collective effort of staff and partners, the USFS has aimed their long-term goals towards increasing environmental literacy in the audience they serve. Enhancing environmental literacy within their stakeholders serves to advance the Forest Service mission of “...caring for the land and serving people” (USFS, 2005). According to the USFS Environmental Literacy Strategic Plan:

An individual is environmentally literate when they have knowledge of environmental processes and issues necessary for that person to make informed decisions and participate in civic affairs. Environmental literacy requires a fundamental understanding of the relationships and interactions between the living and non-living environment, their functions as systems across multiple scales and the ability to deal with problems that involve scientific evidence, uncertainty, and economic, aesthetic, and ethical considerations. Because our understanding of science changes, this makes environmental literacy a life-long pursuit (p.1).

One of the major tasks facing environmental educators is a general lack of scientifically-sound environmental knowledge and skills within U.S. society. Despite this deficiency, there are growing concerns among many citizens about a number of

environmental issues, but the majority of these citizens lack the knowledge and skills necessary for making informed decisions as an environmentally literate society. Roper Starch Worldwide conducted a survey of adult Americans environmental attitudes, knowledge and behaviors in May of 2001 (NEETF, 2006). The Ninth Annual National Report Card, Lessons from the Environment, showed that 95 percent of adult Americans endorse EE in the schools. However, everyday actions by adults in support of the environment are showing a slight fall-off, and environmental "illiteracy" remains widespread. As the results of the most recent surveys make clear, Americans lack basic knowledge/skills and are unprepared to respond to the major environmental challenges they will face in the 21st century (NEETF, 2006).

From the evaluation perspective there is a gap in the field of EE in regards to “evaluative and controlled studies of the complex relationships between certain types of environmental instruction and learning strategies and their associated changes in affect, skill and behavior” (Coyle, 2004, p.88). The “Applied Environmental Education Program Evaluation” online course can help environmental educators take the necessary steps forward within the field of evaluation, thus building and forging ahead towards the ultimate goal in EE: creating an environmentally literate citizenry (Stapp, et al., 1969).

III. NONFORMAL ENVIRONMENTAL EDUCATION

As a mutually inclusive entity of education, nonformal education lies in the middle between formal and informal branches of EE. Nonformal EE has been generally defined as “any organized educational activity outside the established

formal system” (Fortner, 2001, p.1). It can involve a non-captive or voluntary audience that assembles at a particular place for reasons other than learning, like a family gathering or Girl Scout meeting. It can also address the needs of a more formal group. Nonformal EE takes advantage of learning opportunities outside of the classroom and it has proven itself to be a forerunner in the ability to foster positive decision making skills in regards to the environment in those who participate in its learning process (Fortner, 2001). Nonformal EE institutions may include environments outside the classroom such as:

- nature, interpretive, and science centers; museums; zoos; aquaria; botanic gardens; and other non-school educational facilities
- residential education centers and camps
- youth groups such as scouting organizations and 4-H
- outdoor education organizations such as Outward Bound, the National Outdoor Leadership School, and wilderness education programs (Archie & McCrea, 1998).

Heimlich (1994) contends that nonformal learning is that in which the individual controls the objectives of learning but not the means and that EE relies heavily upon nonformal education as a major component of the "environmental message" being transferred to the public. Research shows that ". . . many students and young adults attribute a large amount of their knowledge of environmental concepts, problems, and issues to out-of-school (nonformal) educational settings and experiences." (Howe & Disinger, 1998).

Nonformal educators have the ability to reach a diverse population of individuals that have the potential to make a significant impact on the positive side of environmental stewardship (Fortner, 2001). This “Applied Environmental Education Program Evaluation” online course will enhance these programs and the environmental educators that facilitate them by providing these educators with the skills needed to evaluate and improve their programs.

A. Environmental Education Program Evaluation

Program evaluation can be defined as “the systematic collection of information about the activities, characteristics, and outcomes of programs for use by specific people to reduce uncertainties, improve effectiveness, and make decisions with regard to what those programs are doing and affecting” (Patton, 1997a, p.4). The challenge for nonformal educators and natural resource professionals in the field of EE rests on the fact that often the program’s goals and objectives are not well-defined (Wiltz, 2000). In some instances the goals and objectives may be non-existent or exist mostly by implication. These program goals and outcomes in the non-formal arena often center themselves on the idea of influencing their non-captive audience towards positive environmental behavior (Hungerford & Volk, 1990) and this is often seen as a desired outcome by both the private and non-profit sectors. Evaluation comes into play by connecting the project’s inputs and outputs (Wiltz, 2000). Program evaluation is a vital part of any nonformal EE program because it demonstrates the areas that were successful while at the same time illuminating the necessary direction for improvement and change (Fortner, 2001). In order to outline

an effective plan for sustainability and improvement of a program “training for nonformal educators should include how to do evaluation” (Fortner, 2001, p.4).

B. Current Programs of Study for Nonformal Educators in the Field of Program Evaluation

There are several programs available for nonformal educators to gain knowledge and insight into the basic skills necessary for the development of effective evaluation tools. The U.S. Fish and Wildlife Service, National Conservation Training Center offers a face to face course entitled “Education Program Evaluation” that focuses on program evaluation for nonformal educators (USFWS/VOICES Listserve Website, 2006). Each time the course has been offered there has been a high level of interest from participants; evident from the positive evaluation responses. However, the course is limited in its scope and the diversity of participants it is capable of reaching. An online course format allows for the same material to be offered to those nonformal environmental educators that work in relatively remote areas of North America that may be bound by budgetary constraints and cannot take the time off from work to advance their professional skills. Additionally, an online course on program evaluation has the potential of reaching nonformal environmental educators and natural resource professionals worldwide, thus expanding the knowledge of EE program evaluation on an international level.

The United States Department of Agriculture is yet another influential organization that has made a commitment to provide professional development opportunities. They offer a five-day course on general program evaluation that

provides 3 continuing education units upon completion. The course addresses budget reduction, cost/benefit analysis and program effectiveness (USDA Graduate School Website, 2004). While this course serves a certain audience of educators and professionals, it would not be adequate or specific enough for a nonformal environmental educator aiming to evaluate a program based on the widely accepted EE goals and objectives. The AEEPE online course serves a niche in the EE field and it fills in gaps that other program evaluation courses may have.

There are other programs that address the needs of environmental educators to enhance their knowledge and skills related to program evaluation. The University of Florida, for example, has a class entitled “EE Program Development” (University of Florida - School of Forest Resources and Conservation Website, 2004). This course is aligned with the needs of environmental educators but is limited to students that attend the University of Florida. The online course format for the AEEPE course allows nonformal environmental educators from any location to enroll as students.

IV. DISTANCE EDUCATION

As an emerging instructional method, distance education finds itself in the midst of controversy over terminology, technology and a universally accepted definition of what it is exactly. One researcher defines distance education as learning that occurs at “some distance from a formal institution” (Milheim, 2001, p.535). “This form of education is often learner-centered where the students are active participants in the learning process which is carried out over some distance” (Milheim, 2001, p.536). Within this definition of distance education students can

learn at their own pace, at a time that is convenient for them, using materials that are available via computer, video or the World Wide Web. Looking ahead towards the future of distance education, efforts for advancement will most likely be focused on “combining specific distance-based teaching concepts from open and distance institutions with the research capabilities and teaching expertise available at conventional universities” (Bernath, 1996, p.47).

A. History

“Historically, distance education has been utilized to provide instructional access to adult students living in remote areas where traditional education is not available” (Hawkins, 1999, p.12). Distance education began in the 1800s in Bath, England with a for-profit school developed by Sir Isaac Pitman for rural residents (Neal & Miller, 2004). It began as a sort of correspondence study in which written materials were exchanged via the traditional mail system. Following correspondence courses delivered by mail radio became the next delivery vehicle, and it is still commonly used in developing regions where access to the phone or Internet is limited (Neal & Miller, 2004). It has slowly evolved over the years to reflect the technological advancements of the time. This educational method once used instructional formats such as film, audio, videotapes and text that were delivered via telephone, television, fax and email (Milheim, 2001). In the age of advancements in computers, videoconferencing, modems and the internet, distance education is revolutionized in its ability to interact with learners - in fact, “many institutions and schools are turning to technology to enhance their programs and to expand their

horizons” (Jackman & Swan, 2000, p.1). These technological advancements blurred many of the distinguishable differences between distance education and traditional face to face instruction (Swan, 1995). Distance education is being developed and expanded in many post-secondary institutions across the U.S. Its growth has been met head-on by a number of supporters and skeptics making it clear that distance education offers both advantages and challenges.

B. Advantages

Distance Education has the unique opportunity to provide quality education to a very diverse population of students that individually bring a significant knowledge set to the online learning platform. Through this broad exchange of information students can become active as a part of the collective global voice, through interaction with other learners dispersed throughout the world (Daugherty & Funke, 1998). Distance education courses also serve their participants by providing flexibility related to instructional convenience; no fighting over parking spaces, no difficulty with scheduling conflicts, 24-hour access to the course content and an increase in the possibilities of independent learning (Milheim, 2001). The computer also has the distinct advantage of being far reaching. Distance education courses open up doors to those professionals and students that live in a remote area of the country and/or have no access to institutions of higher learning. They can also provide a convenient means of flexible instruction sought after students in general.

EETAP recently published a bulletin authored by Kari Gunderson (2006) summarizing the top five reasons that their online EE course participants gave for

exploring distance learning in general as well as the FEE and AEEPE online courses specifically:

1. Online instruction knows no geographic boundaries.
2. Distance learning is convenient.
3. Online courses promote contemplative and reflective learning opportunities.
4. Online courses can provide individualized attention and a depth of interaction between instructors and students not achievable in a large classroom environment.
5. The online format reduces preconceived notions based on students' age, gender, race, background, or level of experience.

Distance education is not meant to replace the formal learning environment; rather it serves to fill a certain niche and target a specific group of learners that have been underserved by the current educational structure. In some cases distance education can serve to provide a richer and more engaging educational experience than is possible within the confines of the classroom. It requires a significant amount of creativity and innovation on the part of the instructors in the design and development of Internet-delivered materials, especially since materials may have to stand alone (Neal & Miller, 2004). In filling a specific niche and reaching some of these absent learners the AEEPE course is helping to expand educational opportunities across the U.S. and the world.

C. Disadvantages

The transition from classroom instruction to the distance education platform is a challenge to the instructors because it implores them to develop new skills in “instructional strategies, methods of teaching, timing, teacher/student interaction, feedback, printed supplemental materials and evaluation” (Kelly, 1990, p.81). The perceived change or decrease in the amount of interpersonal contact with the students is an additional concern for some facilitators of online courses; technological advances in real-time chat, as well as audio conferencing may help to combat some of these concerns (Milheim, 2001). Concerns regarding distance education were solicited and compiled by Rompf (1999) in the form of questions that may need to be addressed in the solicitation of online course facilitators:

- Why leave the traditional classroom and deal with new situations?
- Why change something that works well?
- What if my teaching evaluations drop?
- What if my students are disadvantaged?
- How do I learn and work with all this technology?

Careful planning and the development of a well-trained support team can address many of these issues while meeting additional challenges.

D. Distance Education Research

Historically, distance education research has employed the media comparison study as an educational research strategy to find out if there are differences between distance courses and traditional campus-based courses. Most media comparison

studies result in “no significant difference” findings (Lockee, Moore & Burton, 2001), which has in the past given some administrators the license to make significant changes in the course delivery methods of their institutions. They may feel justified in making changes to the instructional methodology because they interpret the results to mean that there is “no significant difference” between distance delivered instruction and traditional classroom instruction. Researchers of today warn that these types of studies have “fatal flaws that taint distance learning research” (Lockee, Moore & Burton, 2001, p.60). In 1999, The Institute for Higher Education Policy authored a review of research on the effectiveness of distance learning in higher education. The authors of this report warned of the hazards of making too many assumptions about the quality of distance education research. Phipps and Merisotis (1999) stated in their report that “the most important problem (in distance education research) is that the overall quality of the original research is questionable and thereby renders many of the findings inconclusive.” (p.24). Additionally, Middleton (1997) found a lack of “specific criteria” that were “consistently used” to evaluate distance education courses. It is imperative to the advancement of distance education that the research focusing on outcomes strives to obtain the rigorous standards and substantive quality that all research is held to within all other academic fields of study.

The outcomes of current distance education comparison studies are not being used to demonstrate the superiority of the distance experience, but the equality of it. The distance research goals of today are focusing on the localized evaluation of particular distance education courses and programs (Lockee, Moore & Burton, 2001).

The rigorous research design that has been employed for the AEEPE online course holds to the standards of sound research practices, thus contributing to advancing not only the fields of EE and evaluation but distance education research as well.

V. AEEPE ONLINE COURSE DEVELOPMENT

Development of the “Applied Environmental Education Program Evaluation” online course began in the spring of 2004 as a joint, cooperative effort between EETAP, UW-SP and the FWS/NCTC staff (Wilke & Jeppesen, 2004). The online course format was suggested because of the enormous success of the first online course designed and implemented by EETAP entitled “Fundamentals of Environmental Education” (Wilcox, 2004). An agreement was reached between EETAP and FWS/NCTC in regards to the design and implementation of the AEEPE course and a design team was chosen by Dr. Richard Wilke, Distinguished Professor of EE at UW-SP and EETAP’s Project Director and Georgia Jeppesen, Education Specialist with NCTC, to help with the development of the course content. EETAP contributed Sarah Wilcox to the design team as a technology specialist and member of the team that designed the FEE course. Janice Easton, a Ph.D. candidate in the department of Agricultural Education & Communication at the University of Florida and Dr. Lyn Fleming, a consultant with Research, Evaluation & Development Services were brought on as evaluation specialists. The design team met in June 2004 to work on the development of the scope and sequence of the course. They developed course objectives, format, content and structure. The course was further reviewed by Susan Toth, Director of Education at Pine Jog Environmental Education

Center and faculty member at Florida Atlantic University, Dr. Julie (Athman) Ernst, Assistant Professor of EE at the University of Minnesota-Duluth and Trina Hofreiter, M.S. in EE from the University of Florida. During the summer of 2004 Dr. Richard Wilke, Sarah Wilcox, Georgia Jeppesen, Janice Easton and Dr. Lyn Fleming made final decisions about the necessary revisions and implemented these changes into the course. Janice Easton agreed to be this course's first instructor. The course was converted in September 2004 to the Desire2Learn online platform used by UW-SP for course delivery. The first course was offered between October 4, 2004 and December 13, 2004.

A. Course Content Resources

The AEEPE course was based on a residential course offered at NCTC entitled "Education Program Evaluation". The idea was not to create an online course to replace the existing NCTC course, rather it was proposed as a vehicle in which to reach a unique and underserved population of learners that may not have the funds to attend the course at the training center. NAAEE's *Nonformal Environmental Education Programs: Guidelines For Excellence* was referenced in the course content as a useful resource for the participants.

B. Technology Used in Course Design

Course developers initiated all content material in word documents. Sarah Wilcox compiled all revision recommendations and made edits to the course material within the Microsoft FrontPage 2000 program. Once a revised final draft was

available, Wilcox invited the course developers to view the course content via the web in the Desire2Learn online platform format. Additional revisions were recommended, and Wilcox made these changes prior to putting the course online for the participants (S. Wilcox, personal communication, November 15, 2004). The AEEPE course closely followed the basic online structural design of the FEE course. Once the online course was complete it included a navigation bar that would allow participants to view different web pages such as: course content, a discussion board, a drop box, a class list, email access, grade list, glossary etc.

In order to keep the course updated revisions are proposed, discussed and implemented each semester. In an effort to provide additional resources to reach the varying learning styles of the participants, the course instructors, Janice Easton and Dr. Lyn Fleming, have asked that exemplary assignment samples, a pop-up glossary and a “CyberCafe” chat room be incorporated in the course content.

VI. EVALUATION OF ONLINE COURSE

“Evaluation is an integral part of course delivery and development. Cost-benefit, learner satisfaction, goal attainment and accountability requires faculty to gather and submit feedback on the effectiveness of course process and content. Evaluation studies provide timely feedback and constructive criticism to the developers and designers using information technology while the curriculum is still evolving” (Collis, 1993, p.270). Positive evaluations fuel the commitment on the part of administrators to continue to expand the scope of a course (Stringer & Thomson, 1998). It may also encourage new course development. Based on the success of the

first EETAP online course entitled “Fundamentals of Environmental Education” in which participants from 43 states and 6 foreign countries gave positive evaluations upon completing the course (Wilcox, 2004), the idea for the development of a new course on program evaluation was encouraged and then well received by its intended audience. “With better designed and evaluated programs, the resources (e.g. funds, staff) best used to accomplish measurable outcomes will help increase environmental literacy and lead to greater protection of natural resources” (Wilke & Jeppesen, 2004, p.2).

A. Formative and Summative Evaluations

Formative evaluation can be defined as an evaluation tool that attempts to make improvements of learning activities at the time of development and planning. This information is useful to the developers because it allows for changes to be made during the time when the system is most “malleable”. Summative evaluations seek to find out whether or not the learning system is achieving its projected outcomes and goals. Often this information is reported to the stakeholders involved in the funding of the learning system. (Lockee, Moore, & Burton, 2002). “Formative evaluation mimics internal quality control, and summative evaluation reflects how well the final object works in the real world” (Lockee, Moore, & Burton, 2002, p.21).

A formative evaluation of the AEEPE course was conducted on a number of different levels and stages. As per Lockee, Moore and Burton’s (2002) recommendations an initial design review was implemented. The design review stage began with the earliest conception of the course proposal and it continued to the time

it went online. The next level recommended by the researchers (Lockee, Moore & Burton, 2002) is an expert review. Although there were experts on the design team itself, a number of content experts were consulted regarding assignments, language, hyperlinks, etc. Additional stages included: one-on-one review, small group reviews, field trials and ongoing reviews (Lockee, Moore & Burton, 2002). A formative evaluation was designed by the researcher, Sarah Wilcox and Dr. Richard Wilke. The goals of the formative evaluation were to determine perceived attitudes/beliefs in increased skill or ability as a result of taking the course. For example, did the participants achieve the course objectives? This was evaluated using a Likert-type scale (Appendix C) and the results were compiled and evaluated by the researcher to assist the design team in determining the need for course revisions. These revisions were implemented by the researcher prior to the second offering of the course in spring 2005. In addition, the formative evaluation attempted to glean information regarding course content, navigability of the course's web pages on the Desire2Learn online platform, technology constraints, time spent on the course etc. A pre-course questionnaire was also used as a formative evaluation in the first offering of the AEEPE course in the fall of 2004 (Appendix A). Course instructor, Janice Easton, designed a pre-course questionnaire that measured the confidence levels of course participants and perceived skills and abilities in EE program evaluation. In the spring of 2005 the course design team made the decision to stop using the pre-course questionnaire in its entirety; two of the confidence level questions were included as additional questions in the pretest/posttest knowledge questionnaire.

A summative evaluation for the AEEPE course will be most useful after the initial round of revisions aids the course developers and researcher in making changes to the course design and content in order to make it a better quality instructional tool. The final review or questionnaire should be used “to gather and examine the views of individual participants about their participation in the course” (Benigno & Trentin, 2000, p.268). Benigno & Trentin (2000) recommend these that these areas be covered in the questionnaire:

- course contents
- educational approach adopted in the course
- materials used
- organizational aspects of course activities
- participation modalities (logistics) of individual students
- technical aspects related to the use of the net and suggested technologies
- performance of facilitators

Taking the summative component one step further, a post-course evaluation can be a valuable tool in establishing whether or not the participants are putting any of their new skills into practice in their respective fields. Sarah Wilcox administered a six month follow-up survey in her evaluation of the FEE online course. The evaluation of “capacity to transfer” knowledge acquired during the course (Benigno & Trentin, 2000, p.269), allows for additional outlining of achieved program goals and further justification for program continuation.

B. Knowledge Pretest/Posttest Questionnaire

1. Questionnaire

The pretest-posttest model for questionnaire design can be used when the researcher wants to assess the impact of a course on the course participants. The researcher first collects a baseline of information before the participant begins the program (in this case an online course on program evaluation) and then again at the end of the program (EETAP/AEEPE Online Course, 2006). Simple questionnaire design for the pretest-posttest model involves administering the pretest, providing some sort of treatment, program, or intervention, post testing this same group and then analyzing the results of the questionnaire by comparing the pre and post tests for change. This type of research design has its advantages in that it involves matching participants and non-participants based on some common characteristic (EETAP/AEEPE Online Course, 2006).

Careful attention to questionnaire design is one of the most crucial elements of sound research. In creating a valid tool that accurately measures the information sought by the researcher, discretion must be at the forefront of the developers mind when designing the questionnaire. Questionnaires have disadvantages in their overall ability to deliver sound outcomes. Some of these disadvantages include:
(EETAP/AEEPE Online Course, 2006)

- Time and expertise and a means of design validation must be available in the development stages of the questionnaire.
- Questions may be misinterpreted.
- Problems with non-responders.

- Results are based on the quality of the tool itself.
- There may be some difficulty in identifying a control group for the comparison study.

Knowledge based questions in a questionnaire can be used in determining what the participants know prior to taking a course, for example, and then at the end to ascertain if this knowledge has changed as a result of taking the course. This information is best evaluated using a multiple-choice format where only one of the response choices is considered correct (EETAP/AEEPE Online Course, 2006).

Although there are similarities between standard mail surveys and web-based surveys there are design techniques specific to technology that must be addressed in the development phase. Dillman (2000) recommends following this set of design guidelines for web-based surveys:

1. Utilize a multiple contact strategy much like that used for regular mail surveys.
2. Personalize contacts through e-mail if possible.
3. Keep the invitation brief.
4. Begin with an interesting, but simple to answer, question.
5. Introduce a Web survey with a welcome screen that is motivational, emphasizes the ease of response, and instructs about how to proceed to the survey.
6. Present each question in a conventional format similar to that normally used on paper, self-administered surveys.

7. Do not require respondents to provide an answer to each question before being allowed to answer subsequent questions.
8. Make it possible for each question and corresponding potential responses to that question to be visible on the screen at one time.

It is crucial to the overall rigor and quality of the questionnaire that it be deemed reliable and valid prior to its implementation. Reliability is the extent to which the measurements resulting from a test are the result of characteristics of those being measured (Rudner & Schafer, 2001). A reliable instrument is one that yields consistent, stable and uniform results over repeated observations or measurements under the same conditions each time (EETAP/AEEPE Online Course, 2006). Measurement errors are the most common threat to reliability. There are a number of ways that measurement error can be reduced in the questionnaire: pilot testing the instrument and conducting a statistical procedure used to estimate the consistency of a set of scores for a group (Trochim, 2004).

Controlling for threats to validity plays an equally important role in designing a quality instrument. Validity refers to the extent to which questions or procedures actually measure what they claim to measure (EETAP/AEEPE Online Course, 2006). Internal validity is one type of validity that “has to do with defending against sources of bias which would affect the cause-effect process being studied by introducing covert variables” (Garson, 2006). When there is lack of internal validity, variables other than the independent(s) being studied may be responsible for part or all of the observed effect on the dependent variable(s) (Garson, 2006). Many researchers suggest that in order to compensate for internal threats to validity a true experimental

design must be used. This is a research design in which treatments are given and participants are randomly assigned to groups (Georgetown University Website, 2006). Threats to the content validity of the research tool can also be addressed through the utilization of a validity panel in which a group of experts are asked to review the instrument during all phases of its development (Trochim, 2004).

Evaluating participants' pre-knowledge can be helpful in acquiring a baseline of information on an individual (Benigno & Trentin, 2000). An assessment or evaluation of environmental knowledge can help environmental educators make sound decisions as to the content that may be necessary in a program. Furthermore, evaluations that ascertain knowledge change can be effective in providing feedback on how well a program is working (Hsu & Roth, 1996).

2. Analysis

Research has historically relied on reporting statistical significance for evaluating the meaningfulness of empirical research results. To address the problems associated with the null hypothesis inference testing model, many fields are beginning the process of moving away from simply reporting statistical significance. The scientific communities are beginning to set-up reporting standards that involve placing more emphasis on practical significance, or the magnitude of the effect, instead of tests of statistical significance (Lustig & Strauser, 2004).

For example, the 5th edition of the American Psychological Association Manual emphasizes the necessity to include some index of effect size or strength of relationship in psychological research further stating that the failure to report indicators of effect or strength of relationship to be a "defect".

In addition, 23 professional research journals have also identified the importance of reporting effect sizes by requiring authors and researchers to report indicators of effect in their papers submitted for publication (Lustig & Strauser, 2004, p.3).

Many evaluators use effect size, a measure of the magnitude and practical significance of between-group differences, because they see it as more meaningful than the traditional statistically significant difference (Fitzpatrick, Sanders, & Worthen, 2004). “The practical significance (e.g., effect sizes) and replicability, as well as statistical significance, should be considered when drawing inferences and formulating conclusions from quantitative analyses” (OERL Website, 2006).

One of the most widely used and reported effect-size measurement is Cohen’s *d*. Cohen’s *d* has distinct advantages over other effect-size measurements in that its popularity is making it a standard within the scientific communities. Due to this standardization, calculations can immediately be compared to increasingly larger numbers of published studies. Additionally, Cohen has suggested ways to interpret effect sizes: if $d = 0.20$ then the effect sizes are small, if $d = 0.50$ the effect sizes are medium, and if $d = 0.80$ the effect sizes are large. Percentile standing or percent of nonoverlap can also be used as standards in which to interpret Cohen’s *d*. These standards ultimately allow us to compare an experiment’s effect-size results to known benchmarks (Thalheimer & Cook, 2002 and Becker, 2001).

In an effort to advance the field of EE through conducting rigorous and scientifically-sound research, a decision in favor of calculating and reporting an effect size was reached. The calculated effect size will provide some information as to the

practical significance of the differences between the experimental and control groups.

VII. SUMMARY

Faced with fiscal limitations and on-going declines in resources, nonformal environmental educators and natural resource professionals are finding the importance of professional development to be the cornerstone of advancing their work in EE. Funders and environmental educators alike strive for better techniques to evaluate the success of their programs. Effective, relevant evaluation offers a very powerful way to improve EE programs while at the same time providing security for their continuation (Thomson & Hoffman, n.d). “Methods of evaluation are often poorly understood, particularly among professionals who deliver environmental education programs” (Thomson & Hoffman, n.d.). The “Applied EE Program Evaluation” online course provides an opportunity for these EE professionals to obtain the knowledge and skills necessary to successfully implement an evaluation of their EE programs. The implementation of a sound evaluative process as a part of the research methodology provides a system in which to ascertain the overall effectiveness of the course.

CHAPTER THREE METHODS

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I. INTRODUCTION

The purpose of this study is to evaluate and revise the online course entitled “Applied Environmental Education Program Evaluation” and to design, implement and analyze the results of pretest/posttests to ascertain if participants’ knowledge changed as a result of this course. The fall 2004 course evaluation utilized a participant questionnaire, instructor course feedback and design/review team recommendations to improve and revise the course design, structure and content for the spring 2005 course offering. The spring 2005, summer 2005 and fall 2005 course evaluations utilized the same participant questionnaire used for the fall 2004 course evaluation. Additionally, informal instructor interviews were conducted to ascertain information relevant in making further revisions to the course. A knowledge pretest

and posttest for the course participants and non-participants was developed in the fall of 2004 and implemented into the spring 2005, summer 2005 and fall 2005 course offerings. Non-participants were included in this study to provide a control/comparison group. They were randomly selected from a list of contacts, compiled by the UW-SP Extension office, who expressed interest in taking one or both of EETAP's EE online courses. Once again the same test was used in all of the course offerings so that a comparison could be made between participant and non-participants results within the same course offering as well as between the spring, summer and fall 2005 course offerings.

II. TIMELINE – (see AEEPE First Revision Timeline)

2004 - 2005

October – December	Fall 2004 Course Offering
December – January	Fall 2004 Course Evaluations Compiled and Reviewed
December – February	First Course Revision Process
February – April	Spring 2005 Course Offering
April – May	Spring 2005 Course Evaluations Compiled and Reviewed
May – June	Second Courses Revision Process
June – August	Summer 2005 Course Offering
August – September	Summer 2005 Course Evaluations Compiled and Reviewed
August – September	Third Course Revision Process

September – November Fall 2005 Course Offering
November – December Fall 2005 Course Evaluations Compiled and Reviewed

2005 – 2006

December – January Fourth Course Revision Process

III. FALL 2004 COURSE EVALUATION

The “Applied Environmental Education Program Evaluation” online course was offered for the first time by UW-SP in the fall of 2004 (October 4 – December 13, 2004). The fall 2004 course participants completed evaluations that were used to determine whether or not the course was effectively delivered. Course participant questionnaires, an informal course instructor interview and recommendations from the course design and review teams were used to make necessary revisions to the course.

Sarah Wilcox, EETAP graduate assistant from 2002-2004, created a marketing plan to enhance recruitment for the “Fundamentals of Environmental Education” online course. The researcher developed a marketing plan for this course using the one developed by Sarah Wilcox as a model (Appendix B).

A. Participant Questionnaire

The course participants were asked to complete a course evaluation as a final course assignment (Appendix C) within the Desire2Learn online platform. They were asked to click on the “Course Evaluation” icon under the assignments for Unit 7 and when they completed the evaluation they clicked on the "submit" icon at the end

of the evaluation that sent their results to a secured Microsoft Excel worksheet file maintained by the researcher. This questionnaire was designed to ascertain whether or not the course was effectively delivered.

1. Questionnaire Design

The questionnaire was designed by the researcher to include questions that allowed for information to be collected on the following topics:

- “Course Objectives” - 9 Likert scale questions (e.g., Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree) and 1 open-ended response question attempted to ascertain what they learned from the course.
- “Overall Course Outcomes” - 2 Likert scale questions and 1 open-ended response question asked whether or not their new evaluation skills helped increase their overall effectiveness as evaluators of EE programs.
- “Course Structure” - 7 Likert scale questions and 1 open ended response question attempted to find out if they found the course organization to be effectively presented in an online format.
- “Technology” - 6 Likert scale questions (e.g., Very Easily, Easily, With Some Difficulty, With Great Difficulty, Not At All) and 1 open-ended response question attempted to ascertain whether or not they could navigate through the course in Desire2Learn and how accessible they found the different course components.

- “Advanced Technology for Future Courses” - 4 Yes/No questions were posed to address whether or not they would have preferred some additional course components like PowerPoint or audio presentations.
- “Course Content” - 16 Likert scale questions, 1 Likert scale question specific for graduate students and 1 open-ended response questions attempted to ascertain what the participants’ satisfaction level was in regards to the course units, assignments and activities.
- “Overall” - 1 multiple choice question, 5 open-ended response questions and 1 Yes/No question attempted to ascertain how long they spent working on the course and if they had any recommendations for improvement.
- “Background Information” – There were 7 questions in total that asked for the participant’s name, instructor’s name, participant's occupation and job title.

A content validity panel was recruited by the researcher to assist in the questionnaire development. Dr. Richard Wilke and Sarah Wilcox were among the developers of the course evaluation for the first online course offered through EETAP entitled “Fundamentals of Environmental Education”. Because of their history, expertise and knowledge the researcher asked them to help in the initial phase of the questionnaire development. A first draft was developed and presented to an outside validity panel that included:

- Georgia Jeppesen, Education Specialist with U.S. Fish and Wildlife Service National Conservation Training Center (NCTC)
- Dr. Lyn Fleming, a Consultant with Research, Evaluation and Development Services

- Dr. Richard Wilke, UW System Distinguished Professor of Environmental Education
- Janice Easton, PhD candidate in the Department of Agricultural Education and Communication at the University of Florida
- Sarah Wilcox, M.S. graduate from the University of Wisconsin – Stevens Point in EE and Interpretation and the author of a master’s thesis entitled “Summative Evaluations and Resulting Revisions of an Online Course entitled Fundamentals of Environmental Education”

The validity panel’s recommendations were implemented by the researcher and a final draft of the participant questionnaire was submitted to the Institutional Review Board (IRB) at UW-SP.

Once approval from the IRB was obtained, the questionnaire was created as a webpage form – an electronic page that includes a number of data-entry fields that the evaluator can type directly into – on Microsoft FrontPage 2000. The researcher used a number of formats available in FrontPage in the creation of the online questionnaire. Drop-down menus for ordered Likert choices, multiple-choice and yes/no responses were used to simplify the format for the participants. Text area boxes were also included to allow for open-ended responses. Upon completion of the questionnaire the participants clicked on a “Submit” icon that sent the results directly to a secured Microsoft Excel workbook within the FrontPage’s private files. This file was available only to the researcher.

2. Subjects

The participant questionnaire was administered by the researcher to the students that had fully participated in the fall 2004 course offering of the “Applied Environmental Education Program Evaluation” online course at UW-SP. The course population was made up of students from across the United States and Mexico. Ten of the course participants were employees of the U.S. Fish and Wildlife Service, fifteen of the course participants were representative of seventeen different states and there was one student from Mexico. The course participants chose between three enrollment options: three undergraduate credits, three graduate credits or non-credit workshop enrollment. The UW-SP Extension office provided course participant statistics indicating that one student registered for undergraduate credit, six students took the course for graduate credit and nineteen students took the course for zero workshop credits. Students completed the course and received participant questionnaires.

3. Collection of Data

The researcher asked the course instructor to post a message in the “News” section of the Desire2Learn Online Platform. The posting on the “News” section directed the course participants to access and complete the course evaluation immediately after they finished the course. The course participants were asked to view this as a final assignment at the end of Unit 7 in the course “Content” section of the online course. The course evaluation was then accessed by the course participants when they clicked on the “Course Evaluation” link. Once the link was clicked, a

research consent page appeared and the questionnaire was accessed through hyperlinked text at the bottom of the consent page. The course evaluation results were compiled in a Microsoft Excel Workbook by the researcher in a private folder in Microsoft FrontPage. In order to address the issue of non-response bias, the course participants that did not submit a course evaluation were contacted via email asking them to complete and submit the course evaluation. The researcher then erased the names from each of the submitted course evaluations once this phase of data collection was considered complete. This allowed for the anonymity of the course participants to be preserved.

4. Treatment of Data

For each of the Likert scale items, the researcher assigned a number to each of the responses (e.g., 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree). The responses were tabulated for frequency and the mean score for each Likert item was calculated. Multiple choice items, including the Yes/No questions, were categorized and tabulated for frequency as well. The open-ended responses were compiled and included in the final evaluation report presented to the design/review team to be used in the revision process.

B. Instructor Course Evaluation and Recommendations

The fall 2004 course instructor, Janice Easton, compiled a list of course revision recommendations during her facilitation of the course. This list and an informal interview were then used in lieu of a formal course evaluation completed by

the course instructor. The instructor's revision recommendations were presented to the design team via an email and a revision timeline for the spring 2005 course offering was established by the researcher.

C. Design and Review Team Recommendations

The design and review team were involved in a collaborative effort with the course instructor and the researcher in making recommendations for course revisions. The revision process began with Janice Easton's compiled list being presented to each of the design and review team members and the researcher. Upon completion of the course the researcher compiled reviews and evaluated questionnaire responses. A final evaluation report was written by the researcher and submitted to the course design and review teams. Revision recommendations were discussed during two separate conference calls. The revisions were made by the course instructor, Janice Easton and then forwarded to the researcher for implementation. The researcher implemented the changes into Microsoft FrontPage prior to the spring 2005 course offering.

AEEPE First Revision Timeline

Janice Easton submits preliminary revision recommendations to design team	November 19, 2004
Jennifer Dillard sends final version of course evaluation to design team	November 23, 2004
Design team sends comments to Janice Easton regarding preliminary recommendations	December 1, 2004
Design team sends final suggestions for course evaluation to Jennifer Dillard	December 1, 2004
Jennifer Dillard puts course evaluation in “content” and Janice Easton puts note in “News”	December 6, 2004
Course evaluations submitted	December 6, 2004 – January 6, 2005
Jennifer Dillard follows up with non-responders	December 15, 2004 – January 1, 2005
Jennifer Dillard compiles the evaluation responses and writes a final evaluation report	December 20, 2004 – January 6, 2005
Evaluation report submitted to the design team by Jennifer Dillard	January 7, 2005
Jennifer Dillard sends agenda for revision conference call to design team	January 10, 2005
Design team sends changes to agenda to Jennifer Dillard	January 12, 2005
Conference call to discuss the evaluation report and revisions	January 13, 2005
Janice Easton makes revisions to the course on Word documents and sends to Jennifer Dillard as completed	December 1 – January 21, 2005
Jennifer Dillard makes revisions in FrontPage and sends to design team for review as completed	January 10 – January 31, 2005
Reviewers (Dr. Lyn Fleming, FWS employee and Susan Toth) make suggestions to design team	February 1 – 8, 2005
Design and review team submit final edits to Jennifer Dillard for changes to the course	February 8, 2005
Conference call to discuss additional revisions to the course	February 9 or 10, 2005
Janice Easton and Jennifer Dillard make additional revisions based on conference call	February 18, 2005
Spring course begins	February 21, 2005

IV. FIRST REVISION

The first revisions of the course began with a review of recommendations presented by the course instructor in November 2004. The revision process began before the course was completed. This was deemed necessary by the design team because of the scope of the revisions necessary to adequately improve the content and course delivery. The revision process was supplemented by the final evaluation report submitted to the revision team by the researcher. The revision team included the researcher and:

Design Team:

- Georgia Jeppesen, Education Specialist with U.S. Fish and Wildlife Service National Conservation Training Center (NCTC)
- Dr. Lyn Fleming, a consultant with Research, Evaluation and Development Services
- Dr. Richard Wilke, UW System Distinguished Professor of Environmental Education
- Janice Easton, PhD candidate in the Department of Agricultural Education and Communication at the University of Florida

Review Team:

- Susan Toth, Director of Education at Pine Jog Environmental Education Center and Faculty member at Florida Atlantic University
- Lauri Munroe-Hultman, Outdoor Recreation Planner, Trempealeau National Wildlife Refuge, U.S. Fish and Wildlife Service. (She was a student in the fall

2004 course offering; she was asked to participate in the first course revision only).

The majority of the revision decisions were made by the review team during two telephone conference calls (Appendix D). Once revisions were made by the course instructor on her Word documents she forwarded the revised Word documents to the researcher. The researcher then implemented the revisions directly into the course content in FrontPage.

V. SPRING 2005, SUMMER AND FALL 2005 EVALUATIONS

The same online course evaluation developed during the first course offering in the fall 2004 was used for the spring, summer and fall 2005 course offerings. The spring course was offered from February 21 – April 29, summer course from June 13 – August 19 and the fall 2005 course September 12 – November 18. The evaluation objectives for the second, third and fourth course offerings aimed to determine whether or not the course was effectively revised during each preceding revision process.

A. Participant Questionnaire

1. Subjects

Once again the participant questionnaire was administered by the researcher to the students that had successfully completed the spring, summer and fall 2005 AEEPE course offerings at UW-SP. A second section of the course was offered in the spring and fall of 2005. Dr. Lyn Fleming, a consultant with Research, Evaluation

and Development Services was the instructor of the additional sections. For all three of these course offerings students could choose to take the course for 3 undergraduate credits, 3 graduate credits or as a workshop participant for no credit.

a. Spring 2005 Participant Population

The spring 2005 course population included a very diverse group of students from 19 different states; one student took the course from Nova Scotia and another from Saipan. The final registration information from the UW-SP Extension office indicated that 8 students took the course for graduate credit, 5 students registered for undergraduate credit and 20 registered for the non-credit workshop.

b. Summer 2005 Participant Population

For the third course offering in the summer of 2005, students represented 16 different states and one student participated from Puerto Rico. The final registration information from the UW-SP Extension office indicated that 3 students took the course for graduate credit, none for undergraduate credit and 16 registered for the non-credit workshop.

c. Fall 2005 Participant Population

The fourth course offering once again attracted a very diverse group of students: there were 25 states represented and 3 countries, which included three students from Canada, one from Argentina and one from Vietnam. The final registration information from the UW-SP Extension office indicated that 7 students took the course for graduate credit, one for undergraduate credit and 28 registered for the non-credit workshop.

2. Instrument Modification

The participant questionnaire was modified slightly during the spring 2005 course revision process. During a conference call in May 2005 Georgia Jeppesen requested the modification of item 19 in order to obtain more accurate responses. The revised questionnaire was administered for the summer 2005 and fall 2005 course offerings.

Fall 2004 and Spring 2005

19. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period.

Summer and Fall 2005

19. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program.

3. Collection of Data

For the spring, summer and fall 2005 rounds of data collection the researcher once again enlisted the help of the course instructor(s) to post a message in the “News” section of the Desire2Learn online platform. The posting on the “News” section directed the course participants to access and complete the course evaluation immediately after they finished the course. The course participants were asked to view this as a final assignment at the end of Unit 7 in the course “Content” section of the online course. The course evaluation was then accessed by the course participants when they clicked on the “Course Evaluation” link. Once the link was clicked, a research consent page appeared and the questionnaire was accessed through hyperlinked text at the bottom of the consent page. The course evaluation results

were compiled in a Microsoft Excel Workbook by the researcher in a private folder in Microsoft FrontPage. In order to address the issue of non-response bias, the course participants that did not submit a course evaluation were contacted via email asking them to complete and submit the course evaluation. The researcher then erased the names from each of the submitted course evaluations once this phase of data collection was considered complete. This allowed for the anonymity of the course participants to be preserved.

4. Treatment of Data

The same methodology used for the treatment of the fall 2004 data was employed for the spring, summer and fall 2005 course offerings as well. For each of the Likert scale items, the researcher assigned a number to each of the responses (e.g., 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree). The responses were tabulated for frequency and the mean score for each Likert item was calculated. Multiple choice items, including the Yes/No questions, were categorized and tabulated for frequency as well. The open-ended responses were compiled and included in the final evaluation report presented to the design/review team to be used in the revision process.

B. Instructor Course Evaluation and Recommendations

Informal follow-up interviews with the course instructors were conducted by the researcher prior to, during and after each course offering. This informal evaluative process was used by the researcher to obtain the instructor's opinions and

comments regarding the effectiveness of the course revisions that were implemented after the fall 2004, spring 2005 and summer 2005 course offerings.

VI. SECOND, THIRD AND FOURTH REVISIONS

The second and third course revisions followed the same methodology described for the first course revision process. The second and third course offerings were still a part of the pilot/development phase, therefore the extensive revision process continued into 2005. Several conference calls were required to give the revision team adequate time to review and discuss the evaluation report as well the additional recommendations of each course instructor. The conference calls for the second revision process were held in April 2005 and May 2005 (Appendix E). The conference calls to begin the third and fourth revision processes were held in August 2005 and November 2005. Once again during the conference calls the revision committee reviewed and discussed the evaluation reports and the recommendations of each course instructor were addressed (Appendices F and G). The second, third and fourth revision committee members included: Dr. Richard Wilke, Georgia Jeppesen, Janice Easton, Dr. Lyn Fleming and the researcher. For the second, third and fourth revisions the aim was to further improve course design, technology, content, marketing and overall outcomes.

VII. KNOWLEDGE PRETEST/POSTTESTS SPRING 2005, SUMMER 2005 AND FALL 2005

The purpose of this component of the study was to evaluate whether participants' knowledge changed as a result of the course content. The researcher developed and implemented a knowledge pretest/posttest that was administered to course participants and a non-participant control group before and after the spring, summer and fall 2005 course offerings, respectively (Appendix H).

A. Instrument Design

The data collection tool was designed by the researcher. The process began with reviewing and identifying the specific unit objectives within the course. The researcher then created a first draft of a test that included all multiple choice questions. The questions highlighted each of the unit objectives that were established by the design team. Each of the knowledge test questions had one correct answer. A first draft of the knowledge test was initially reviewed by Dr. Richard Wilke and Sarah Wilcox.

Questions aimed at ascertaining confidence levels in various aspects of evaluation for course participants and the non-participant control group, were included as two additional items at the end of the pretest/posttest knowledge assessment. These questions were adapted from a pre-course questionnaire designed and administered by Janice Easton during the fall 2004 pilot course offering. The two additional items allowed for information to be collected on the following topics during the spring 2005, summer 2005 and fall 2005 course offerings:

- “Program evaluation knowledge” – One Likert scale question (e.g., Very Confident, Somewhat confident, Not confident).
- “Ability to develop an evaluation plan” – One Likert scale question (e.g., Very Confident, Somewhat confident, Not confident).

B. Expert Review

The final first draft of the knowledge pretest/posttest was submitted to the course review team for revision and feedback. Revisions were made to the instrument based on the review team’s feedback. A second draft of the instrument was developed based on this feedback and then it went through a pilot study. The researcher recruited the participants in the pilot study from her graduate courses and work environment. The pilot study participants included:

- Lester O. Dillard – Graduate student in the field of Wildlife Ecology at UW-SP.
- Jeremy Higgins – Former Outreach Specialist with the National Environmental Education Advancement Project (NEEAP).
- Rebecca Mattano – Graduate student in the field of EE and Interpretation at UW-SP (submitted general feedback within AEEPE knowledge assessment).
- Karla Lockman – Graduate student in the field of EE and Interpretation at UW-SP.
- Gwen Herrewig – Graduate student in the field of EE and Interpretation at UW-SP.
- Sarah Wilcox – M.S. graduate from UW-SP in EE and Interpretation.

A draft version of the knowledge assessment was sent to each of the pilot study participants along with a cover letter and general feedback document (Appendix I). The pilot study participants were asked to take the knowledge assessment, record how long it took them to take it and then fill-out the general feedback form. Once they completed these tasks they were asked to send them back to the researcher either via email as attachments or via inter-campus mail. Based on the feedback from the pilot study, an additional draft of the knowledge assessment was generated and sent back to the course review team for additional recommendations. Once an agreement was reached as to what the final version would look like the instrument was presented to the IRB for approval in compliance with university standards on human test subjects.

The final draft of the knowledge assessment was created as a web page form using Microsoft FrontPage it included 37 multiple choice questions and 2 Likert scale confidence level questions (Appendix H).

C. Participant Recruitment

Course participants were asked to be a part of this study via a preliminary class assignment. They had the option of not participating in the pretest, but all course participants were encouraged to complete the pretest in order to support the research study. The course participants were then asked to complete the posttests as a final assignment. Once again they were given the option to not participate, but they were encouraged to complete the posttests as well.

Non-participants were randomly selected from a list of contacts, compiled by the UW-SP Extension office. The list included people who expressed interest in

taking one or both of the EE online courses. The initial contact list included 845 names. The list was reviewed by the researcher and the names of any students that had previously taken one of EETAP's online courses or were currently taking one of the courses were removed. This initial list was used throughout the duration of the study, however there were names added to the list each semester. At the beginning of each round of data collection, the researcher contacted the UW-SP Extension office to obtain the most updated list. For each new course offering the names of all control group participants from the previous semester's round of data collection were removed from the list. There were 39 control group participants in the spring of 2005, 15 in the summer of 2005 and 14 in the fall of 2005. An incentive was provided to encourage control group members to participate. If they agreed to complete the knowledge pretest/posttest they were offered a credit of \$25 that could be applied to the course fees for a subsequent semester course offering.

D. Data Collection

A non-participant group was recruited along with the course participant group to contribute to this part of the study. They acted as a control group in accordance with the quasi-experimental nonequivalent pretest posttest control group design. The quasi-experimental design was used to investigate this situation because random selection and assignment of test subjects was not possible. A nonequivalent pretest posttest control group design involves a test group (in this case the course participants) that are asked to complete a knowledge pretest and a non-randomized control group (non-course participants from the contact list of prospective course

participants) that received the same test. The results of these tests were collected, compiled and analyzed by the researcher. Upon completion of the course a posttest was administered to the experimental group and the control group by the researcher. These results were once again collected, compiled and analyzed by the researcher. The knowledge pretest/posttest was administered to the experimental and control groups before and after three course offerings: spring 2005, summer 2005 and fall 2005.

The pretest/posttest was administered to the course participants the same way the course evaluation was administered. The researcher and the course instructors posted a message on the “News” section of the Desire2Learn online platform (Appendix H). The posting on the “News” section directed the course participants to access and complete the pretest prior to looking at any of the course content and the posttest once they finished the course. Links were placed in the “Content” section of the online course. The course participants accessed the pretest by clicking on the “Precourse Assessment” link and the posttest via the “Postcourse Assessment” link. Once the link was clicked, a research consent page appeared and the questionnaire was accessed through hyperlinked text at the bottom of the consent page. The pretest/posttest results were compiled in a Microsoft Access Database by the researcher in a private folder in Microsoft FrontPage and Excel. In order to address the issue of non-response bias, the course participants that did not submit a pretest/posttest were contacted via email asking them to complete and submit the questionnaire(s). The researcher then erased the names from each of the submitted pretest/posttests once this phase of data collection was considered complete. This

allowed for the anonymity of the course participants to be preserved. Any course participant that failed to complete both the pretest and posttest assessments was deleted from the study. In addition, the researcher allowed an approximate two week window of time for the pretest/posttest administration to the course participants. The two week time administration was necessary due to technological difficulties that many course participants faced at the onset. This also increased the response rate and helped decrease the non-response bias threat. Once the two weeks had ended, the link in Desire2Learn was disabled so that the course participants could not access the pretest/posttest outside of the allotted administration time. Any pretest/posttests received outside of the pre-conceived administration time were deleted from the study.

The non-participant control group received the pretest/posttests via an email message. They were administered concurrently with the course participants' pretest/posttests. A "cover letter" was sent via email explaining the purpose of the test and the research (Appendix J). If they agreed to be a part of the research study, they clicked on a link at the bottom of the cover letter and a research consent page appeared (Appendix J). Once they agreed to the terms of the research study, they clicked on a second link at the bottom of the consent page to access the pretest questionnaire. The test results were compiled the exact same way as described above for the course participants.

The posttest assessment for the non-participant control group was administered the exact same way as the pretest except that a different "cover letter" was utilized (Appendix K). Following the posttest assessment administration, any

member of the non-participant control group that completed both a pretest and a posttest received an email voucher worth twenty-five dollars that they could apply to the course fees of any subsequent EETAP online course offering (Appendix K). Finalized lists of all voucher recipients were sent to the UW-SP Extension office at the end of the spring, summer and fall 2005, respectively (Appendix L).

E. Treatment of Data

This study employed a number of quantitative statistical methods in analyzing the results of the knowledge pretest/posttest assessment. Test results were collected and tabulated by the researcher. For the multiple-choice questions the researcher assigned a number to each of the responses (e.g., 1=correct answer, 0=incorrect answer). A Kuder-Richardson 20 (KR-20) internal consistency reliability test was conducted in Microsoft Excel for the knowledge test providing a coefficient of internal consistency. The KR-20 was chosen as the best method to use due to the fact that the data set was coded as dichotomously scored items. For research purposes, a KR-20 coefficient of score of 0.7 or better indicates an acceptable degree of reliability (Garson, 2006 & Santos, 1999).

Inferential statistics included independent and dependent t-tests with $p < 0.05$ established a priori as the level of significance and Reliability-Corrected Analysis of Covariance (Reliability-Corrected ANCOVA) with $p < 0.05$ established a priori as the level of significance. The computer program, SPSS (Statistical Package for the Social Sciences) Release 14.0 (SPSS Inc., 2006) was used to perform these statistical tests. The dependent t-test was used to compare pretest and posttest results for the

control and experimental groups and independent t-tests were used to compare results between control and experimental groups. The t-test was used to determine whether there was a significant difference between two group means. The Reliability-Corrected ANCOVA was used to control for significant pre-existing covariates, in this case possible variation in pretest knowledge levels. The researcher opted to use the Reliability-Corrected Analysis of Covariance model to correct for the bias in analysis that may occur with the quasi-experimental nonequivalent group research design (Trochim, 2004 & Becker, 2001). ANCOVA analysis may be biased when used with this research design due to the following design limitations: group nonequivalence and pretest measurement error which leads to the attenuation or "flattening" of the slopes in the regression lines. To solve the bias in the ANCOVA, the pretest KR-20 reliability coefficient was used to calculate an adjusted mean for the pretest scores. These adjusted calculations help make the appropriate adjustments to compensate for the pretest measurement error. The result was a non-biased Reliability-Corrected ANCOVA (Trochim, 2004 & Becker, 2001).

The final statistical method employed in this research study was the calculation of effect size (ES). Effect sizes were obtained through calculations performed in Microsoft Excel. The effect size was obtained through calculating Cohen's d from independent t-test values. If the difference between the experimental and control groups was deemed statistically significant, the researcher followed up with an Effect Size to see if the difference was also practically significant.

For this study Cohen's d values or the effect sizes will be interpreted using a table of the average percentile standings of the average treated (or experimental)

participant relative to the average untreated (or control) participant. An ES of 0.0 indicates that the mean of the treated group is at the 50th percentile of the untreated group. An ES of 0.8 indicates that the mean of the treated group is at the 79th percentile of the untreated group. An ES of 1.7 indicates that the mean of the treated group is at the 95.5th percentile of the untreated group (Becker, 2001). The decision to use this method of interpretation is based on concerns that Cohen (1988) himself expressed when addressing his historical standards for defining effect sizes as "small, $d = .2$," "medium, $d = .5$," and "large, $d = .8$ ". Cohen (1988) stated that "there is a certain risk inherent in offering conventional operational definitions for those terms for use in power analysis in as diverse a field of inquiry as behavioral science" (p.25).

Additionally, for the data from the confidence level items in the pretest/posttest knowledge questionnaire the researcher assigned a number to each of the responses for the Likert scale items (e.g., 3=Very confident, 2=Somewhat confident, 1=Not confident). The responses were tabulated for frequency. The mean score for each Likert item was calculated for the spring 2005, summer 2005 and fall 2005 course offerings.

CHAPTER FOUR RESULTS

- I. FALL 2004 COURSE EVALUATION**
 - A. Student Questionnaire**
- II. FIRST REVISION**
- III. SPRING 2005 COURSE EVALUATION**
 - A. Student Questionnaire**
- IV. SECOND REVISION**
- V. SUMMER 2005 COURSE EVALUATION**
 - A. Student Questionnaire**
- VI. THIRD REVISION**
- VII. FALL 2005 COURSE EVALUATION**
 - A. Student Questionnaire**
- VIII. FOURTH REVISION**
- IX. SPRING 2005, SUMMER 2005 AND FALL 2005 KNOWLEDGE PRETEST/POSTTEST QUESTIONNAIRE**
 - A. Reliability Statistics Results**
 - B. Pretest/Posttest Questionnaire**
- X. SPRING 2005, SUMMER 2005 AND FALL 2005 CONFIDENCE LEVELS**

The purpose of this study was to evaluate and revise the “Applied EE Program Evaluation” online course. This chapter presents the results of three summative course evaluations developed as a component of the evaluative and subsequent revision process. The summative evaluations demonstrated areas of course content, design and structure that needed to be improved. A knowledge pretest/posttest questionnaire was included in the evaluative process allowing the researcher to determine if course participants’ knowledge changed as a result of the course.

I. FALL 2004 COURSE EVALUATION

The fall 2004 evaluation was employed to evaluate whether the course was effectively delivered. It was administered in December 2004 as an online

questionnaire accessed through the online course platform, Desire2Learn. Students enrolled in the course completed the evaluation.

A. Student Questionnaire

Offered for the first time in the fall of 2004, this semester marked the advent of the pilot/development phase of the course. Twenty-six nonformal environmental educators and natural resource professionals enrolled in the course. One student dropped the course, 9 failed the course and 16 completed the course. Sixteen out of 26 students successfully completed the course by earning a passing grade as a credit participant (obtaining a grade of a D- or above) or receiving a certificate of completion as a non-credit participant. For this pilot course offering, the attrition rate was calculated as 38%. The researcher attempted to contact all 26 students that were initially registered in the course requesting that they submit a student questionnaire. Of the 26 students that registered for the course, 5 of them were unable to respond to the student questionnaire because they did not participate in any of the course activities. Of the 21 remaining students 19 submitted a final course evaluation; a response rate of 90%.

The means (M) and standard deviations (SD) of participants' responses were calculated by the researcher. Table 1 summarizes the results of the fall 2004 Likert scale items. Questions 1-8, 10-11, 13-19 and 32-47 were scored using the following ordered-choice response categories: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree. Questions 21-26 were scored by the researcher using different ordered-choice response categories that included: 5=Very Easily,

4=Easily, 3=With Some Difficulty, 2=With Great Difficulty, 1=Not At All. All of the responses marked as “Not Applicable” or “Click Here” were discarded by the researcher. Accordingly, an adjusted respondent number (N) for the associated question was calculated.

Table 1. Fall 2004 Student Questionnaire Responses to Likert Scale Items

Item	Fall 2004: UW-SP (N = 19 unless otherwise specified)
Course Objectives Listed below are the course objectives. Please respond to each statement regarding what you learned from the course.	
1. As a result of taking this course, I am better able to state the purposes, benefits, and importance of educational evaluation.	M = 4.58 SD = 0.61
2. As a result of taking this course, I am better able to distinguish between front-end, formative, and summative evaluations.	M = 4.42 SD = 0.77
3. As a result of taking this course, I am better able to write measurable program objectives that link program development and evaluation.	M = 4.42 SD = 0.69
4. As a result of taking this course, I am better able to develop a comprehensive evaluation plan for an environmental education or outreach program.	M = 4.37 SD = 0.60
5. As a result of taking this course, I am better able to state when and how to use data collection tools.	M = 4.05 SD = 0.23
6. As a result of taking this course, I am better able to develop three data gathering tools: observation form, survey, and an interview or focus group guide.	M = 4.53 SD = 0.51

7. As a result of taking this course, I am better able to develop alternative assessment tools such as rubrics, checklists, and rating scales to assess performance.	M = 4.32 SD = 0.48
8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.	M = 3.79 SD = 0.54
Overall Course Outcomes	
To what extent do you agree or disagree with the following statements...	
10. I have increased my knowledge of environmental education program evaluation as a result of taking this course.	M = 4.58 SD = 0.51
11. I have increased my skills in conducting an evaluation of an environmental education program as a result of taking this course.	M = 4.58 SD = 0.51
Course Structure	
To what extent do you agree or disagree with the following statements...	
13. The course units were organized in a way that made sense to me.	M = 4.16 SD = 1.07
14. The course material seemed to flow logically and make good transitions.	M = 4.26 SD = 0.93
15. There seemed to be sufficient interaction between the students and the instructor.	M = 3.21 SD = 1.18
16. There seemed to be sufficient interaction among the students.	M = 3.63 SD = 0.90
17. I am glad that I was able to take this course <u>on-line</u> .	M = 4.16 SD = 0.96

18. I would participate in another on-line course as a result of this experience.	M = 4.00 SD = 1.05
19. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period.	M = 3.32 SD = 1.34
Technology	
To what extent were you able to do the following...	
21. Log in to the course.	M = 4.53 SD = 0.61
22. Navigate the course within Desire2Learn.	M = 4.32 SD = 0.89
23. Access the course content.	M = 4.58 SD = 0.69
24. Check your grades.	M = 4.37 SD = 1.01
25. Use e-mail to communicate with your instructor.	M = 3.89 SD = 0.74
26. Use the Dropbox to submit assignments to your instructor.	M = 4.35 SD = 1.06 N = 17
Course Content	
To what extent do you agree or disagree with the following statements...	
32. I am satisfied with the amount of information the course provided.	M = 4.47 SD = 0.51

33. I am satisfied with the amount of examples used to help me understand the information.	M = 3.79 SD = 0.92
34. I am satisfied with the amount of environmental education program evaluation resources the course provided.	M = 4.05 SD = 0.71
35. The grading guidelines were clearly outlined.	M = 4.37 SD = 0.60
36. The assignment due dates were clearly outlined.	M = 4.53 SD = 0.51
37. The glossary was useful to me.	M = 3.42 SD = 0.84
38. The <u>reflection assignments</u> were helpful in advancing my learning.	M = 4.37 SD = 0.50
39. The <u>read and respond</u> assignments were helpful in advancing my learning.	M = 4.26 SD = 0.65
40. The <u>short activity</u> assignments were helpful in advancing my learning.	M = 4.42 SD = 0.51
41. The <u>in-depth activity</u> assignments were helpful in advancing my learning.	M = 4.37 SD = 0.50
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.	M = 3.68 SD = 1.06
43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning.	M = 3.26 SD = 0.93

44. The culminating assignment was helpful in advancing my learning.	M = 4.11 SD = 0.74
45. The amount of work required seemed appropriate.	M = 3.26 SD = 1.24
46. The amount of time given to complete each assignment seemed appropriate.	M = 3.04 SD = 1.22
Graduate Students Only: 47. The graduate assignments were helpful in advancing my learning.	M = 3.74 SD = 0.50 N = 4

69% of the mean scores for the fall 2004 student questionnaires were equal to or greater than 4.00 coinciding with the strongly agree to agree ordered-choice response categories. Questionnaire items in which the course participants reported lower responses than the strongly agree/very easily or agree/easily categories (a mean score less than a 4.00) included:

- 8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools. (M = 3.79)
- 15. There seemed to be sufficient interaction between the students and the instructor. (M = 3.21)
- 16. There seemed to be sufficient interaction among the students. (M = 3.63)
- 19. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period. (M = 3.32)
- 25. Use e-mail to communicate with your instructor. (M = 3.89)

- 33. I am satisfied with the amount of examples used to help me understand the information. (M = 3.79)
- 37. The glossary was useful to me. (M = 3.42)
- 42. Posting and reading assignments on the discussion board was helpful in advancing my learning. (M = 3.68)
- 43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning. (M = 3.26)
- 45. The amount of work required seemed appropriate. (M = 3.26)
- 46. The amount of time given to complete each assignment seemed appropriate. (M = 3.05)
- Graduate Students Only:
 - 47. The graduate assignments were helpful in advancing my learning. (M = 3.75)

See Table 2 for the fall 2004 tabulated frequencies student responses to the multiple choice items and the Yes/No questions. The open-ended responses can be found in Appendix M.

Table 2. Fall 2004 Student Questionnaire Responses to Multiple-Choice Items and Yes/No Questions

Item	UW-SP (N = 19)
Advanced Technology for Future Courses	
<u>Response Set:</u> Yes No	
28. Would you have liked to have used real-time chat during the course? (Real-time chat is similar to instant messaging. Your typed message is immediately delivered to someone else's monitor and that person's response is immediately delivered back to your monitor.)	Yes = 63% No = 32%
29. Would you have liked some content presented via a PowerPoint presentation?	Yes = 56% No = 44%
30. Would you have liked some content presented via an audio presentation?	Yes = 50% No = 50%
31. Would you have liked some content presented via a video presentation?	Yes = 50% No = 50%
Overall	
49. Approximately how many <u>total</u> hours did you spend working on the course? <u>Response Set:</u> A. Less than 20 hours B. 21-40 hours C. 41-60 hours D. 61-80 hours E. More than 80 hours F. Unable to Estimate	A. 0% B. 5% C. 43% D. 42% E. 5% F. 5%
53. Would you recommend this course to a colleague or friend?	

<u>Response Set:</u> Yes No	Yes = 95% No = 5%
64. What is your current or most recent occupation? <u>Response Set:</u> Environmental/Outdoor Educator = 11% Museum/Zoo Educator = 0% WILD/WET/PLT State Coordinator = 5% U.S. Fish and Wildlife Service Educator = 32% Director of an Environmental Education Organization, Program or, Center = 42% Graduate Student = 5% Other = 5%	
65. Prior to taking this course, how long had you been evaluating environmental education programs? <u>Response Set:</u> Never = 11% Less than 2 years = 32% 2-5 years = 36% More than 5 years = 21%	
66. How long have you been in the field of environmental education? <u>Response Set:</u> I am not currently in the field of environmental education = 0% Less than 2 years = 11% 2-5 years = 11% More than 5 years = 78%	

II. FIRST REVISION

The first revision process began with a thorough review of the final evaluation report written and submitted by the researcher to the revision team in December 2004.

The goal for this first revision was to apply fall 2004 evaluation results to make improvements to the course design, structure and content for the spring 2005 course

offering. The revision team made their decisions based on the results of the fall 2004 student questionnaires, informal interviews conducted by the researcher and course instructor with course participants, conference call discussions and personal recommendations made by the course instructor. The following revisions were implemented in January and February 2005:

- Addressed student and instructor concerns associated with the use of UW-SP email.
- Created biography page for new course instructor.
- Conducted an instructor orientation focused on how to use the various components found in the Desire2Learn online course platform.
- Organized the students in each of the course sections into discussion groups (i.e., two discussion groups per each section of the course).
- Revised or eliminated assignments that lacked relevance or meaning in the overall context of the course.
- Developed additional lines of communication between the course instructors and students.
- Revised courses syllabus and assignment due dates to help address the issue of pace.
- Created a map that showed where all of the course participants lived and worked.
- Combined pre-course questionnaire with knowledge pretest/posttest questionnaire to decrease the student work load.

- Made the majority of recommendations suggested by the course instructor/developer, Janice Easton.

III. SPRING 2005 COURSE EVALUATION

The spring 2005 evaluation was employed to evaluate whether the course was effectively delivered. It was administered in April 2005 as an online questionnaire accessed through the online course platform, Desire2Learn. Students enrolled in the course completed the evaluation.

A. Student Questionnaire

For the spring 2005 course offering, 50 nonformal environmental educators and natural resource professionals enrolled in the course. One student dropped the course, 16 failed the course and 33 successfully completed the course. The attrition rate was calculated as 34%. The researcher attempted to contact all 50 students that were initially registered in the course requesting that they submit a student questionnaire. Of the 50 students that registered for the course, 1 of them was unable to respond to the student questionnaire because he/she did not participate in any of the course activities. Of the 49 remaining students 41 submitted a final course evaluation; a response rate of 84%.

Once again the means (M) and standard deviations (SD) of participants' responses were calculated by the researcher. Table 3 summarizes the results of the spring 2005 Likert scale items. Questions 1-8, 10-11, 13-19 and 32-47 were scored using the following ordered-choice response categories: 5=Strongly Agree, 4=Agree,

3=Neutral, 2=Disagree, 1=Strongly Disagree. Questions 21-26 were scored by the researcher using different ordered-choice response categories that included: 5=Very Easily, 4=Easily, 3=With Some Difficulty, 2=With Great Difficulty, 1=Not At All. All of the responses marked as “Not Applicable” or “Click Here” were discarded by the researcher. Accordingly, an adjusted respondent number (N) for the associated question was calculated.

Table 3. Spring 2005 Student Questionnaire Responses to Likert Scale Items

Item	Spring 2005 UW-SP: Sections 1 and 2 Combined (N = 41 unless otherwise specified)
Course Objectives Listed below are the course objectives. Please respond to each statement regarding what you learned from the course.	
1. As a result of taking this course, I am better able to state the purposes, benefits, and importance of educational evaluation.	M = 4.41 SD = 0.59
2. As a result of taking this course, I am better able to distinguish between front-end, formative, and summative evaluations.	M = 4.39 SD = 0.86
3. As a result of taking this course, I am better able to write measurable program objectives that link program development and evaluation.	M = 4.44 SD = 0.59
4. As a result of taking this course, I am better able to develop a comprehensive evaluation plan for an environmental education or outreach program.	M = 4.51 SD = 0.55
5. As a result of taking this course, I am better able to state when and how to use data collection tools.	M = 4.24 SD = 0.73

6. As a result of taking this course, I am better able to develop three data gathering tools: observation form, survey, and an interview or focus group guide.	M = 4.78 SD = 0.47
7. As a result of taking this course, I am better able to develop alternative assessment tools such as rubrics, checklists, and rating scales to assess performance.	M = 4.44 SD = 0.63
8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.	M = 4.10 SD = 0.86
Overall Course Outcomes	
To what extent do you agree or disagree with the following statements...	
10. I have increased my knowledge of environmental education program evaluation as a result of taking this course.	M = 4.71 SD = 0.51
11. I have increased my skills in conducting an evaluation of an environmental education program as a result of taking this course.	M = 4.68 SD = 0.65
Course Structure	
To what extent do you agree or disagree with the following statements...	
13. The course units were organized in a way that made sense to me.	M = 4.39 SD = 0.59
14. The course material seemed to flow logically and make good transitions.	M = 4.24 SD = 0.62
15. There seemed to be sufficient interaction between the students and the instructor.	M = 4.37 SD = 0.89
16. There seemed to be sufficient interaction among the students.	M = 4.39 SD = 0.80

17. I am glad that I was able to take this course <u>on-line</u> .	M = 4.20 SD = 1.01
18. I would participate in another on-line course as a result of this experience.	M = 4.15 SD = 0.96
19. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period.	M = 2.85 SD = 1.33
Technology	
To what extent were you able to do the following...	
21. Log in to the course.	M = 4.83 SD = 0.44
22. Navigate the course within Desire2Learn.	M = 4.63 SD = 0.58
23. Access the course content.	M = 4.63 SD = 0.62
24. Check your grades.	M = 4.73 SD = 0.71
25. Use e-mail to communicate with your instructor.	M = 4.32 SD = 1.01
26. Use the Dropbox to submit assignments to your instructor.	M = 4.68 SD = 0.57
Course Content	
To what extent do you agree or disagree with the following statements...	

32. I am satisfied with the amount of information the course provided.	M = 4.44 SD = 0.71
33. I am satisfied with the amount of examples used to help me understand the information.	M = 4.17 SD = 0.77
34. I am satisfied with the amount of environmental education program evaluation resources the course provided.	M = 4.39 SD = 0.70
35. The grading guidelines were clearly outlined.	M = 4.46 SD = 0.81
36. The assignment due dates were clearly outlined.	M = 4.39 SD = 0.95
37. The glossary was useful to me.	M = 3.41 SD = 0.97
38. The <u>reflection assignments</u> were helpful in advancing my learning.	M = 4.00 SD = 0.81
39. The <u>read and respond</u> assignments were helpful in advancing my learning.	M = 4.20 SD = 0.69 N = 40
40. The <u>short activity</u> assignments were helpful in advancing my learning.	M = 4.49 SD = 0.60
41. The <u>in-depth activity</u> assignments were helpful in advancing my learning.	M = 4.56 SD = 0.63
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.	M = 4.10 SD = 0.97

43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning.	M = 3.85 SD = 1.11
44. The culminating assignment was helpful in advancing my learning.	M = 4.03 SD = 0.73 N = 40
45. The amount of work required seemed appropriate.	M = 3.76 SD = 0.80
46. The amount of time given to complete each assignment seemed appropriate.	M = 3.59 SD = 1.07
Graduate Students Only: 47. The graduate assignments were helpful in advancing my learning.	M = 4.56 SD = 0.53 N = 9

87% of the mean scores for the spring 2005 student questionnaires were equal to or greater than 4.00 coinciding with the strongly agree to agree ordered-choice response categories. Questionnaire items in which the course participants reported lower responses than the strongly agree/very easily or agree/easily categories (a mean score less than a 4.00) included:

- 19. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period. (M = 2.85)
- 37. The glossary was useful to me. (M = 3.41)
- 43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning. (M = 3.85)
- 45. The amount of work required seemed appropriate. (M = 3.76)

- 46. The amount of time given to complete each assignment seemed appropriate. (M = 3.59)

See Table 4 for the spring 2005 tabulated frequencies student responses to the multiple choice items and the Yes/No questions. The open-ended responses can be found in Appendix N.

Table 4. Spring 2005 Student Questionnaire Responses to Multiple-Choice Items and Yes/No Questions

Item	UW-SP: Sections 1 and 2 Combined (N = 41)
Advanced Technology for Future Courses <u>Response Set:</u> Yes No	
28. Would you have liked to have used real-time chat during the course? (Real-time chat is similar to instant messaging. Your typed message is immediately delivered to someone else's monitor and that person's response is immediately delivered back to your monitor.)	Yes = 34% No = 66%
29. Would you have liked some content presented via a PowerPoint presentation?	Yes = 49% No = 51%
30. Would you have liked some content presented via an audio presentation?	Yes = 25% No = 75% N = 40
31. Would you have liked some content presented via a video presentation?	Yes = 46% No = 54%

Overall	
<p>49. Approximately how many <u>total</u> hours did you spend working on the course?</p> <p><u>Response Set:</u></p> <ul style="list-style-type: none"> A. Less than 20 hours B. 21-40 hours C. 41-60 hours D. 61-80 hours E. More than 80 hours F. Unable to Estimate 	<ul style="list-style-type: none"> A. 7% B. 12% C. 17% D. 37% E. 17% F. 10%
<p>53. Would you recommend this course to a colleague or friend?</p> <p><u>Response Set:</u></p> <p>Yes</p> <p>No</p>	<p>Yes = 90%</p> <p>No = 10%</p>
<p>64. What is your current or most recent occupation?</p> <p><u>Response Set:</u></p> <p>Environmental/Outdoor Educator = 44%</p> <p>Museum/Zoo Educator = 8%</p> <p>WILD/WET/PLT State Coordinator = 3%</p> <p>U.S. Fish and Wildlife Service Educator = 15%</p> <p>Director of an Environmental Education Organization, Program or, Center = 0%</p> <p>Graduate Student = 10%</p> <p>Other = 20%</p>	
<p>65. Prior to taking this course, how long had you been evaluating environmental education programs?</p> <p><u>Response Set:</u></p> <p>Never = 42%</p> <p>Less than 2 years = 24%</p> <p>2-5 years = 27%</p> <p>More than 5 years = 7%</p>	
<p>66. How long have you been in the field of environmental education?</p> <p><u>Response Set:</u></p> <p>I am not currently in the field of environmental education = 10%</p> <p>Less than 2 years = 10%</p>	

2-5 years = 22% More than 5 years = 58%
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IV. SECOND REVISION

The second revision process included a thorough review of the final evaluation report written and submitted by the researcher to the revision team in May 2005. The goal for the second revision was to evaluate whether the course is effectively delivered through the implementation of student questionnaires for the spring 2005. The revision team made their decisions based on the results of the spring 2005 student questionnaires, informal interviews conducted by the researcher and course instructors with course participants, conference call discussions and personal recommendations made by the course instructors. The following revisions were implemented in May and June 2005:

- Created an “Additional Resources” page as a reference for students to use when they would like to find out more information about a particular evaluation topic.
- Added exemplary student generated assignment examples to help clarify what the instructors expected out of certain assignments.
- Revised course assignments and assigned different point values.
- Revised some of the content to help the course flow better.
- Included additional resources within the course content.
- Initiated a follow-up protocol for course non-responders.
- Specified different grading guidelines and assignment due dates (included a printable version of the assignment due dates page).

- Split the larger more in-depth assignments into two parts.
- Extended the length of one of the course units based on instructor and student feedback.
- Modified item 19 of the student questionnaire per Georgia Jeppesen's request.

V. SUMMER 2005 COURSE EVALUATION

The summer 2005 evaluation was employed to evaluate whether the course was effectively delivered. It was administered in August 2005 as an online questionnaire accessed through the online course platform, Desire2Learn. Students enrolled in the course completed the evaluation.

A. Student Questionnaire

For the summer 2005 course offering, 27 nonformal environmental educators and natural resource professionals enrolled in the course. One student dropped the course, 7 failed the course and 19 successfully completed the course. The attrition rate was calculated as 26%. The researcher attempted to contact all 27 students that were initially registered in the course requesting that they submit a student questionnaire. Of the 27 students that registered for the course, 8 of them were unable to respond to the student questionnaire because they did not participate in any of the course activities. Of the 21 remaining students 19 submitted a final course evaluation; a response rate of 90%.

Once again the means (M) and standard deviations (SD) of participants' responses were calculated by the researcher. Table 5 summarizes the results of the

summer 2005 Likert scale items. Questions 1-8, 10-11, 13-19 and 32-47 were scored using the following ordered-choice response categories: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree. Questions 21-26 were scored by the researcher using different ordered-choice response categories that included: 5=Very Easily, 4=Easily, 3=With Some Difficulty, 2=With Great Difficulty, 1=Not At All. All of the responses marked as “Not Applicable” or “Click Here” were discarded by the researcher. Accordingly, an adjusted respondent number (N) for the associated question was calculated.

Table 5. Summer 2005 Student Questionnaire Responses to Likert Scale Items

Item	Summer 2005 UW-SP (N = 19 unless otherwise specified)
Course Objectives Listed below are the course objectives. Please respond to each statement regarding what you learned from the course.	
1. As a result of taking this course, I am better able to state the purposes, benefits, and importance of educational evaluation.	M = 4.35 SD = 0.70
2. As a result of taking this course, I am better able to distinguish between front-end, formative, and summative evaluations.	M = 4.15 SD = 0.73
3. As a result of taking this course, I am better able to write measurable program objectives that link program development and evaluation.	M = 4.40 SD = 0.70

4. As a result of taking this course, I am better able to develop a comprehensive evaluation plan for an environmental education or outreach program.	M = 4.45 SD = 0.61
5. As a result of taking this course, I am better able to state when and how to use data collection tools.	M = 4.25 SD = 0.71
6. As a result of taking this course, I am better able to develop three data gathering tools: observation form, survey, and an interview or focus group guide.	M = 4.75 SD = 0.48
7. As a result of taking this course, I am better able to develop alternative assessment tools such as rubrics, checklists, and rating scales to assess performance.	M = 4.25 SD = 0.99
8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.	M = 4.20 SD = 0.88
Overall Course Outcomes	
To what extent do you agree or disagree with the following statements...	
10. I have increased my knowledge of environmental education program evaluation as a result of taking this course.	M = 4.58 SD = 0.61
11. I have increased my skills in conducting an evaluation of an environmental education program as a result of taking this course.	M = 4.68 SD = 0.58
Course Structure	
To what extent do you agree or disagree with the following statements...	
13. The course units were organized in a way that made sense to me.	M = 4.37 SD = 0.60
14. The course material seemed to flow logically and make good transitions.	M = 4.18 SD = 0.73

15. There seemed to be sufficient interaction between the students and the instructor.	M = 4.35 SD = 0.70
16. There seemed to be sufficient interaction among the students.	M = 4.29 SD = 0.77
17. I am glad that I was able to take this course <u>on-line</u> .	M = 4.65 SD = 0.79
18. I would participate in another on-line course as a result of this experience.	M = 4.18 SD = 1.07
19. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program.	M = 2.35 SD = 1.17
Technology	
To what extent were you able to do the following...	
21. Log in to the course.	M = 4.58 SD = 0.84
22. Navigate the course within Desire2Learn.	M = 4.32 SD = 0.75
23. Access the course content.	M = 4.68 SD = 0.58
24. Check your grades.	M = 4.89 SD = 0.32

25. Use e-mail to communicate with your instructor.	M = 4.53 SD = 0.70
26. Use the Dropbox to submit assignments to your instructor.	M = 4.79 SD = 0.42
Course Content	
To what extent do you agree or disagree with the following statements...	
32. I am satisfied with the amount of information the course provided.	M = 4.42 SD = 0.98
33. I am satisfied with the amount of examples used to help me understand the information.	M = 4.33 SD = 0.59 N = 18
34. I am satisfied with the amount of environmental education program evaluation resources the course provided.	M = 4.32 SD = 0.75
35. The grading guidelines were clearly outlined.	M = 4.16 SD = 0.90
36. The assignment due dates were clearly outlined.	M = 4.32 SD = 0.89
37. The glossary was useful to me.	M = 3.32 SD = 0.75
38. The <u>reflection assignments</u> were helpful in advancing my learning.	M = 3.78 SD = 0.81 N = 18
39. The <u>read and respond</u> assignments were helpful in advancing my learning.	M = 3.95 SD = 0.78

40. The <u>short activity</u> assignments were helpful in advancing my learning.	M = 4.32 SD = 0.58
41. The <u>in-depth activity</u> assignments were helpful in advancing my learning.	M = 4.53 SD = 0.61
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.	M = 3.95 SD = 0.78
43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning.	M = 3.47 SD = 1.02
44. The culminating assignment was helpful in advancing my learning.	M = 4.11 SD = 0.68 N = 18
45. The amount of work required seemed appropriate.	M = 3.84 SD = 0.96
46. The amount of time given to complete each assignment seemed appropriate.	M = 3.95 SD = 0.85
Graduate Students Only:	
47. The graduate assignments were helpful in advancing my learning.	M = 4.00 SD = 1.00 N = 3

79% of the mean scores for the spring 2005 student questionnaires were equal to or greater than 4.00 coinciding with the strongly agree to agree ordered-choice response categories. Questionnaire items in which the course participants reported lower responses than the strongly agree/very easily or agree/easily categories (a mean score less than a 4.00) included:

- 19. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program. (M = 2.35)
- 37. The glossary was useful to me. (M = 3.32)
- 38. The reflection assignments were helpful in advancing my learning. (M = 3.78)
- 39. The read and respond assignments were helpful in advancing my learning. (M = 3.95)
- 42. Posting and reading assignments on the discussion board was helpful in advancing my learning. (M = 3.95)
- 43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning. (M = 3.47)
- 45. The amount of work required seemed appropriate. (M = 3.84)
- 46. The amount of time given to complete each assignment seemed appropriate. (M = 3.95)

See Table 6 for the summer 2005 tabulated frequencies student responses to the multiple choice items and the Yes/No questions. The open-ended responses can be found in Appendix O.

Table 6. Summer 2005 Student Questionnaire Responses to Multiple-Choice Items and Yes/No Questions

Item	UW-SP (N = 19)
Advanced Technology for Future Courses	
<u>Response Set:</u> Yes No	
28. Would you have liked to have used real-time chat during the course? (Real-time chat is similar to instant messaging. Your typed message is immediately delivered to someone else's monitor and that person's response is immediately delivered back to your monitor.)	Yes = 26% No = 74%
29. Would you have liked some content presented via a PowerPoint presentation?	Yes = 39% No = 61% N = 18
30. Would you have liked some content presented via an audio presentation?	Yes = 26% No = 74%
31. Would you have liked some content presented via a video presentation?	Yes = 47% No = 53%
Overall	
49. Approximately how many <u>total</u> hours did you spend working on the course?	
<u>Response Set:</u> A. Less than 20 hours B. 21-40 hours C. 41-60 hours D. 61-80 hours E. More than 80 hours F. Unable to Estimate	A. 5% B. 5% C. 16% D. 26% E. 26% F. 21%

<p>53. Would you recommend this course to a colleague or friend?</p> <p><u>Response Set:</u> Yes No</p>	<p>Yes = 95% No = 5%</p>
<p>64. What is your current or most recent occupation?</p> <p><u>Response Set:</u> Environmental/Outdoor Educator = 37% Museum/Zoo Educator = 0% WILD/WET/PLT State Coordinator = 0% U.S. Fish and Wildlife Service Educator = 5% Director of an Environmental Education Organization, Program or, Center = 26% Graduate Student = 0% Other = 32%</p>	
<p>65. Prior to taking this course, how long had you been evaluating environmental education programs?</p> <p><u>Response Set:</u> Never = 39% Less than 2 years = 39% 2-5 years = 22% More than 5 years = 0%</p>	
<p>66. How long have you been in the field of environmental education?</p> <p><u>Response Set:</u> I am not currently in the field of environmental education = 16% Less than 2 years = 26% 2-5 years = 26% More than 5 years = 32%</p>	

VI. THIRD REVISION

The third revision process included a thorough review of the final evaluation report written and submitted by the researcher to the revision team in August of 2005.

The goal for the third revision was to evaluate whether the course was effectively

delivered through the implementation of student questionnaires for the summer 2005. The revision team made their decisions based on the results of the summer 2005 student questionnaires, informal interviews conducted by the researcher and course instructors with course participants, conference call discussions and personal recommendations made by the course instructors. The following revisions were implemented in August and September 2005:

- Designed and implemented a “Pop-up Glossary” into the course content. Provided orientation notes for students to learn how to use the new pop-up glossary option.
- Wrote additional text that was added to the course content.
- Revised and eliminated assignments deemed unsuccessful by the course instructors.
- Incorporated additional samples of exemplary student assignments.
- Added “Microsoft Excel Data Analysis Help Sheets” created by Janice Easton to help students with the quantitative data analysis unit/assignments (Appendix R).

VII. FALL 2005 COURSE EVALUATION

The fall 2005 evaluation was employed to evaluate whether the course was effectively delivered. It was administered in November 2005 as an online questionnaire accessed through the online course platform, Desire2Learn. Students enrolled in the course completed the evaluation.

A. Student Questionnaire

For the fall 2005 course offering, 54 nonformal environmental educators and natural resource professionals enrolled in the course. Nine students dropped the course, 9 failed the course and 36 successfully completed the course. The attrition rate was calculated as 33%. The researcher attempted to contact all 54 students that were initially registered in the course requesting that they submit a student questionnaire. Of the 54 students that registered for the course, 17 of them were unable to respond to the student questionnaire because they did not participate in any of the course activities. Of the 38 remaining students 36 submitted a final course evaluation; a response rate of 95%.

Once again the means (M) and standard deviations (SD) of participants' responses were calculated by the researcher. Table 7 summarizes the results of the fall 2005 Likert scale items. Questions 1-8, 10-11, 13-19 and 32-47 were scored using the following ordered-choice response categories: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree. Questions 21-26 were scored by the researcher using different ordered-choice response categories that included: 5=Very Easily, 4=Easily, 3=With Some Difficulty, 2=With Great Difficulty, 1=Not At All. All of the responses marked as "Not Applicable" or "Click Here" were discarded by the researcher. Accordingly, an adjusted respondent number (N) for the associated question was calculated.

Table 7. Fall 2005 Student Questionnaire Responses to Likert Scale Items

Item	Fall 2005 UW-SP: Sections 1 and 2 Combined (N = 36 unless otherwise specified)
<p>Course Objectives</p> <p>Listed below are the course objectives. Please respond to each statement regarding what you learned from the course.</p>	
1. As a result of taking this course, I am better able to state the purposes, benefits, and importance of educational evaluation.	M = 4.42 SD = 0.69
2. As a result of taking this course, I am better able to distinguish between front-end, formative, and summative evaluations.	M = 4.58 SD = 0.55
3. As a result of taking this course, I am better able to write measurable program objectives that link program development and evaluation.	M = 4.56 SD = 0.50
4. As a result of taking this course, I am better able to develop a comprehensive evaluation plan for an environmental education or outreach program.	M = 4.53 SD = 0.61
5. As a result of taking this course, I am better able to state when and how to use data collection tools.	M = 4.19 SD = 0.47
6. As a result of taking this course, I am better able to develop three data gathering tools: observation form, survey, and an interview or focus group guide.	M = 4.47 SD = 0.61
7. As a result of taking this course, I am better able to develop alternative assessment tools such as rubrics, checklists, and rating scales to assess performance.	M = 4.08 SD = 0.60

8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.	M = 3.81 SD = 0.86
Overall Course Outcomes	
To what extent do you agree or disagree with the following statements...	
10. I have increased my knowledge of environmental education program evaluation as a result of taking this course.	M = 4.69 SD = 0.47
11. I have increased my skills in conducting an evaluation of an environmental education program as a result of taking this course.	M = 4.42 SD = 0.97
Course Structure	
To what extent do you agree or disagree with the following statements...	
13. The course units were organized in a way that made sense to me.	M = 4.33 SD = 0.72
14. The course material seemed to flow logically and make good transitions.	M = 4.31 SD = 0.62
15. There seemed to be sufficient interaction between the students and the instructor.	M = 3.83 SD = 1.18
16. There seemed to be sufficient interaction among the students.	M = 4.03 SD = 0.84
17. I am glad that I was able to take this course <u>on-line</u> .	M = 4.17 SD = 0.85
18. I would participate in another on-line course as a result of this experience.	M = 3.75 SD = 1.08

19. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program.	M = 2.97 SD = 1.28
Technology	
To what extent were you able to do the following...	
21. Log in to the course.	M = 4.44 SD = 0.61
22. Navigate the course within Desire2Learn.	M = 4.28 SD = 0.85
23. Access the course content.	M = 4.22 SD = 0.83
24. Check your grades.	M = 4.44 SD = 0.61
25. Use e-mail to communicate with your instructor.	M = 4.14 SD = 0.93
26. Use the Dropbox to submit assignments to your instructor.	M = 4.14 SD = 0.90
Course Content	
To what extent do you agree or disagree with the following statements...	
32. I am satisfied with the amount of information the course provided.	M = 4.31 SD = 0.75

33. I am satisfied with the amount of examples used to help me understand the information.	M = 4.06 SD = 1.17
34. I am satisfied with the amount of environmental education program evaluation resources the course provided.	M = 4.33 SD = 0.72
35. The grading guidelines were clearly outlined.	M = 4.00 SD = 1.07
36. The assignment due dates were clearly outlined.	M = 4.33 SD = 0.86
37. The glossary was useful to me.	M = 3.50 SD = 0.88
38. The <u>reflection assignments</u> were helpful in advancing my learning.	M = 3.94 SD = 0.67
39. The <u>read and respond</u> assignments were helpful in advancing my learning.	M = 4.08 SD = 0.65 N = 35
40. The <u>short activity</u> assignments were helpful in advancing my learning.	M = 4.23 SD = 0.55 N = 35
41. The <u>in-depth activity</u> assignments were helpful in advancing my learning.	M = 4.58 SD = 0.60
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.	M = 4.14 SD = 0.90
43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning.	M = 3.75 SD = 1.20

44. The culminating assignment was helpful in advancing my learning.	M = 3.85 SD = 0.86 N = 34
45. The amount of work required seemed appropriate.	M = 3.47 SD = 1.11
46. The amount of time given to complete each assignment seemed appropriate.	M = 3.39 SD = 1.02
Graduate Students Only:	
47. The graduate assignments were helpful in advancing my learning.	M = 4.40 SD = 0.55 N = 5

77% of the mean scores for the fall 2005 student questionnaires were equal to or greater than 4.00 coinciding with the strongly agree/very easily to agree/easily ordered-choice response categories. Table 8 provides a comparison of the mean scores for all Likert scale items that were calculated below 4.00 for the fall 2004, spring 2005, summer 2005 and fall 2005 course offerings. For this research project the focus was on utilizing items of concern (student questionnaire items with mean scores less than 4.00) to revise the course each semester. Table 8 was created and presented to the course instructors and design/review team in order to inform the revision process. See appendix S for a comparison chart of the mean scores for the fall 2004, spring 2005, summer 2005 and fall 2005 student questionnaires.

Table 8. Fall 2004, Spring 2005, Summer 2005 and Fall 2005 Mean Scores Less than 4.00 Comparison

Item	Fall 2004	Spring 2005	Summer 2005	Fall 2005
8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.	3.79	---	---	---
15. There seemed to be sufficient interaction between the students and the instructor.	3.21	---	---	3.83
16. There seemed to be sufficient interaction among the students.	3.63	---	---	---
18. I would participate in another on-line course as a result of this experience.	---	---	---	3.75
19. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period.	3.32	2.85	---	---
*19. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program.	---	---	2.35	2.97

25. Use e-mail to communicate with your instructor.	3.89	---	---	---
33. I am satisfied with the amount of examples used to help me understand the information.	3.79	---	---	---
37. The glossary was useful to me.	3.42	3.41	3.32	3.50
38. The <u>reflection assignments</u> were helpful in advancing my learning.	---	---	3.78	3.94
39. The <u>read and respond</u> assignments were helpful in advancing my learning.	---	---	3.95	---
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.	3.68	---	3.95	---
43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning.	3.26	3.85	3.47	3.75
44. The culminating assignment was helpful in advancing my learning.	---	---	---	3.85
45. The amount of work required seemed appropriate.	3.26	3.76	3.84	3.47
46. The amount of time given to complete each assignment seemed appropriate.	3.05	3.59	3.95	3.39

Graduate Students Only:				
47. The graduate assignments were helpful in advancing my learning.	3.75	---	---	---
* Item 19 was changed in the spring of 2005 and administered for the first time in the summer 2005 student questionnaire.				

See Table 9 for the fall 2005 tabulated frequencies student responses to the multiple choice items and the Yes/No questions. The open-ended responses can be found in Appendix P.

Table 9. Fall 2005 Student Questionnaire Responses to Multiple-Choice Items and Yes/No Questions

Item	UW-SP: Sections 1 and 2 Combined (N = 36 unless otherwise specified)
Advanced Technology for Future Courses	
<u>Response Set:</u> Yes No	
28. Would you have liked to have used real-time chat during the course? (Real-time chat is similar to instant messaging. Your typed message is immediately delivered to someone else's monitor and that person's response is immediately delivered back to your monitor.)	Yes = 54% No = 47% N = 35
29. Would you have liked some content presented via a PowerPoint presentation?	Yes = 47% No = 49% N = 34
30. Would you have liked some content presented via an audio presentation?	Yes = 38% No = 60% N = 34

31. Would you have liked some content presented via a video presentation?	Yes = 56% No = 43% N = 34
Overall	
49. Approximately how many <u>total</u> hours did you spend working on the course? <u>Response Set:</u> A. Less than 20 hours B. 21-40 hours C. 41-60 hours D. 61-80 hours E. More than 80 hours F. Unable to Estimate	A. 3% B. 14% C. 20% D. 20% E. 40% F. 3% (N = 35)
53. Would you recommend this course to a colleague or friend? <u>Response Set:</u> Yes No	Yes = 85% No = 15% (N = 33)
64. What is your current or most recent occupation? <u>Response Set:</u> Environmental/Outdoor Educator = 22% Museum/Zoo Educator = 14% WILD/WET/PLT State Coordinator = 11% U.S. Fish and Wildlife Service Educator = 8% Director of an Environmental Education Organization, Program or, Center = 14% Graduate Student = 3% Other = 28%	
65. Prior to taking this course, how long had you been evaluating environmental education programs? <u>Response Set:</u> Never = 29% Less than 2 years = 23% 2-5 years = 14% More than 5 years = 34% (N = 35)	

66. How long have you been in the field of environmental education?

Response Set:

I am not currently in the field of environmental education = 3%

Less than 2 years = 3%

2-5 years = 29%

More than 5 years = 66%

(N = 35)

VII. FOURTH REVISION

The fourth revision process included a thorough review of the final evaluation report written and submitted by the researcher to the revision team in December of 2005. The goal for the fourth revision was to evaluate whether the course was effectively delivered through the implementation of student questionnaires for the fall 2005. The revision team made their decisions based on the results of the fall 2005 student questionnaires, informal interviews conducted by the researcher and course instructors with course participants, conference call discussions and personal recommendations made by the course instructors. In addition, the researcher, Janice Easton and Dr. Lyn Fleming met in Tucson Arizona January 16-20, 2006 to discuss, revise and implement various components of the course. This face to face meeting was used as a means in which to develop a finalized version of the AEEPE course. The following revisions were implemented in December 2005 and January 2006:

- Increased the length of the course from 10 to 11 weeks in length.
- Changed the grade set-up in Desire2Learn to reflect the instructors' preferences.

- Revised and eliminated assignments that were problematic for the course participants.
- Reduced the course requirements for non-credit participants to help alleviate the work load for those seeking a certificate of completion only.
- Revised the pop-up glossary to correct for redundancy and ease of use.
- Incorporated additional samples of exemplary student work.
- Went through a unit by unit revision process during the Tucson meeting.
- Compiled a comprehensive list of future revisions necessary in developing a finalized version of the courses.

IX. SPRING 2005, SUMMER 2005 AND FALL 2005 KNOWLEDGE

PRETEST/POSTTEST QUESTIONNAIRE

To evaluate whether participants' knowledge changed as a result of their participation in the course, knowledge pretest/posttests were administered before and after the spring 2005, summer 2005 and fall 2005 course offerings to participant (experimental) and non-participant (control) groups. The results of the pretest/posttests for both groups were analyzed to determine if participants' knowledge changed as a result of the courses offered during the spring 2005, summer 2005 and fall 2005 semesters.

A. Reliability Statistics Results

The pretest/posttest questionnaire was pilot tested with a panel of students and professionals in the field of natural resource management and EE. The Kuder-Richardson 20 (KR-20) was used to calculate the reliability coefficient because the questionnaire was dichotomously scored (0 for incorrect and 1 for correct) by the researcher. When the items on an instrument are not scored right versus wrong, Cronbach's alpha is often used to measure the internal consistency. This is often the case with attitude instruments that use the Likert scale. Although Cronbach's alpha is usually used for scores which fall along a continuum, it will produce the same results as KR-20 with dichotomous data (0 or 1). Table 10 summarizes and compares the results of these two statistical tests for the questionnaire's reliability coefficient.

Table 10. Cronbach's Alpha and Kuder-Richardson 20 Reliability Coefficients

	N of items	Cronbach's Alpha	Kuder-Richardson 20
Pretest Spring 2005	37	.746	.746
Posttest Spring 2005	37	.817	.817
<i>Note:</i> For research purposes, a minimum reliability of .70 is required. Kuder-Richardson 20 does not assume that all questions are equally difficult.			

A reliability coefficient of .746 means the variability is about 75% true ability to 25% error, and a coefficient of .817 means the variability is about 82% true ability to 18% error.

B. Pretest/Posttest Questionnaire

The pretest/posttest questionnaire was administered to the experimental and control groups before and after the spring 2005, summer 2005 and fall 2005 course offerings. Questionnaire response rates were calculated for the groups during each

course offering. For the spring 2005 course offering the experimental group, 33 out of 33 students submitted pretest and posttest questionnaires for a response rate of 100%. The spring 2005 control group had a response rate of 71% with 39 out of 55 participants submitting the pretest and posttest questionnaires. The summer 2005 response rates were 94% (16 out of 17 students submitted pretest/posttest questionnaires) for the experimental group and 83% (15 out of 18 participants submitted pretest/posttest questionnaires) for the control group. Finally, the fall 2005 response rates for the experimental group were calculated at 91% (31 out of 34 students submitted pretest/posttest questionnaires) and 29% (14 out of 49 participants submitted pretest/posttest questionnaires) for the control group.

The researcher used descriptive statistics to present an initial description of the knowledge pretest/posttest questionnaire data. She used means, frequencies, percentages and standard deviations for this purpose. Inferential statistics were employed by the researcher in order to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. Inferential statistics used in this study included: t-tests for independent and dependent samples and the Reliability-Corrected ANCOVA model. In addition, the effect size was calculated using the independent t-test values.

1. Total Mean Scores

For the spring 2005 pretest/posttest questionnaire administration there were 33 study participants in the experimental group and 39 in the control group; 16 study

participants in the experimental group and 15 in the control group for the summer 2005 pretest/posttest questionnaire administration; 31 study participants in the experimental group and 14 in the control group for the fall 2005 pretest/posttest questionnaire administration. Table 11 shows the differences in knowledge scores of the experimental and control groups by course offering. Knowledge mean scores ranged from 19.69 in the pretest to 28.75 in the posttest with a 37 as the highest possible score. In general, there was an overall increase from pretest to posttest for the experimental group, with a slight change in the control group's pretest to posttest mean scores. Figure 1 graphically depicts the mean scores for the two groups. On average, the experimental groups' mean total scores increased from pretest to posttest knowledge assessment administrations for the spring 2005, summer 2005 and fall 2005 course offerings. Mean total scores for the control group across all pretest/posttest knowledge assessment administrations showed slight fluctuations.

Table 11. Means and Standard Deviations Among Pretest and Posttest Knowledge Scores by Condition

Condition	Mean Scores		Gain	SD	
	Pretest	Posttest		Pretest	Posttest
Control – Spring 2005	21.11	22.08	0.97	4.68	5.23
Experimental – Spring 2005	21.84	28.75	6.91	5.20	2.98
Control – Summer 2005	21.43	20.50	-0.93	4.52	4.93
Experimental – Summer 2005	21.47	27.07	5.60	4.32	4.73
Control – Fall 2005	19.69	21.23	1.54	4.92	4.28
Experimental – Fall 2005	22.27	27.13	4.86	3.79	2.73
<i>Note:</i> Knowledge scores ranged from 0 to 37.					

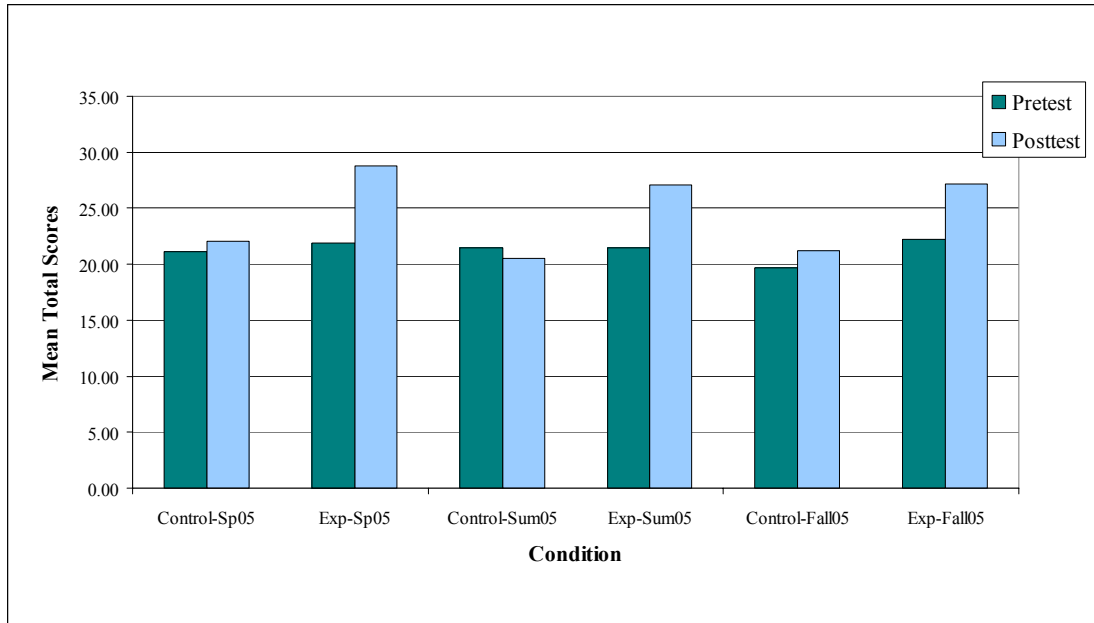


Figure 1. Total Mean Scores for Pretest/Posttest Knowledge Questionnaire

2. Dependent and Independent Samples t-tests

Dependent (paired-samples t-test or t-test for dependent means) and independent samples t-tests were conducted and analyzed in order to determine the significance of the difference between the means of the experimental and control groups.

First, dependent 2-tailed paired t-tests were used to evaluate the differences for significance between the two variables; pretest and posttest scores measured in the same sample of the experimental and control groups. The spring 2005, summer 2005 and fall 2005 dependent t values for the experimental group revealed statistically significant differences between the pretest and posttest scores ($p < 0.05$). No statistically significant differences were found between the pretest and posttest scores

for the control group during these same course offerings. The spring 2005, summer 2005 and fall 2005 dependent t-test results are summarized in Table 12.

Table 12. Results From Pre- and Posttest Knowledge Questionnaire – Dependent Samples t-Test

Condition	Pretest		Posttest		t	df	p
	M	SD	M	SD			
Control-Sp05 (n=39)	57.38%	12.65%	60.08%	14.19%	-1.757	38	.087
Exp-Sp05 (n=33)	59.21%	13.87%	77.72%	7.94%	-7.527	32	.000*
Control-Sum05 (n=15)	58.38%	11.90%	55.50%	12.83%	1.394	14	.185
Exp-Sum05 (n=16)	58.28%	11.34%	73.99%	12.79%	-5.601	15	.000*
Control-Fall05 (n=14)	52.32%	13.22%	56.56%	11.54%	-1.690	13	.115
Exp-Fall05 (n=31)	60.77%	10.58%	73.84%	7.78%	-6.791	30	.000*
<i>Note:</i> Knowledge scores ranged from 0.00 to 100.00%. Exp = Experimental *2-tailed paired t-test ($\alpha = 0.05, p < 0.05$)							

Independent t-tests were also computed to analyze the difference in posttest scores between the experimental and control groups. The results from the independent samples t-test are shown in Table 13. Statistically significant differences were observed between the experimental and control groups during the spring 2005, summer 2005 and fall 2005 course offerings.

Table 13. Results from Posttest Knowledge Questionnaire – Independent Samples t-Test

Posttest	Condition	n	Mean Difference	df	t	p
Spring 2005	Control	39				
	Experimental	33				
	Equal variances assumed		- 17.64%	70	-6.347	.000*
Summer 2005	Control	15				
	Experimental	16				
	Equal variances assumed		-18.49%	29	-4.016	.000*
Fall 2005	Control	14				
	Experimental	31				
	Equal variances assumed		-17.28%	43	-5.908	.000*

Note: *2-tailed t-test ($p < 0.05$)

2. Effect Size

“Effect size (ES) is a name given to a family of indices that measure the magnitude of a treatment effect. Unlike significance tests, these indices are independent of sample size” (Becker, 2001). In particular, if the groups have been systematically treated differently in an experiment, the ES indicates how effective the experimental treatment was.

An ES was calculated using the independent t values for the spring 2005, summer 2005 and fall 2005 course offerings. An ES of 1.5 was calculated for the spring 2005 course offering indicating that the mean of the experimental group was at the 93.3rd percentile of the control group. Summer 2005 an ES of 1.5 indicated that the mean of the experimental group was at the 93.3rd percentile of the control group.

Fall 2005 an ES of 2.0 indicated that the mean of the experimental group was at the 97.7th percentile of the control group.

3. The Reliability-Corrected ANCOVA

A one-way analysis of covariance was conducted to examine the posttest performance after adjusting for any initial differences in pretest scores of the experimental and control group participants. The covariate was the pretest taken prior to the beginning of the spring 2005, summer 2005 and fall 2005 courses. The dependent variable was the posttest taken after the course was completed. The ANCOVA results consistently showed statistically significant differences between the experimental and control group adjusted means after covarying the pretest scores for all three course offerings. Tables 14-16 show the Reliability-Corrected ANCOVA analyses of the experimental and control groups for the spring 2005, summer2005 and fall 2005 course offerings.

The scatterplots provide visualizations of the ANCOVA data (see Figures 2-4). The regression line shows the expected posttest score for any pretest score and the treatment effect. Further, the regression line is fit to show the pretest-posttest relationship. The line for the experimental group is clearly higher than the line for the control group at any pretest value. The covariate (pretest scores) is linearly related to the dependent variable (posttest scores) for the spring 2005, summer 2005 and fall 2005 course offerings.

Table 14. Reliability-Corrected ANCOVA for Between-Subjects Effects Spring 2005

Source	df	F	Significance
Pretest (Covariate)	1	30.272	.000*
Condition (Control vs. Experimental)	1	48.250	.000*

Note: Posttest score was the dependent variable, prior knowledge (pretest) was the covariate, and Condition were fixed factors. $F(1, 69) = 48.25$, $*p < 0.05$

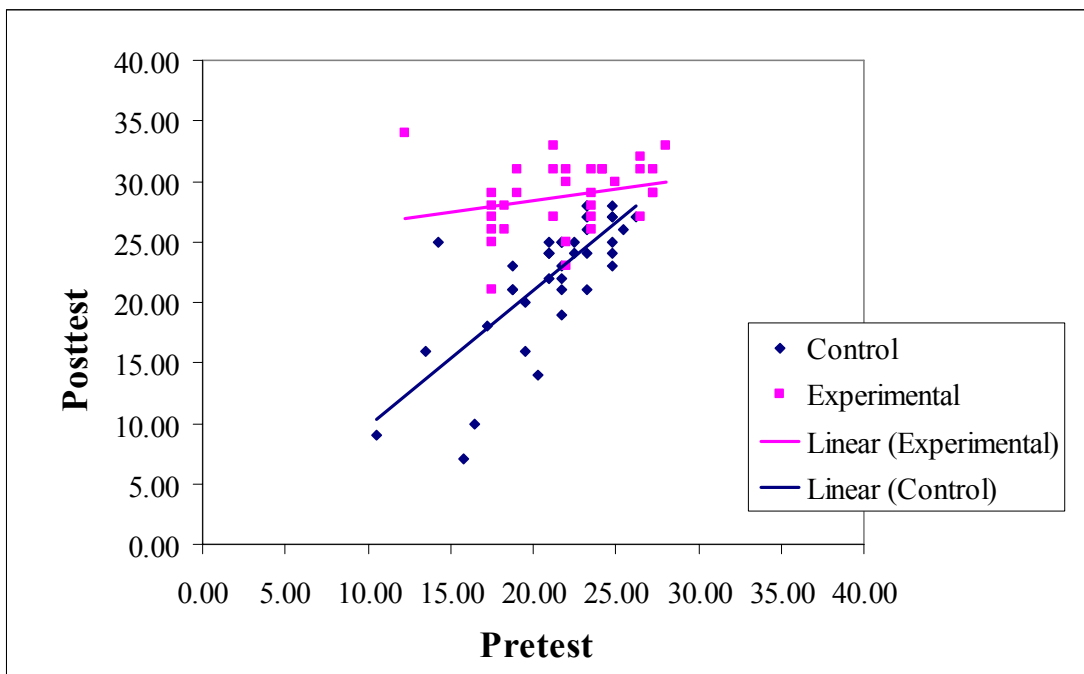


Figure 2. Spring 2005 Scatterplot with Adjusted Means

Table 15. Reliability-Corrected ANCOVA for Between-Subjects Effects Summer 2005

Source	df	F	Significance
Pretest (Covariate)	1	24.346	.000*
Condition (Control vs. Experimental)	1	29.357	.000*

Note: Posttest score was the dependent variable, prior knowledge (pretest) was the covariate, and treatment were fixed factors. $F(1, 28) = 29.36$, $*p < 0.05$

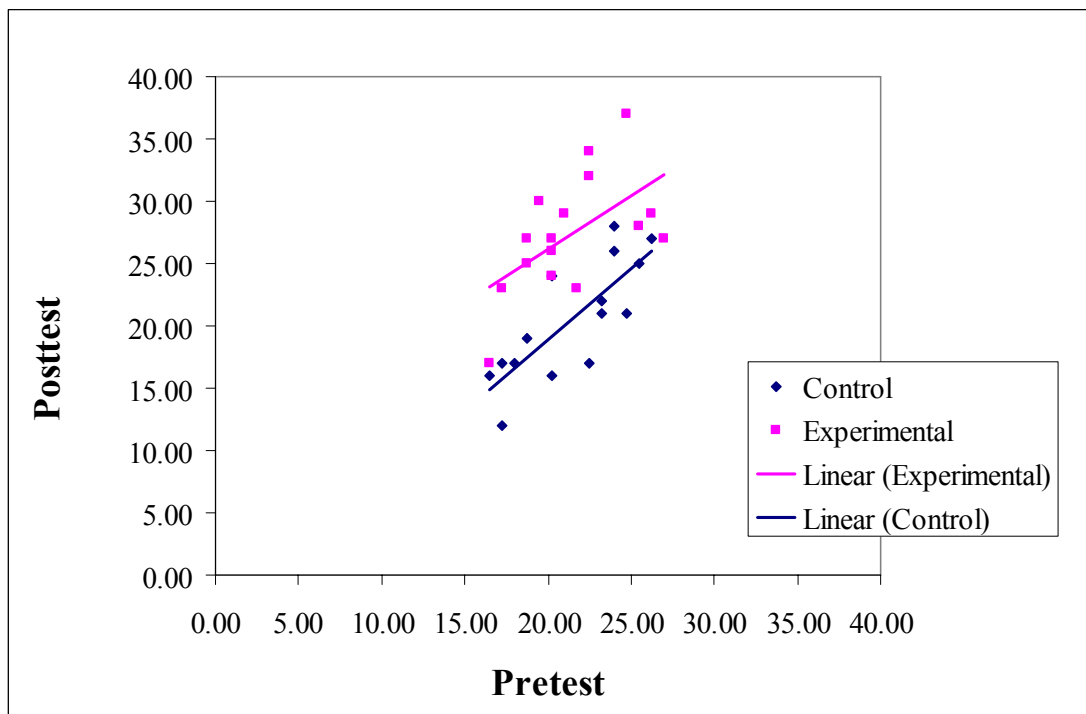


Figure 3. Summer 2005 Scatterplot with Adjusted Means

Table 16. Reliability-Corrected ANCOVA for Between-Subjects Effects Fall 2005

Source	<i>df</i>	F	Significance
Pretest (Covariate)	1	14.626	.000*
Condition (Control vs. Experimental)	1	22.555	.000*

Note: Posttest score was the dependent variable, prior knowledge (pretest) was the covariate, and treatment were fixed factors. $F(1, 42) = 22.56$, $*p < 0.05$

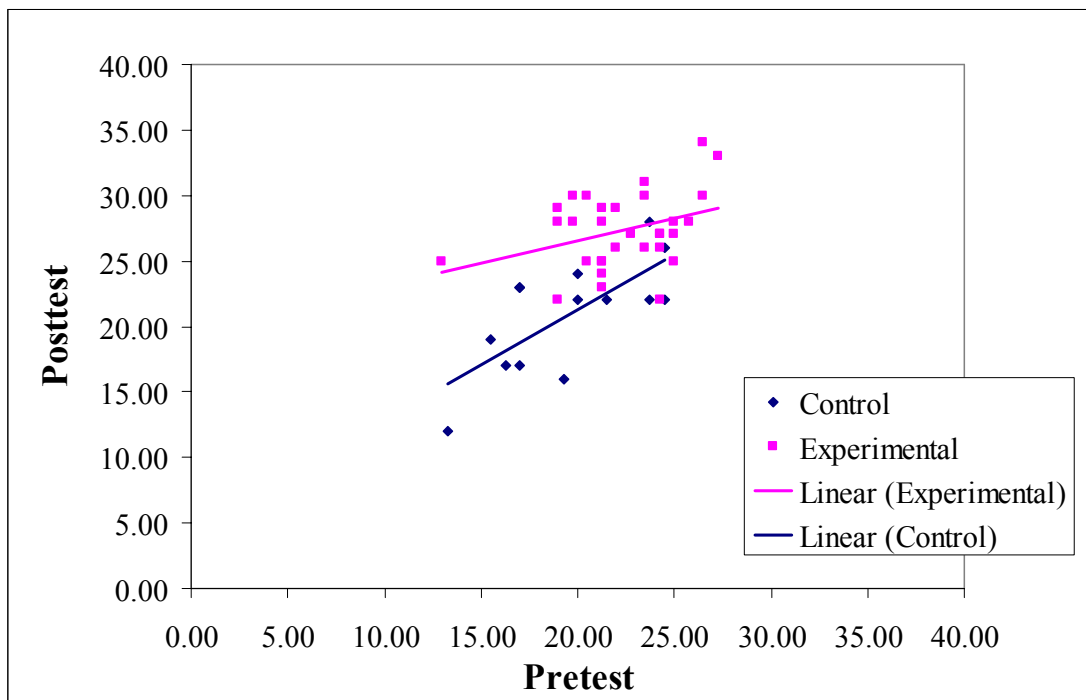


Figure 4. Fall 2005 Scatterplot with Adjusted Means

X. SPRING 2005, SUMMER 2005 AND FALL 2005 CONFIDENCE LEVELS

The spring 2005, summer 2005 and fall 2005 pretest/posttest knowledge questionnaires included two additional questions aimed at ascertaining information about the experimental and control groups' confidence levels. These additional questions asked participants in the experimental and control groups to rate their level of confidence in their knowledge of program evaluation and ability to develop an evaluation plan.

The means (M) and standard deviations (SD) of experimental and control group participant responses were calculated by the researcher. Table 17 summarizes the results of the spring 2005, summer 2005 and fall 2005 Likert scale items.

Questions 38-39 were scored using the following ordered-choice response categories:

3=Very confident, 2=Somewhat confident, 1=Not confident.

Table 17. Spring 2005, Summer 2005 and Fall 2005 Means and Standard Deviations for Confidence Level Questionnaire Responses to Likert Scale Items

Item	Spring 2005		Summer 2005		Fall 2005	
	Exp (N = 33)	Control (N = 39)	Exp (N = 16)	Control (N = 15)	Exp (N = 31)	Control (N = 14)
Rate your level of confidence with the following aspects of evaluation.						
How confident are you...						
38. With your knowledge of program evaluation?	Pre M=1.27 SD=0.45	Pre M=1.54 SD=0.51	Pre M=1.44 SD=0.63	Pre M = 1.47 SD=0.52	Pre M=1.42 SD =0.56	Pre M=1.43 SD=0.51
	Post M=2.30 SD=0.47	Post M=1.62 SD=0.49	Post M=2.13 SD=0.34	Post M=1.53 SD=0.52	Post M=2.19 SD=0.40	Post M=1.50 SD=0.52
39. In your ability to develop an evaluation plan for evaluating a specific educational program?	Pre M=1.64 SD=0.74	Pre M=1.56 SD=0.55	Pre M=1.38 SD=0.50	Pre M=1.47 SD=0.64	Pre M=1.74 SD=0.82	Pre M=1.64 SD=0.50
	Post M=2.61 SD=0.50	Post M=1.72 SD=0.51	Post M=2.50 SD=0.52	Post M=1.33 SD=0.49	Post M=2.35 SD=0.49	Post M=1.57 SD=0.65
<i>Note:</i> Exp = Experimental, Pre = Pretest, Post = Posttest						

Figures 5 and 6 graphically represent the mean scores for each of the confidence level items of the knowledge pretest/posttest questionnaire. The experimental groups' confidence level mean scores increased between pretest to posttest administrations for the spring 2005, summer 2005 and fall 2005 course offerings. The control groups' confidence level mean scores across all pretest/posttest knowledge assessment administrations showed slight fluctuations.

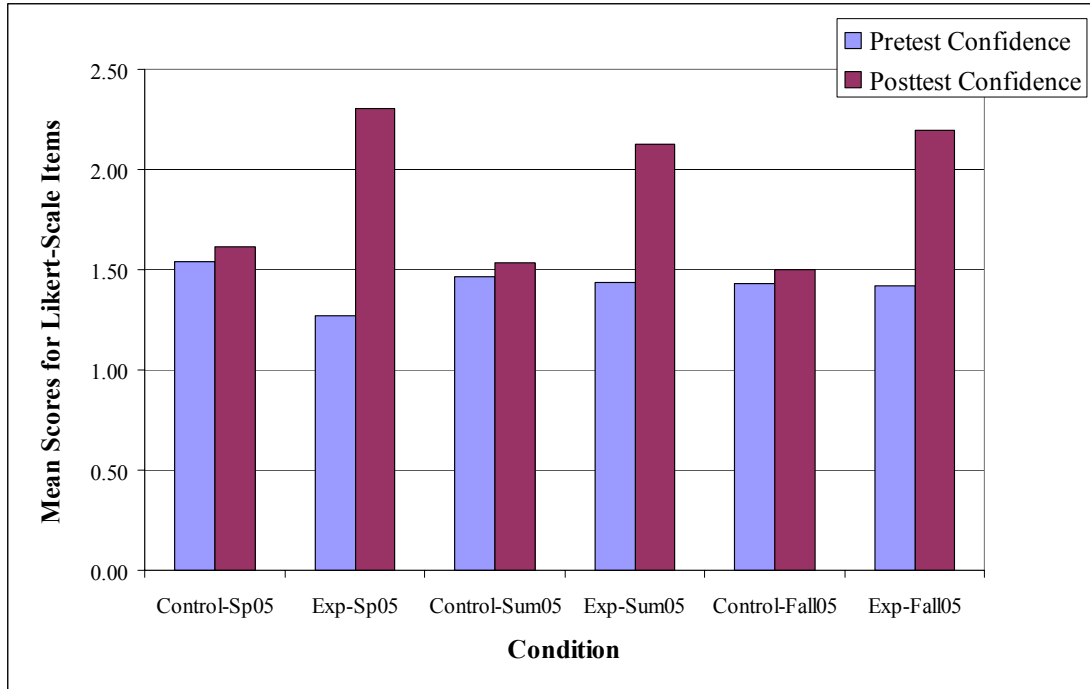


Figure 5. Confidence Levels for Program Evaluation Knowledge

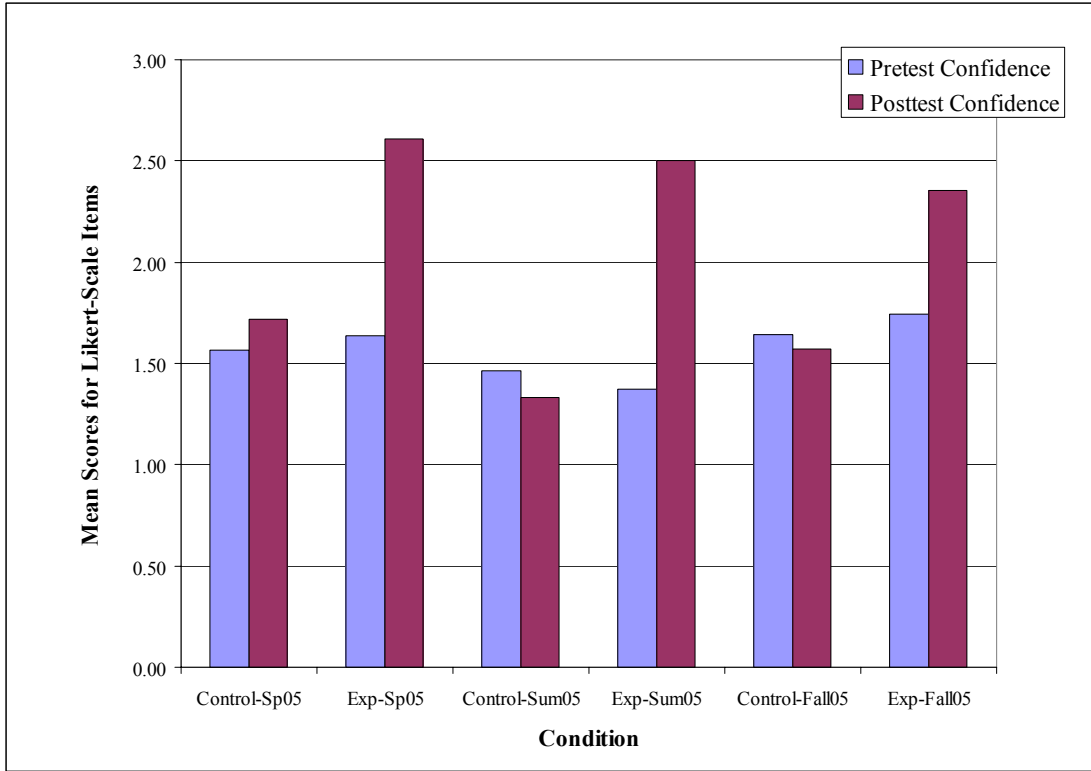


Figure 6. Confidence Levels for Developing an Evaluation Plan

CHAPTER FIVE DISCUSSION

- I. INTERPRETATION OF RESULTS**
 - A. Fall 2004 Evaluation and First Revision**
 - B. Spring 2005 Evaluation and Second Revision**
 - C. Summer 2005 Evaluation and Third Revision**
 - D. Fall 2005 Evaluation and Fourth Revision**
 - E. Spring 2005, Summer 2005 and Fall 2005 Pretest/Posttest Knowledge Questionnaire**
 - F. Participant (experimental group) and Non-participant (control group) Knowledge Pretest/Posttest Result Comparison**
 - G. Confidence Levels**
- II. THREATS TO RELIABILITY AND VALIDITY**
- III. RECOMMENDATIONS**
- IV. SUMMARY**

I. INTERPRETATION OF RESULTS

The purpose of this study was to evaluate and revise the “Applied EE Program Evaluation” online course. Formative and summative evaluations and knowledge assessments were used to obtain data that allowed the researcher to determine what revisions needed to be made to improve the course and whether or not course participants’ knowledge changed as a result of the course. This chapter contains an interpretation of the results reported in the previous chapter, recommendations for future research and some concluding remarks regarding the overall goals of the study.

There are six different sub-goals addressed in this study. The interpretation of results is structured according to these sub-goals. The “confidence levels” interpretation discussion was included by the researcher to further expand and share the pertinent information obtained from the control group and course participants during this study.

A. Fall 2004 Evaluation and First Revision

Sub-goals one and two aimed to evaluate the effective delivery of the fall 2004 course through the implementation of student questionnaires and apply these evaluation results to make revisions that improve course design, structure and content for the spring 2005 course offering.

The fall 2004 evaluation results were overall very positive. This was the first offering of the course, so the evaluation results were viewed as important foundational baseline data. Course participants responded “Strongly Agree/Very Easily” or “Agree/Easily” to 69% of the questionnaire items. The lack of results from a previous course offering prevented any possibility of a comparison, however these results provided a clear starting point that would allow the researcher to track the progress of the course. Despite the high percentage of positive responses, there were a total of twelve items that received a less favorable response rate (items receiving a mean score less than 4.00). These results were not surprising to the researcher or the design/review team. Since this was the pilot phase of the course, the team expected to make a number of revisions to the course prior to the spring 2005 offering.

The first step that the design/review team took in this revision process was to recruit a fall 2004 course participant to provide feedback from the student perspective. Lauri Munroe-Hultman was identified by Georgia Jeppesen as a potential candidate and at the end of the course offering she agreed to provide input into the revision process.

The design/review team utilized all of the evaluation results, the instructor’s recommendation and Munroe-Hultman’s insight to make the bulk of the revisions.

The team recognized that there were a number of unsatisfactory comments associated with the overall student/student and student/instructor interactions and the discussion board. The open-ended response include this comment made by a student, “I think more effort needs to be put into making the course more interactive between students and instructor, as well as student to student” (Appendix M, p.264). In order to address these issues, discussion groups were added to each of the sections. By breaking up the course participants into smaller more manageable groups the hope was that this would improve interaction among the students and between the students and the instructor (item 15. M = 3.21 and item 16. M = 3.63). Concurrently, this change addressed concerns with posting and reading assignments on the discussion board (item 42. M = 3.68) and eased the difficulty that some students reported in replying to others' assignments and ideas on the discussion board (item 43. M = 3.26). These changes were aimed at creating a discussion board format and forum that would advance the understanding of evaluation concepts and give the students an outlet for expressing ideas, asking questions and obtaining a sense of deeper learning.

The student work load and pace of the course was the next issue that the design/review team set out to change. When asked about the appropriateness of the amount of work and time required for the course (Item 45. M = 3.26 and item 46 .M = 3.05) a number of students responded with strong opinions. “I felt a bit frustrated with the pace – some of the topics needed 2 weeks” (Appendix M, p.263). Course assignments were revised or eliminated to ensure that the course focused on the quality of assignments rather than quantity. Initially, the students were asked to complete three separate assignments the first week of class. With the implementation

of the knowledge pretest/posttest questionnaire into the spring 2005 course offering there was concern that adding assignments would overwhelm the students and contribute to the attrition rate. The team made the decision to revise the pre-course questionnaire and combine it with the knowledge pretest/posttest questionnaire. Lastly, the course syllabus and assignment due dates were revised to help address the issue of pace and provide the students and instructors more flexibility in the course schedule.

Next the course instructor's recommendations were taken into consideration especially within the scope of interacting with the disapproval voiced in items 8 (As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools, $M = 3.79$) and 33 (I am satisfied with the amount of examples used to help me understand the information, $M = 3.79$). Based on student comments and instructor feedback, the design/review team made revisions to some of the course content and assignment instructions to help clarify some of the more complex concepts. A commitment was also made to begin the process of compiling examples to include in the course content for future course offerings.

The UW-SP email system was a common complaint from the beginning to the end of this course offering (item 25. $M = 3.89$). Most students wanted to have all of their UW-SP emails sent to their personal email accounts. Unfortunately, this was not possible due to UW-SP online course administration requirements, so the design/review team sought additional methods for solving this issue. Course instructors were encouraged to communicate the importance of students checking their UW-SP email accounts. An instructor orientation was also conducted focusing

on how to use the communication components found in the Desire2Learn online course platform.

Approximately half of the course participants reported that they would have liked to have some of the course content presented via an audio or video component. The team looked into the possibility of incorporating these additional technological components into the course, but they were discouraged from proceeding because of the high number of distance learning students that were using dial-up connections to access the course. Video and audio components add considerably to the computer load time; a situation that can be frustrating for the students. The team opted not to move forward on any of these changes for fear of defeating students with technological problems in the first few weeks of the course and contributing to the attrition rate.

Overall the 95% of the fall 2004 course participants reported that they would recommend this course to a friend. Due to the initial success of the course during this pilot offering and the widespread interest from potential course participants, two sections were offered in the spring of 2005.

B. Spring 2005 Evaluation and Second Revision

Sub-goals four and six aimed to evaluate the effective delivery of the spring 2005 course through the implementation of student questionnaires and apply these evaluation results to make revisions that improve course design, structure and content for the summer 2005 course offering.

The evaluation results from the spring 2005 course offering were once again very positive. Spring 2005 course participants responded “Strongly Agree/Very Easily” or “Agree/Easily” to 87% of the questionnaire items. This is an 18% increase from the previous semester in which course participants agreed with only 69% of the items. In making a comparison between the fall 2004 and spring 2005 evaluation results the increase strongly suggests that the course was effectively delivered. There were a total of five items that received a less favorable response rate (items receiving a mean score less than 4.00) for this course offering. Compared to the fall 2004 results where 12 items received responses below the 4.00 level, the students in this semester’s course offering reported a higher level of satisfaction with the course design, structure and content. For the second revision, the design/review team approached the revision process in a manner similar to the first revision. They reviewed the evaluation results including the multiple-choice items, open-ended responses and both instructors’ suggestions, made revision recommendations and applied these changes to the course.

Students once again reported that they were concerned with the amount of work required in the course (item 45, $M = 3.76$). One student commented that “the assignments and amount of work could be more balanced over the number of weeks of the course. Some weeks the assignments did not take much time and other weeks there were numerous assignments due almost all at once” (Appendix N, p.283). Cognizant of the fact that this concern was not adequately addressed with the first revision, the design/review team made additional revisions to try and address this concern. Some of the course assignments were revised and assigned different point

values to help decrease the amount of time required of students to complete some of the more in-depth assignments. Further, larger more in-depth assignments were split into two parts spreading the work load out over a longer period of time.

The issue of time came up again in the spring 2005 course evaluation. When asked if the amount of time given to complete the assignments seemed appropriate (item 46, $M = 3.59$), a student responded with this open-ended response: “I felt there was not enough time for me to complete the assignments with my busy schedule. Maybe add a week of catch up time at the end for people like me to catch up” (Appendix N, p.280). This suggestion and others like it were the catalysts for a discussion regarding lengthening the course by a number of weeks. The course dates had already been set for the summer and fall course offerings so the team was limited as to the changes they could impart to these course offerings. The team decided to start by extending the length of one of the course units in order to give more time to the qualitative and quantitative data analysis units. Data analysis was a course topic that students’ regarded as “very important” (Appendix N, p. 283) but one that didn’t have “enough time or detail spent on it” (Appendix N, p.274). Finally, assignment due dates were revised to provide students with additional time to complete assignments. This was intended to also give the course instructors more time to grade assignments and offer quality feedback.

The results for item 43 “replying to others' assignments and ideas on the discussion board was helpful in advancing my learning” revealed an increase in the satisfaction reported by students in the fall 2004 ($M = 3.26$) and spring 2005 ($M =$

3.85) course offerings. This increase in satisfaction can most likely be attributed to the division of the students into two discussion groups.

Less than 50% of the students indicated that they would have liked some content presented via a PowerPoint, video or audio presentation (49%, 46% and 25% respectively). Further discussion ensued among the design/review team regarding the use of new technical media. Course instructors, Janice Easton and Lyn Fleming agreed to continue researching additional options available to expand the scope of the course to encompass different learning styles.

Finally, 90% reported that they would recommend this course to a colleague or friend lending further support for the quality and effectiveness of the course.

C. Summer 2005 Evaluation and Third Revision

Continuing with the discussion on sub-goals four and six, the next step was to evaluate whether the course was effectively delivered through implementing student questionnaires for the summer 2005 course offering. These evaluation results were then used to make revisions that improve course design, structure and content for the fall 2005 course offering.

Summer 2005 course participants reported that they “Strongly Agree/Very Easily” or “Agree/Easily” for 79% of the questionnaire items. This was an 8% decrease from previous semester’s course offering (spring 2005, M = 87%). The reason for this decrease in satisfaction is unknown. This course offering had the lowest attrition rate (26%) when compared to the spring 2005 (34%) and fall 2004 (38%) statistics. The response rates were consistent for all of the course offerings:

fall 2004 = 90%, spring 2005 = 84%, summer 2005 = 90% and 95% of the course participants responded with a “Yes” when asked if they would recommend this course to a colleague or friend, consistent with the previous course offerings’ results (spring 2005 = 90%, fall 2004 = 95%). During the previous course offerings the course instructors allowed students the option of taking an “incomplete” in the course if there were extenuating circumstances that prevented them from being able to complete the assignments by the end of the course. This was the first time that students opted to take advantage of this opportunity. In the past semesters when students were unable to continue with the course under these same circumstances they may have simply dropped out or “disappeared” from the course as a non-responder. In this case, there were five students who took incompletes in the course and agreed to finish up the requirements during the fall semester. Three of the five students successfully completed the course and submitted final course evaluations. There was a delay in the submission of the student questionnaires for these students. This change may have influenced the decrease in satisfaction reported by the summer 2005 course participants. Additionally, these results may have been due to a change in course instructors since they rotated as facilitators according to the semester and how many students registered for the course. Another reason for this decrease in satisfaction could be the result of the particular semester. Course participants may not have enjoyed spending their summer months working on an online course. This displeasure could have been expressed through the final course evaluation. Finally, differing course participant demographics from semester to semester may also have

played a role in the decrease in reported satisfaction during the summer 2005 course offering.

The design/review team recognized the slight change that occurred in this semester's course participants and decided to move forward with the third revision process in order to continue addressing the areas of concern expressed through the evaluation results including the multiple-choice items, open-ended responses and instructor's suggestions. Once a consensus was obtained on what revisions were to be made, the changes were applied in time for the fall 2005 course offering.

Questionnaire item 37. asked the students to comment on the usefulness of the glossary and consistent with previous semester's results the glossary continued to be an issue for many students. The summer 2005 mean score for this item was a 3.32, for spring 2005 it received a 3.41 and for fall 2004 a 3.42. The glossary item has consistently scored at a level of concern for all three semesters. A thorough review of the open-ended responses from all three course offerings showed that a number of students simply reported that they did not use the glossary (Appendix N, p.278-279: 1-7, 1-15 & 2-3). The design/review team were concerned that the reason they were not using the glossary was because it was not accessible. They made a decision to re-design the glossary by implementing a "Pop-up Glossary" into the course content. With this new design in place, the students would encounter the word in the course text as a hyperlink (this link is delineated from the other text by changing the color of the word to blue color and adding an underline). They would then click on the hyperlinked word and a small box would appear on the web page revealing the definition.

The summer 2005 evaluation results revealed for the first time concern with items 38 (“The reflection assignments were helpful in advancing my learning”, M = 3.78) and 39 (“The read and respond assignments were helpful in advancing my learning”, M = 3.95). One student reflected on her Likert response for item 38 with this open-ended statement, “some of the reflection assignments and the back and forth on the discussion boards seemed more like busywork than real substance” (Appendix O, p.291). The design/review team responded to this issue by revising and eliminated assignments that the course instructors and students felt were unnecessary and unsuccessful in reaching the assignment objectives. These changes would also help in addressing the ongoing problem with the high workload for both the students and the instructors. To encourage further advancement in learning for future students, the team identified exemplary samples of assignments submitted by students in previous course offerings and incorporated them into the fall 2005 offering.

General revisions to the course were made based on the recommendations of the two course instructors. Having noticed a pattern of negative comments from students (reported to the instructors via email, discussion board feedback and verbal exchanges) regarding problems understanding some of the course content, especially in the quantitative and qualitative data analysis unit, the course instructors recommended that additional text be added to clarify and strengthen the course content. Also they recommended that “Microsoft Excel Data Analysis Help Sheets” created by Janice Easton (Appendix R) be included to guide the students through the “In-depth” data analysis assignments. The review/design team agreed with all of

these recommendations and they were implemented prior to the fall 2005 course offering.

Finally, there was considerable discussion and consideration given to the requests from students and instructors to extend the course by an additional week. Once again students reported that they were concerned with the amount of work (item 45, $M = 3.84$) the course required and the time given to complete each assignment (item 46, $M = 3.95$). Once again the dates for the fall 2005 course offering were already set, so the team decided to re-visit the idea of extending the course length during the fourth revision process.

D. Fall 2005 Evaluation and Fourth Revision

The fall 2005 course evaluation and fourth revision marks the end of the discussion on sub-goals four and six. Just like the three previous semesters, the fall 2005 course was evaluated using student questionnaires to establish whether or not it was effectively delivered. These evaluation results once again guided the revision process that aimed to further improve course design, structure and content for the spring 2006 course offering.

The mean scores reported for the fall 2005 Likert scale items decreased a second time; 77% of the mean scores for the fall 2005 student questionnaires were equal to or greater than 4.00 coinciding with the strongly agree/very easily to agree/easily ordered-choice response categories. This is down 2% from the summer questionnaire results (summer 2005 = 79%). Similarly, only 85% of the students reported that they would recommend this course to a colleague or friend, a decline

from the 90% and above responses for the last three course offerings. The researcher cannot be certain as to the reason for these declines in the student questionnaire items reported by the fall 2005 course participants. She does not believe that this significant decrease is a result of course revisions having a negative impact on the course itself. Rather it may be attributed to some of the same concerns students expressed during all three previous semesters, most specifically to the issues with the amount of work and time allotted for each assignment. A fall 2005 student expressed her frustration in this open-ended response: “The amount of work for the course in conjunction with the amount of time is unrealistic for people with real lives, families and jobs” (Appendix P, p.304). The comparison table (See Table 8. Fall 2004, Spring 2005, Summer 2005 and Fall 2005 Mean Scores Less than 4.00 Comparison) revealed additional trends in the reported mean scores of questionnaire items 45 and 46 for all four course offerings.

45. The amount of work required seemed appropriate, received the following mean scores: fall 2004 M = 3.26, spring 2005 M = 3.76, summer 2005 M = 3.84, fall 2005 M = 3.47.

46. The amount of time given to complete each assignment seemed appropriate, received the following mean scores: fall 2004 M = 3.05, spring 2005 M = 3.59, summer 2005 M = 3.95, fall 2005 M = 3.39.

Not only did both items receive mean scores less than a 4.00 indicating a certain level of concern, but they consistently stayed at this level for all four courses offerings.

The mean scores seemed to increase with each course offering from the fall of 2004 thru the spring of 2005 and then there was a clear decline again in the fall 2005

results. This fluctuation was noted by the design/review team as an issue that needed to be addressed prior to the course being offered again in the spring of 2006.

The effectiveness of the course seemed to be in question based on the initial interpretation of the some of the aforementioned results; however the comparison table provided additional insight into its effectiveness over the course of four semesters. There were five questionnaire items in the fall 2004 course offering that were included in this comparison chart because they received mean scores less than a 4.00 indicating a certain level of concern. The five questionnaire items were:

- 8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.
- 16. There seemed to be sufficient interaction among the students.
- 25. Use e-mail to communicate with your instructor.
- 33. I am satisfied with the amount of examples used to help me understand the information.
- 47. The graduate assignments were helpful in advancing my learning.

For the next three course offerings (spring 2005, summer 2005 and fall 2005) these same items received an increase in their mean scores so that after the first course offering they were equal to or greater than 4.00 coinciding with the Strongly agree/Very easily to Agree/Easily ordered-choice response categories.

There was one questionnaire item, (Item 37. The glossary was useful to me. Means scores, fall 2004 M = 3.42, spring 2005 M = 3.41, summer 2005 M = 3.32, fall 2005 M = 3.50) that revealed an increase after the revisions were made to the fall

2005 course offering. The researcher attributes this increase to improvements made to the glossary through the implementation of a pop-up glossary.

Fueled by the fall 2005 evaluation results and instructor feedback, the design/review team worked quickly to begin the process of making additional revisions to the course. The fourth revision process began with an in-depth discussion on the length of the course. The design/review team took into consideration student comments about the need to extend the length of the course. This student's comment is a good example of the overall concern with the length of the course - "I highly recommend that this course be extended from 10 weeks to 11 or even 12 weeks, but cover the same content" (Appendix P, p.303). Ultimately, the decision was made to increase the length of the course from 10 to 11 weeks.

In addition to lengthening the course, the team made the decision to reduce the course requirements for non-credit participants to help alleviate the work load for those seeking a certificate of completion only. A non-credit workshop participant made the following statement in her evaluation, "For a university class, the amount of work and timeline was definitely appropriate. For a professional development course while trying to keep up with your job, it was too much" (Appendix P, p.305). Assignments were once again revised and eliminated based on the new requirements for credit versus non-credit seeking students. This was the design/review team's initial response to some of the concern expressed through the evaluation of the course's development year. Due to the extensive nature of additional course revisions recommended by the course instructors, the design/review team encouraged the

planning of a face-to-face meeting between the two course instructors, Janice Easton and Lyn Fleming as well as the researcher.

During the face-to-face revision meeting held in Tucson, Arizona January 16-21, 2006, the instructors and the researcher went through a unit by unit revision process to determine what new revisions needed to be made to get the course to a more “finalized” state. The Tucson team did not accomplish all of its goals and objectives due to the large amount of revisions that were considered necessary in the creation of a final AEEPE course. Nonetheless the meeting was considered a success. A number of revisions were accomplished, but more importantly a comprehensive list of future revisions was produced that would guide the next phase of the course revision process (Appendix Q).

E. Spring 2005, Summer 2005 and Fall 2005 Pretest/Posttest Knowledge Questionnaires

The third sub-goal for this research study was aimed at evaluating whether participants’ knowledge changed as a result of their participation in the course. Knowledge pretest/posttests were administered before and after the spring 2005, summer 2005 and fall 2005 course offerings to participant (experimental) and non-participant (control) groups.

On average, the experimental groups’ mean total scores increased from pretest to posttest knowledge assessment administrations for the spring 2005, summer 2005 and fall 2005 course offerings. Mean total scores for the control group across all pretest/posttest knowledge assessment administrations showed only slight fluctuations. There were mean gain scores of 5.79 points for the experimental group

and 0.53 points for the control group. The general trend for all data was an increase from pretest to posttest scores for the experimental group for the spring 2005, summer 2005 and fall 2005 course offerings, with fluctuations of slight increases and decreases for the control group for these same course offerings.

F. Participant (experimental group) and Non-participant (control group) Knowledge Pretest/Posttest Result Comparison

For sub-goal five, the researcher analyzed the participant and control group's knowledge using pretests and posttests. She then interpreted the results to determine if participants' knowledge changed as a result of the course offerings in spring 2005, summer 2005 and fall 2005.

The dependent samples t-test evaluated the differences for significance between the two variables; pretest and posttest scores measured in the same sample of the experimental and control groups. The spring 2005 ($t(32) = -7.527, p = .000$) summer 2005 ($t(15) = -5.601, p = .000$) and fall 2005 ($t(30) = -6.791, p = .000$) dependent t values for the experimental group revealed statistically significant differences between the pretest and posttest scores. No statistically significant differences were found between the pretest and posttest scores for the control group during these same course offerings (spring 2005, $t(38) = -1.757, p = .087$; summer 2005, $t(14) = 1.394, p = .185$; fall 2005, $t(13) = -1.690, p = .115$).

The results from the independent samples t-test also indicated statistically significant differences in posttest scores between the experimental and control groups. Analysis of the independent t values revealed a significant difference in knowledge between the experimental and control groups posttest results for the spring

2005 ($t(70) = -6.347, p = .000$), summer 2005 ($t(29) = -4.016, p = .000$) and fall 2005 ($t(43) = -5.908, p = .000$) course offerings.

Next, a one-way analysis of covariance (ANCOVA) was calculated using a “reliability” correction. The Reliability-Corrected ANCOVA examined the posttest performance after adjusting for any initial differences in pretest scores of the experimental and control group participants. The covariate was the pretest taken prior to the beginning of the spring 2005, summer 2005 and fall 2005 courses. The dependent variable was the posttest taken after the course was completed. The calculated spring 2005 Reliability-Corrected ANCOVA value of $F = 48.25$ is significant ($p = .000$) beyond the .05 level for $df = 1,69$. The summer 2005 Reliability-Corrected ANCOVA value of $F = 29.36$ is significant ($p = .000$) beyond the .05 level for $df = 1,28$ and the fall 2005 Reliability-Corrected ANCOVA value of $F = 22.56$ is also significant ($p = .000$) beyond the .05 level for $df = 1,42$. Overall, statistically significant differences were found between the experimental and control group adjusted means after covarying the pretest scores for all three course offerings.

The scatterplots provide visualizations of the Reliability-Corrected ANCOVA data (see Figures 2-4). The scatterplot gives a visual means of seeing relationships between the two variables, in this case pretest and posttest scores. A relationship is positive if an increase in one variable corresponds to an increase in the other and negative if one variable increases while the other decreases. The regression lines show the expected posttest scores for any pretest score and the treatment effect. Further, the regression lines are fit to show the pretest-posttest relationship. The lines for the experimental groups are clearly higher than the lines for the control group at

any pretest value for all three course offerings. In general, there is a positive linear relationship between the covariate (pretest scores) and the dependent variable (posttest scores) for the spring 2005, summer 2005 and fall 2005 course offerings.

It should be noted that the researcher considered collapsing the data based on the small sample size within each course offering. The legitimacy of the inferential statistical tests with small sample sizes may be in question when reviewing the results of this study. However, with smaller numbers in the control and experimental groups it is more difficult to show statistically significant differences and yet the analysis showed exactly that. If the pretest and posttest results were combined for all three course offerings (essentially collapsing the data into one data set for control pretest/posttest results and experimental pretest/posttest results) the differences would still be statistically significant but would be practically less significant. In showing that there were statistically significant differences each time the knowledge assessment was administered presents a stronger case for the impact of the course on knowledge change in the course participants.

The analysis of the participant (experimental group) and non-participant (control group) knowledge pretest/posttest result comparison indicated that there were statistically significant knowledge differences between the experimental and control group posttests results. These same results were found each time the knowledge test was administered to these two groups (spring 2005, summer 2005 and fall 2005). The results of this evaluation indicate that the students who participated in the “Applied EE Program Evaluation” online course during the spring 2005, summer 2005 and fall 2005 semesters significantly increased their knowledge of program evaluation.

G. Confidence Levels

Although not a part of this study's set of sub-goals, the experimental and control groups' confidence levels were obtained through two additional questions included in the spring 2005, summer 2005 and fall 2005 pretest/posttest knowledge questionnaires. These additional questions asked participants in the experimental and control groups to rate their level of confidence in their knowledge of program evaluation and their ability to develop an evaluation plan.

The experimental groups' confidence level mean scores increased between pretest to posttest administrations for the spring 2005, summer 2005 and fall 2005 course offerings. The control groups' confidence level mean scores across all pretest/posttest knowledge assessment administrations showed only slight fluctuations.

Having seen consistent increases in confidence levels for the experimental group during all three course offerings, the researcher surmised that this rise is most likely attributed to the additional program evaluation knowledge and skills learned throughout the course. This same trend was not seen in the results for the control group.

II. THREATS TO RELIABILITY AND VALIDITY

Potential and actual biases often are the result of unintentional flaws in either the methodology and/or the analysis of any research project. Since biases may lead to erroneous results, researchers take precautions to mitigate the possibility of bias being inadvertently introduced. Despite these precautions, there inevitably are instances of

bias that enter into any quantitative research design. The following is a discussion acknowledging possible sources of bias that produced threats to the reliability and validity of this study.

There may have been some non-response bias that threatened the reliability of the study. The student questionnaire response rates for the four course offerings ranged from 84% up to 95% (fall 2004 = 90%, spring 2005 = 84%, summer 2005 = 90% and fall 2005 = 95%). These response rates are high enough to suggest that a good sample of the course participant population were surveyed, however those students who did not complete the course or the student questionnaire could have contributed to a non-response bias. The researcher attempted to account for this bias by repeatedly contacting all course participants asking them to complete the student questionnaire. Despite these efforts, the students who successfully completed the course may have influenced the results skewing the results to show increased satisfaction levels. The students that did not complete the course or the student questionnaire may have been negative and were perhaps not represented in the research results.

Quasi-experimental research designs may appear at first glance to be inferior to randomized experiments. Probably the most commonly used quasi-experimental design is the nonequivalent control group design. This experimental design is used when random assignment is not possible or feasible within the contexts of the study. Randomization was not achievable in this study since one group, the participants self selected themselves for the experimental group when they registered for the course. The researcher attempted to recruit a control group that “matched” or was comparable

to the experimental group on some relevant variables (i.e., interest in EE and program evaluation, interest in taking an online course etc..) in order to add precision to the research design. Any prior differences between the groups may have affected the outcome of the study. In the non-equivalent control group design the key internal validity issue is the degree to which the groups are comparable before the study. If they are comparable and the only difference between them is the program, posttest differences can be attributed to the program. If the groups are not comparable to begin with, then statistically significant differences may not in good faith be attributed to the course, instead these results could be due to initial differences between groups (Trochim, 2004).

The researcher employed a number of different statistical analysis methods to help control for selection bias. First, as mentioned in the methods section and above, every effort was made to recruit control groups that were equivalent to the experimental groups. Next, both groups participated in the knowledge pretest assessment. These initial measurements allowed the researcher to examine whether the groups appeared to be similar according to their pretest results before the study began. A judgment could then be made as to the possibility of a selection bias existing from the very beginning (Trochim, 2004). The Reliability-Corrected ANCOVA was also used to control for initial differences in pretest scores. ANCOVA reduces the effects of initial group differences statistically by making compensating adjustments to the posttest means of the two groups. This helps to remove "covariate bias" or "selection bias". Since selection bias weakens internal validity the researcher made every attempt possible to compensate for this fact. With

respect to external validity, this research study has a low degree of external validity. The results of this research project are not generalizable to the larger population, but only to those interested in program evaluation, professional development and online instruction.

Finally there is one last limitation that needs to be acknowledged. During the course of the study it became apparent to the researcher that there were potential problems with the manner in which the knowledge assessment was administered to the experimental and control groups. Although students in the course were asked to take the knowledge pretest assessment prior to looking at any of the course material, there was no mechanism in place in Desire2Learn that prevented them from doing so. The posttest was administered the very same way. For the knowledge posttest assessment administration the same instructions for the pretest were not explicitly stated. Therefore, students could have accessed the course material, in either the electronic format online in Desire2Learn or a printed version that students could have compiled throughout the course, during the time they took either the pretest or posttest. Additionally, both the experimental and control groups potentially could have accessed the internet to obtain answers for the knowledge assessment. There were no changes made to the knowledge assessment administration for the experimental or control groups during the spring 2005, summer 2005 and fall 2005 course offerings. This potential threat would have been present for all groups during all course offerings.

III. RECOMMENDATIONS

The “Applied EE Program Evaluation” course is effective in increasing course participants’ knowledge of program evaluation. The response from the community of environmental educators, natural resource professionals and university students has been very positive, indicating that there is a need for online courses in program evaluation. The researcher recommends that every effort be made to continue offering this course through the University of Wisconsin-Stevens Point. Having said this, she would be remiss without pointing out the importance of having a support network in place for the management of the course. During the last two years of the study, course instructors were asked if they could facilitate the course without the availability of a course manager. The feedback from this inquiry indicates that it would be a burden for them to interact with registration and address technical difficulties and general questions while facilitating the course. As the course grows in popularity the addition of new course instructors should be considered. This will help in preventing instructor burnout for the UW-SP instructors and can serve to expand the course to other college/university communities. Consideration should also be given to the possibility of disseminating the course for use by other higher learning institutions; developing additional learning opportunities across the country.

The researcher also recommends the development of additional evaluation tools to further establish the effectiveness of the course. Using several data collection methods will serve to strengthen any future research done on the AEEPE online course. Focus groups, interviews and post delayed questionnaires are examples of evaluation tools that should be considered in the next evaluation phase of the course.

Research that asks former course participants whether or not they actually implemented the knowledge and skills they obtained through the course should be considered as follow-up research to this study. Additionally, a methodical course revision process should be maintained to keep the course updated and innovative.

There are two additional recommendations that the researcher has in regards to further online course development. During the course of her research, she encountered many comments from students calling for the development of an advanced evaluation course that addresses evaluation concepts in more depth, especially qualitative and quantitative data analysis. One particular course participant in the summer of 2005 made the following comment:

I felt there was sooooo much information. I would like to see this as a 2 semester course to more fully develop my skills. For example, I felt I couldn't spend the time I would've like on data analysis. I simply wasn't ready for that yet. Having a 2nd semester to more fully utilize what we learned in the 1st and building upon it w/ data analysis would have been awesome (Appendix O, p.291).

A course that allows students to take their knowledge to a new level may help alleviate some of the course participants' frustration with the work load and pace of the course. Also, students could be given an opportunity to pilot test their evaluation tools, analyze them and report the results within the context of an advanced course.

The researcher's final recommendation is targeted at marketing strategies. The marketing plan needs to be revised to expand the lines of communication that EETAP has with the course's target audiences. Additionally, there are significant numbers of EE professionals from the international sector that have inquired into

taking the online course. Often the course fees preclude them from being able to register for the course and due to the language in the EPA grant work plan the EETAP scholarships are only available to individuals living in North America. The researcher suggests seeking additional funds to support international students interested in enrolling in the course. This would serve to further diversify the student/course demographics encouraging the exchange of ideas and learning across continents.

IV. SUMMARY

In the spring of 2004 the “Applied Environmental Education Program Evaluation” online course was developed through a cooperative agreement between the Environmental Education and Training Partnership, the University of Wisconsin-Stevens Point and the U.S Fish and Wildlife Service, National Conservation Training Center. It was designed by a cadre of evaluation and EE experts in the field to provide environmental educators, natural resource professionals and university students the knowledge and skills necessary for implementing a sound evaluation plan into a specific education program or a research study. During the fall 2004, spring 2005, summer 2005 and fall 2005 offerings, approximately 180 participants from 40 U.S. states/territories and 6 countries enrolled in the course. The efforts of these former participants have already had an effect on over 100 programs serving more than 125,000 people annually across the nation.

This study implemented quantitative evaluations and knowledge questionnaires for participants in the course. A knowledge pretest/posttest was used

to evaluate knowledge change in course participants as a result of taking this online course. To provide a comparison, the researcher also recruited and tested a non-course participant group.

Likert scale items, multiple-choice questions and open-ended responses from the four student questionnaires helped guide the revision process; helping to develop an improved version of the course content, design and overall structure. The results of the knowledge questionnaire indicated that there was a considerable increase in the course participants' knowledge and that their knowledge increase was significantly greater than that of a control group. According to the results of this study, the course is successfully helping course participants to increase their knowledge of EE program evaluation.

REFERENCES

- Archie, M. & McCrea, E. (Eds.) (1998). *Environmental education in the United States – Past, present, and future: Collected papers from the National Environmental Education Summit* (November 1-5, 1996: Burlingame, California). Troy, Ohio: North American Association for Environmental Education.
- Becker, L.A. (2001). Basic and applied research methods. Retrieved July 27, 2006 from the University of Colorado at Colorado Springs
<http://web.uccs.edu/lbecker/Psy590/contentII.htm>.
- Benigno, V., & Trentin, G. (2000). The evaluation of online courses. *Journal of Computer Assisted Learning*, 16(3), 259-270.
- Bernath, U. (1996). *Distance education in mainstream higher education: A strategic issue at conventional universities* Selected papers from the first International Distance Education Conference. Research Monograph Number 10. State College, The American Center for the Study of Distance Education, Penn State University, PA.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Collis, B.A. (1993). Evaluating instructional applications of telecommunications in distance education. *Educational and Training Technology International*, 30(3), 266-274.
- Cook T. D., & Campbell D. T. (1979) *Quasi-experimentation. Design & Analysis Issues for Field Settings*. Chicago: Rand McNally College Publishing Company.
- Coyle, K.J. (2004). A plan for improved environmental literacy. In *Understanding Environmental Literacy in America: And Making it a Reality* (Chapter 9). National Environmental Education and Training Foundation NEETF/Roper Report. Retrieved December 19, 2006 from <http://www.neetf.org/roper/ELR.pdf>.
- Coyle, K.J. (2005). *Environmental Literacy in America What Ten Years of NEETF/Roper Research and Related Studies Say About Environmental Literacy in the U.S.* Washington D.C.: NEETF.
- Daugherty, M., & Funke, B. (1998). *University and student perceptions of web-based instruction*. A paper presented at the International Conference on Technology and Education. Santa Fe, NM.
- Dillman, D.A. (2000). *Mail and internet surveys-The tailored design method*. New York: John Wiley & Sons, Inc.

- Disinger, J.F., & Roth, C.E. (1992). *Environmental literacy*. (Report No. EDO-SE-92-1). New York, NY: Institute for Education and Social Policy. (ERIC/CSMEE Digest Number ED351201)
- Environmental Education and Training Partnership (EETAP) Website. Retrieved July 14, 2006 from <http://www.eetap.org>.
- Environmental Education Training Partnership (EETAP) and U.S. Fish and Wildlife Service National Conservation Training Center. "*Applied Environmental Education Program Evaluation*" online course. Stevens Point, Wisconsin: UW-SP. Retrieved July 14, 2006 from <https://uwsp.courses.wisconsin.edu/>.
- Etlng, A. (1993). What is nonformal education? *Journal of Agricultural Education*, Winter 1993 12, 73-76.
- Fitzpatrick, J.L., Sanders, J.R., & Worthen, B.R. (2004). Program evaluation: Alternative approaches and practical guidelines. Massachusetts: Pearson Education, Inc.
- Fortner, R.W. (2001). *Nonformal environmental education in the United States: Current programs and practices*. The Ohio State University, USA.
- Garson, D.G. (2006). Topics in multivariate analysis. Retrieved July 25, 2006 from North Carolina State Website <http://www2.chass.ncsu.edu/garson/pa765/reliab.htm>
- Georgetown University Department of Psychology Research Methods and Statistics Resources. Validity and reliability. Retrieved July 27, 2006 from <http://www.georgetown.edu/departments/psychology/researchmethods/researchandeducation/validityandreliability.htm>.
- Gunderson, K. (2006). Distance education: A user-friendly learning option. Retrieved August 15, 2006 from www.eetap.org/media/pdf/Online.Final.20060302.pdf
- Hawkins, B.L. (1999). Distributes learning and institutional restructuring. *Educom Review*, 34(4) 12-15, 42-44.
- Heimlich, J.E. (1994). Nonformal environmental education: Toward a working definition. *The Environmental Outlook*, May 1, 1993. (Eric Document Reproduction Service No. ED 360154).
- Howe, R.W., & Disinger, J.F. (1998). Teaching environmental education using out-of-school settings and mass media. *Environmental Education*, digest 1, 1998. (Eric Document Reproduction Service No. ED 320759).

- Hsu, S.J., & Roth, R.E. (1996). An assessment of environmental educational knowledge and attitudes held by community leaders in the Hualien area of Taiwan. *Journal of Environmental Education*, 28(1), 25-32.
- Hungerford, H., Peyton, R.B., & Wilke, R.J. (1980). Goals for curriculum development in environmental education. *The Journal of Environmental Education*, 11(3), 42-47.
- Hungerford, H.R., & Volk, T.L. (1990). Changing learner behavior through environmental education. *The Journal of Environmental Education*, 21(3), 8-22.
- Jackman, D.H., & Swan, M.K. (2000). Comparing the success of students enrolled in distance education courses vs. face-to-face classrooms. *The Journal of Technology Studies*, 24(1), 1-9.
- Kelly, M. (1990). Course creation issues in distance education. In *Education at a distance: From issues to practice*. (pp. 77-99) Malabar, FL: Krieger.
- Lockee, B., Burton, J.K., & Moore, M. (2002). Measuring success: Evaluation strategies for distance education. *Educause Quarterly*, 25(1), 20-26.
- Lockee, B., Burton, J.K., & Moore, M. (2001). Old concerns with new distance education research. *Educause Quarterly*, 2, 60-62.
- Lockee, B., Burton, J.K., & Cross, L.H. (1999). No comparison: distance education finds a new use for no significant difference. *Educational Technology Research and Development*, 47(3), 33-42.
- Lustig, D., & Strauser, D. (2004). Effect size and rehabilitation research. *Journal of Rehabilitation* 70(4), 3-5.
- Middleton, A. J. (1997). How effective is distance education? *International Journal of Instructional Media*, 24, 133-138. Retrieved July 12, 2006 from Academic Search Elite database.
- Milheim, W. (2001). Faculty and administrative strategies for the effective implementation of distance learner. *British Journal of Educational Technology* 32(5) 535-542.
- National Environmental Education and Training Foundation (NEETF) Website. Retrieved August 15, 2006 from <http://www.neetf.org/>.
- Neal L., & Miller, D. (2004). The Basics of E-Learning: An Excerpt from *Handbook of Human Factors in Web Design*. *eLearn Magazine*. Retrieved on August 2, 2006 from <http://www.elearnmag.org/subpage.cfm?section=tutorials&article=20-1>

- North American Association for Environmental Education Website. (1993). Retrieved on July 14, 2006 from <http://naaee.org/>.
- North American Association for Environmental Education (NAAEE). (2004a). *Guidelines for the preparation and professional development of environmental educators*. Ed.D. Simmons. Washington, DC: NAAEE.
- North American Association for Environmental Education (NAAEE). (2002). *Nonformal commission survey results*. NAAEE.
- North American Association for Environmental Education (NAAEE). (2004b). *Nonformal environmental education programs: Guidelines for excellence*. Ed.D. Simmons. Washington, DC: NAAEE.
- O'Hearn, G. (1982). "What is the purpose of evaluation?" *Journal of Environmental Education* 13(4) 1-3.
- Ohio State University's Office of Instructional Technology (OIT) Website. Online glossary. Retrieved July 14, 2006 from <http://www.oit.ohio-state.edu/glossary/>.
- Online Evaluation Resource Library (OERL) Website. Quality criteria for reports. Retrieved July 13, 2006 from <http://oerl.sri.com/reports/reportscrit.html>.
- Opinion Research Corporation Website. Retrieved July 14, 2006 from <http://opinionresearch.com/us/omnibus/default.aspx>.
- Patton, M.Q. (1997a) as quoted in Proceedings of the Teton Summit for Program Evaluation in Nonformal Environmental Education. Teton Science School, Jackson Hole, WY and The Ohio State University.
- Patton, M.Q. (1997b). *Utilization-Focused Evaluation: The New Century Text*, 3rd ed., Thousand Oaks, CA: Sage Publications.
- Phipps, R., & Merisotis J. (1999). What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education. Retrieved on July 27, 2006 from <http://www.ihep.org/Pubs/PDF/Difference.pdf>
- Rompf, E.L. (1999). Program guidelines for long-distance education initiatives: Overcoming Faculty Resistance. *Arete* 23(1) 11-22.
- Roth, C.E. (1992). *Environmental literacy: Its roots, evolution, and directions in the 1990s*. U.S., Massachusetts: ERIC Clearinghouse for Science, Mathematics, and Environmental Education. (ED 348235).
- Rudner, L.M., & Schafer, W. D. (2001). *Reliability*. U.S., Maryland: ERIC Clearinghouse on Assessment and Evaluation. (ED 458213).

- Santos, J.R.A. (1999). Cronbach's Alpha: A tool for assessing the reliability of scales. *Journal of Extension* 37(2) online.
- SPSS, Inc. (2006). *SPSS Release 14.0*. Chicago, IL: SPSS.
- Stapp W.B., et al. (1969). The concept of environmental education. *The Journal of Environmental Education*, 1(1), 30-31.
- Swan, M.K. (1995). The information SUPERHIGHWAY. *The Agricultural Education Magazine*, 67(11), 4.
- Stringer, S., & Thomson, J. (1998). *Evaluating for distance learning: Feedback from students and faculty*. Paper presented at the annual conference on Distance Teaching and Learning, Madison, WI.
- Texas A&M University (TAMU) Office of Distance Education (ODE) Online glossary. Retrieved July 11, 2006 from <http://www.tamu.edu/ode/glossary.html>.
- Thalheimer, W., & Cook, S. (2002). *How to calculate effect sizes from published research articles: A simplified methodology*. Retrieved July 10, 2006 from http://work-learning.com/effect_sizes.htm.
- Thomson, G., & Hoffman, J. (n.d.) *Measuring the success of environmental education programs*. Retrieved from Canadian Parks and Wilderness Society Website <http://72.14.203.104/search?q=cache:8iP0FirBk1QJ:www.cpawscalgary.org/education/evaluation/eesuccess.pdf+evaluation+in+environmental+education&hl=en&gl=us&ct=clnk&cd=1>.
- Trochim, M.K. (2004). The Web Center for Social Research Methods. Retrieved July 30, 2006 from Cornell University Website <http://www.socialresearchmethods.net>
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (1978). *Final report: Intergovernmental conference on environmental education*. Organized by UNESCO in cooperation with UNEP, Tbilisi, USSR, 14-26 October 1977.
- United Nations Educational, Scientific and Cultural Organization/United Nations Environment Program (UNESCO-UNEP). (1976). The Belgrade Charter. *Connect*. 1(1), 1-4.
- USDA Graduate School Website. Course announcement: Introduction to program evaluation. Retrieved December 19, 2004 from <http://www.grad.usda.gov>.

- U.S. Department of Education's National Center for Education Statistics Website. Distance education at degree-granting postsecondary institutions: 2000–2001 Retrieved July 13, 2006 from <http://nces.ed.gov/surveys/peqis/publications/2003017/>.
- United States Environmental Protection Agency (1994). *The ABC's of environmental education*. Chicago, Illinois
- U.S. Fish and Wildlife Service VOICES Listserve Website. Retrieved July 14, 2006 from <http://library.fws.gov>.
- U.S. Forest Service (2005). DRAFT Environmental literacy a Forest Service strategic plan 2005-2010. Copy received during personal correspondence with Dr. Richard Wilke.
- University of Florida - School of Forest Resources and Conservation Website, (19 December 2004). Course announcement: Environmental education program development. Retrieved December 19, 2004 from <http://www/sfrc.ufl.edu>.
- Webster.com Website. Retrieved December 19, 2004 from <http://www.webster.com>.
- Wilcox, S. (2004). *Summative evaluations and resulting revisions of an online course entitled "Fundamentals of environmental education,"* Unpublished Master's Thesis University of Wisconsin-Stevens Point, Stevens Point.
- Wilke, R., & Jeppesen G. (2004). *Proposal for the development and implementation of online course "Program evaluation for non-formal environmental educators"*. Proposal presented to Janet Ady, Chief of the Division of educational Outreach USFWS- National Conservation Training Center, Shepherdstown, WV.
- Wiltz, L.K. (2000). *Proceedings of the Teton Summit for Program Evaluation in Nonformal Environmental Education*. Teton Science School, Jackson Hole, WY and The Ohio State University.

APPENDIX A

Pre-Course Questionnaire

Applied EE Program Evaluation

Pre-course Questionnaire

When you are finished completing the questionnaire, click the "Submit" button.

Name:

Email address:

Agency or organization:

Position:

How long have you been in your current position?

1. What is your primary reason for taking this course?

2. Do you currently evaluate an educational program(s) at your agency or organization?

If yes, list the program or programs you evaluate?

List the evaluation tools or methods you use:

3. Are you required to evaluate your educational program(s)?

If yes, by whom?

What information do they want to know?

4. Describe your past evaluation experiences.

Rate your level of confidence with the following aspects of evaluation.

How confident are you...

5. With your knowledge of program evaluation?.....

6. In your ability to develop an evaluation plan for evaluating a specific educational program?.....

7. In your ability to differentiate among front-end (needs assessment), formative, and summative evaluation phases?.....

8. In your ability to write specific, measurable objectives to guide program evaluation?.....

9. About selecting appropriate evaluation tools (questionnaires, observations, concept mapping) for specific evaluation goals?.....

10. In your ability to design a questionnaire?.....

11. In your ability to develop an interview guide?.....

12. In your ability to develop alternative assessment tools?.....

13. In your ability to analyze evaluation data?.....

Throughout the course you will be developing and building an evaluation plan for an existing education program at your organization or agency. If you do not have a particular program in mind, you may develop a hypothetical program, preferably one that you would like to see implemented in the future. If you don't have a specific program or program idea in mind you may [select one of the following programs](#) to use throughout the course. If you choose one of the options then you will be developing and evaluating a program for your site based on the web resources they offer.

Let us know what program you plan on evaluating throughout the course by answering the following questions:

14. Program title:

15. What is the purpose of the program?

16. Who is the intended audience for the program?

17. When is program offered?

18. Where is the program conducted?

Thank you!

Submit

APPENDIX B

Marketing Plan



Marketing Plan
Applied EE Program Evaluation
Online Course
October 1, 2004 – December 31, 2005



The Environmental Education and Training partnership (EETAP) is a national leader in the delivery of environmental education training to educational professionals. EETAP supports a wide array of educational professionals and is committed to ensuring that ethnically diverse and low-income communities benefit from and actively participate in education that advances student learning and environmental literacy. The U.S. Environmental Protection Agency's Office of Environmental Education funds EETAP through a cooperative agreement with the University of Wisconsin-Stevens Point (UW-SP).

The Applied Environmental Education Program Evaluation (AEEPE) on-line course was developed in collaboration with national environmental education and evaluation experts, using materials produced by the U.S. Fish and Wildlife Service National Conservation Training Center (FWS/NCTC), North American Association for Environmental Education (NAAEE), and the National Oceanic and Atmospheric Agency (NOAA).

Goals: The AEEPE on-line course will assist natural resource professionals and environmental educators in evaluating their education programs. This course provides an overview of evaluation in environmental education and outreach programs. Participants will be given an opportunity to apply skills in designing evaluation tools such as questionnaires, observation forms and interview and focus group guides. The activities described in this marketing plan are designed to achieve the following goals between October 2004 – December 2005.

- (1) Recruit sufficient numbers of participants for enrollment in spring 2005, summer 2005 and fall 2005 UW-SP course offerings.

Target audiences:

- (1) Non-formal educators
- (2) U.S. Fish and Wildlife Service educators
- (3) Community and state level environmental education leaders
- (4) Students seeking undergraduate or graduate credit

Objectives:

- (1) At least 80% of non-formal environmental educators will increase their knowledge of EE program evaluation and perceived skill in conducting an evaluation of an environmental education program as a result of completing the on-line course through UW-SP.
- (2) At least 80% of U.S. Fish and Wildlife Service educators will increase their knowledge of EE program evaluation and perceived skill in conducting an evaluation of an environmental education program as a result of completing the on-line course through UW-SP.
- (3) 80% of community and state EE leaders (i.e., state EE association board members, or state coordinators/facilitators of programs such as PLT, WILD, and WET) will report that they increased their knowledge of EE program evaluation and perceived skill in conducting an evaluation of an environmental education program as a result of completing the on-line course through UW-SP.

Activities

- (1) A news release announcing each semester course offering will be emailed to environmental and educational organizations for inclusion in newsletters, list serves, web sites, etc.
- (2) EETAP will provide 20 community and state EE leaders with partial course scholarships.
- (3) U.S. Fish and Wildlife Service NCTC and EETAP Partners (i.e., PLT, WWF, NAAEE and WET) will assist in (a) marketing the course through existing networks/avenues and (b) promoting course scholarship opportunities to community and state EE leaders through newsletters, list serves and conferences.
- (4) A flyer announcing the course will be included with every EETAP "Meeting Standards Naturally" CD-ROM mailing (See attached sample flyer).
- (5) All persons who contact Jennifer Dillard or Dr. Rick Wilke expressing interest in the course will be added to a distribution list and e-mailed a course announcement for each semester offering.
- (6) Presentations describing course goals, content and design will be given at the 33rd and 34th Annual NAAEE conferences.
- (7) The EETAP web site will list course dates and cost, provide a sample syllabus and explain how to register for the course.

Marketing Timeline	
Activity	Completion Data
EETAP web sites updated for spring course	October 2004
Spring flyer created	October 2004
Fall waiting list contacted	October 2004
Flyers included with CD-ROM mailing	October 2004 - ongoing
Course announcements e-mailed to course contact list	October 30, 2004
Spring news release e-mailed to marketing list	October 30, 2004
U.S. FWS NCTC and EETAP partners assist in marketing the course	October 30, 2004
EETAP Partners promote course scholarships	October 30, 2004
Presentation at the 33 rd Annual NAAEE Conference	November 2004
EETAP provides community & state EE leaders with partial course scholarships	December 2004
EETAP web sites updated for summer/fall courses	February 2005
Summer and Fall flyers/registration forms created	February 2005
Spring waiting list contacted	February 2005
Course announcements e-mailed to course contact list	February 28, 2005
Summer/Fall news releases e-mailed to organizations	February 28, 2005
U.S. FWS NCTC and EETAP partners assist in marketing the course	February 28, 2005
EETAP Partners promote course scholarships	February 28, 2005
EETAP provides community & state EE leaders with partial course scholarships	April - August 2005
Presentation at the 34 th Annual NAAEE Conference	October 2005

APPENDIX C

Fall 2004, Spring 2005, Summer 2005 and Fall 2005 Student Questionnaire

Sample Message Posted in Desire2Learn “News” Section

Hello Everyone,

Congratulations!!! As you near the end of our AEEPE journey, I wanted all of you to know that you have been a wonderful group of students to work with and I wish you all the best this upcoming year.

Before you all disperse, I want to remind you to please complete the **THREE final assignments** for the course. This will really help me out as I try to finish up all the final reports that I need to write (similar to your culminating assignment I would assume).

For your convenience I have provided the links below. Simply click on the assignment highlighted in blue. You can also access these assignments from the content page.

1. [The post-course assessment](#)
2. [The final course evaluation](#)
3. [The Goods and Services form](#)

FYI...those of you who participated in the control group this past summer (or during a previous semester) you **DO NOT** need to take the post-course assessment. I still have results from your post-course assessment.

Thanks for helping to make my job much easier. I really appreciate all of the time and effort that you have put into this course.

If you have any further questions or concerns, please do not hesitate to contact me at Jenn.Dillard@uwsp.edu or 715-346-4957.

Cheers!
Jenn

Sample Follow-up Email Message Sent to Non-Responders

Hello Everyone!!!

First off, congratulations on being a part of another successful AEEPE course offering. It has been a pleasure working with such a bright and hardworking group of students. I hope you all have a wonderful summer.....I need your help with one more thing before you officially finish the course.

I have not yet received a final course evaluation from you and I need your input to accurately write my final reports. Even if you did not complete the entire course, your insight is still valuable to us. EETAP is funded by a grant from the EPA and this course was developed and is maintained by this funding source as well as the US Fish and Wildlife Service (USFWS). We use the evaluations to write a comprehensive report that must be submitted to the EPA on an annual basis and the USFWS per semester. If you could, please go through and fill out the course evaluation.

I have included the link below for easy access.

Course evaluation: <https://www.uwsp.edu/natres/nres410/aeepe/Consent.htm>

Thanks for your help with this. If you have any questions or concerns, please do not hesitate to contact me.

Jennifer Dillard

Online EE Course Graduate Assistant
Environmental Education & Training Partnership
University of Wisconsin-Stevens Point
College of Natural Resources
Stevens Point, WI 54481
Phone: (715) 346-4957
Email: Jenn.Dillard@uwsp.edu
www.eetap.org

Applied EE Program Evaluation

Informed Consent to Participate in Research

Please read the information below before following the course evaluation link at the bottom of the page.

Dr. Richard Wilke, Distinguished Professor at the University of Wisconsin-Stevens Point, graduate student Jennifer Dillard, and the U.S. Fish and Wildlife Service National Conservation Training Center would appreciate your participation in the evaluation of this course. You are being asked to complete an online questionnaire that should take no more than 20 minutes of your time.

This questionnaire is intended to provide you with the opportunity to communicate with the course developers. Specifically, we hope you will be able to help us improve this course for future students by providing your feedback.

The information that you provide on the questionnaire will be recorded in a confidential form. We do ask that you provide your name, but we assure you this information will only be used to keep track of which students have and have not completed the questionnaire. We will not release any information to the course instructor that could identify you with your completed questionnaire. Submitted questionnaires will not be available to anyone other than Jennifer Dillard until six weeks after the course has ended.

If you want to withdraw from participating in the evaluation of this course, you may do so without penalty, but we greatly value your input and hope you choose to participate.

If you have any questions or concerns, please contact:

Jennifer Dillard
Environmental Education and Training Partnership
University of Wisconsin-Stevens Point
College of Natural Resources
Stevens Point, WI 54481
(715) 346-4957
Jenn.Dillard@uwsp.edu

If you have any complaints about your treatment as participant in this study, please contact:

Dr. Sandra Holmes, Chair
Institutional Review Board for the Protection of Human Subjects
Department of Psychology
University of Wisconsin-Stevens Point
Stevens Point, WI 54481
(715) 346-3952

Although Dr. Holmes will ask your name, all complaints are kept in confidence.

Your completion and submission of the questionnaire to the researchers represents your consent to serve as a subject in this research.

[To access the questionnaire, click here!](#)

Applied EE Program Evaluation

Course Evaluation

Thank you for your participation in the course and in completing this questionnaire. Your feedback is important to us and will assist us in improving the course for future participants.

When you finish completing the questionnaire, click the "Submit" button.

Course Objectives

Listed below are the course objectives. Please respond to each statement regarding what you learned from the course.

1. As a result of taking this course, I am better able to state the purposes, benefits, and importance of educational evaluation.

2. As a result of taking this course, I am better able to distinguish between front-end, formative, and summative evaluations.

3. As a result of taking this course, I am better able to write measurable program objectives that link program development and evaluation.

4. As a result of taking this course, I am better able to develop a comprehensive evaluation plan for an environmental education or outreach program.

5. As a result of taking this course, I am better able to state when and how to use data collection tools.

6. As a result of taking this course, I am better able to develop three data gathering tools: observation form, survey, and an interview or focus group guide.

7. As a result of taking this course, I am better able to develop alternative assessment tools such as rubrics, checklists, and rating scales to assess performance.

8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.

9. If you responded "Disagree" to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course objectives:

Overall Course Outcomes

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

10. I have increased my knowledge of environmental education program evaluation as a result of taking this course.

11. I have increased my skills in conducting an evaluation of an environmental education program as a result of taking this course.

12. If you responded "Disagree" to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the overall course outcomes:

Course Structure

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

13. The course units were organized in a way that made sense to me.

14. The course material seemed to flow logically and make good transitions.

15. There seemed to be sufficient interaction between the students and the instructor.

16. There seemed to be sufficient interaction among the students.

17. I am glad that I was able to take this course on-line.

18. I would participate in another on-line course as a result of this experience.

19. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program.

20. If you responded "Disagree" to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:

Technology

To what extent were you able to do the following...

21. Log in to the course.

22. Navigate the course within Desire2Learn.

23. Access the course content.

24. Check your grades.

25. Use e-mail to communicate with your instructor.

26. Use the Dropbox to submit assignments to your instructor.

27. If you responded "With difficulty or Not at all" to any of the above questions, please note the question(s) and explain why. You may also use this space for additional comments or suggestions about the course technology:

Advanced Technology for Future Courses

28. Would you have liked to have used real-time chat during the course? (Real-time chat is similar to instant messaging. Your typed message is immediately delivered to someone else's monitor and that person's response is immediately delivered back to your monitor.)

29. Would you have liked some content presented via a PowerPoint presentation?

30. Would you have liked some content presented via an audio presentation?

31. Would you have liked some content presented via a video presentation?

Course Content

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

32. I am satisfied with the amount of information the course provided.
33. I am satisfied with the amount of examples used to help me understand the information.
34. I am satisfied with the amount of environmental education program evaluation resources the course provided.
35. The grading guidelines were clearly outlined.
36. The assignment due dates were clearly outlined.
37. The glossary was useful to me.
38. The reflection assignments were helpful in advancing my learning.
39. The read and respond assignments were helpful in advancing my learning.
40. The short activity assignments were helpful in advancing my learning.
41. The in-depth activity assignments were helpful in advancing my learning.
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.
43. Replying to others' assignments and ideas on the discussion board was helpful in advancing my learning.
44. The culminating assignment was helpful in advancing my learning.
45. The amount of work required seemed appropriate.
46. The amount of time given to complete each assignment seemed appropriate.

Graduate Students Only:

47. The graduate assignments were helpful in advancing my learning.

48. If you responded "Disagree" to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:

Overall

49. Approximately how many total hours did you spend working on the course?

50. Do you believe that this was an appropriate amount of time to have spent? Why or why not?

51. What did you like the most about the course?

52. What aspects of the course could be improved?

53. Would you recommend this course to a colleague or friend?

If no was your answer, please explain why:

54. Where did you hear about this course?

Instructor Evaluation

If you would like to evaluate your instructor's facilitation of the online course, please complete the section below. The comments you provide are confidential. Your instructor will not receive these comments until one month after the course has ended.

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

The course instructor.....

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

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

57. Respected students' opinions.

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

59. Demonstrated knowledge of the course material.

60. Graded assignments fairly.

61. Encouraged student participation.

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

63. Additional comments about the instructor:

Background Information

First Name:

Last Name:

Instructor Name:

May EETAP/UWSP/FWS use your comments for use in course promotion?

64. What is your current or most recent occupation?

If other, or a combination of the above options, please describe:

65. Prior to taking this course, how long had you been evaluating environmental education programs?

66. How long have you been in the field of environmental education?

Thank you for taking the time to contribute your personal experience to the revision of this course. Your feedback will help us evaluate what works and does not work for our intended audiences.

APPENDIX D

Fall 2004 Design/Review Team Revision Notes

Recommended Changes for Spring 2005 AEEPE Course Offering Janice Easton – Course Instructor

Pre-course

Some confusion and frustration of having three start dates listed. Several participants were a week late in starting and not too happy about it.

Take the questions regarding their program out of the pre-course survey and add as an introductory item to each other. Add more descriptive info about the programs so facilitator gets a better picture of the individual programs.

Unit 1

1.1 Why Evaluate?

Change order of reasons we evaluate. Include a link to case study or story that answers the questions. Include this for a least 3 of the reasons.

Combine 1.1 and 1.2 into 1 assignment.

1.2 Focusing your evaluation

Shorten the Evaluation approach/Defining question table to 4-5 different approaches with more depth – cost-benefit, theory-based evaluation, process, goal-free and outcomes-based evaluation. Participants did not understand the difference between approaches (models, theories) and phases. Combine assignments 3 and 4.

Expand the program development cycle – ST suggested a description that would link to each phase.

For grad assignment give citations to get them started. Have them look at other models – utilization focused, Kirkpatrick's (PART?)

1.3 Words to live by

Assignment was too general – vague responses that could have been answered without reading the Guidelines. Need to ask more pointed questions about the Guidelines – Bora may have an exercise we could use instead.

Unit 2

2.1 Program objectives

Ease to understand. Everyone did a great job on the two assignments. Can submit both assignments to the discussion board instead of Dropbox.

2.2 Logic model

Several participants had trouble with this step. We need to include more examples. Most focused on the objectives from previous exercise (learner-centered) and did not understand how to include program process or materials, teacher outcomes and volunteer outcomes.

2.3 Evaluation plan

Participants were not able to draw a logical connection between their program model and the evaluation plan. This is where they added what they were really interested in evaluating and most times it did not reflect their logic models. Examples will help.

This was very time consuming and where several fell behind in the work.

Unit 3 – I think this should be a unit on design. We can take the awkward qualitative and quantitative pieces out of units 4 and 5 and put here. Then proceed to the tools. Several have told me they are not getting the big picture - I think this will help.

3.1 Observations

The first assignment was frustrating because the participants were observing and they didn't know what they were supposed to be looking for. They wanted to know the evaluation questions before doing the observation (probably because this is what we have stressed). There needs to be more consistency and guidance for this exercise. Also need to include more thought provoking questions for the discussion – too much agreement and not enough critical thinking.

Participants did not seem to understand how to develop an observation form. Instead of observation forms I received short interview guides – instead of observing and recording they were asking questions. Perhaps more, better examples will help – need clarification on observation items.

I think they need to share their tools – perhaps they can grade each others instruments?

Unit 4

4.1 Interviews

This was a great exercise. I think they had fun doing it and I enjoyed reading the responses.

4.2 Focus groups

Assignment 1 – the GWF exercise was telling. I think they felt it was something they could throw together and send in – only about 3 people had really good questions. Several were asking HSers questions like ‘What do remember before attending the festival?’ and ‘What year did you go to the festival?’

Should include a section on how to ask youth questions – perhaps a reading level exercise.

Although I thought this was a good activity it was time consuming to grade.

Assignment 2 – Most did focus groups. Several of the FG guides had no link back to the evaluation plan.

I think they need to share these tools – perhaps grade each other's. But we would need to extend the time – submit to a partner one week, revise and then back to me the next week.

I would also like to change the scores on these assignments. The tools should be weighted more heavily. Need to have scoring rubrics for the tools.

Unit 5

5.1 Why use questionnaires?

Assignment 1 –Participants did not do as well as I thought they would. It was a hard exercise to grade so I ended up combining the best answers from participants then posting the document to the 'Comments and Questions' section – I'd like to make this section more active. I'm not sure anyone looked at the combined answers, perhaps because they were not used to checking this discussion area or familiar with it.

5.2 Questionnaire design

I was very pleased with the questionnaires and cover letters that were submitted. The level of professionalism was impressive. I would have participants submit their questionnaires to each other for comments before they submit them to the Dropbox. Need more sharing.

5.3 The survey process

May move this section to a new Unit 3.

There was some confusion on external and internal validity concepts. Need to include an example of a study and perhaps ask participants to identify threats. It worked well as a discussion topic.

Unit 6

6.1 Alternative Assessment –

Assignment 1 – I suggest we get rid of the concept map. Some people absolutely hated doing the map but it leads to a pretty good discussion on discussion. The main problem was vast differences in map quality – some were very poorly constructed while others (the folks using ISP) were elaborate and very well done. If we decide to keep this exercise we need to have them all using the same software – word.

Assignment 2 – They did a great job on the jigsaw but they needed more time. A few finished this right away then had to wait for others to submit their part of the jigsaw. This is when I found out that there were still people that did not know how to get email from UW-SP. Need to revise table to make the assignment more clear.

6.3 Scoring tools – Need to offer more examples. It was easy for folks to develop descriptors for poor and excellent but had a difficult time with anything in between.

Unit 7

7.1 Qualitative analysis- I'd like to use another example but I'm not sure what I'd use. Anyone have an idea – perhaps something from the course like one of the discussion topics? The EETAP Evaluation exercise was just too simple and did not offer any real insight that qualitative data has the potential to do.

7.2 Quantitative - For the most part everyone did a good job on this exercise. Those who did not know Excel still managed to send a report. Next time we need to ask them to interpret the data and make recommendations. Several people simply bulleted the data – very raw. Also need to tweak the data in the data set – we ask them to report on something that is not in the data set. Some of the data doesn't really make sense – for example there is no difference in activity use between subject areas taught – science or language arts. This is not realistic.

7.3 Interpreting and writing the evaluation report

The CYCA assignment was great. I'd like for the participants to read each other's letters. Some decided to cut or reduce funding while others decided to give them more money – big differences in the interpretations of the findings.

The culminating assignments –

The culminating assignments were fantastic - professionally done and well thought out using all the elements of the course. Most did the evaluation report – but there were several questions on how to report without any data.

Three or four people did power point presentations – I'd like to make it a maximum of 25 slides. Fifty slides were too many and not realistic for a 20-minute presentation.

Two people piloted tested their tools. I need to include more specific directions on what they are to submit – one did an incredible job while the other did and reported the minimum.

I did ask participants if I could use their tools and they said yes. So we can include some as examples.

Agenda
Fall 2004 AEEPE Course Revisions Conference Call #1
Thursday, January 13, 2005
2:00 PM Central Time

Design/review team present on the call: Dr. Rick Wilke, Jennifer Dillard, Georgia Jeppesen, Susan Toth, Lyn Fleming, Janice Easton and Lauri Munroe-Hultman

Goals of conference call:

- Review/discuss suggestions for course revisions from Janice Easton (course instructor), Jennifer Dillard (based on course participants' evaluation) and review/design team.
- Discuss enrollment logistics.
- Discuss additional ways to revise the course.
- Prioritize revisions based on what can be accomplished now and what can be implemented prior to a subsequent course offering.

Suggestions for revisions from Janice Easton (Janice)

(See attached AEEPE recommended changes document from Janice)

<u>Key items identified from the participants' evaluations and suggestions for revisions (Jennifer)</u>	
Key Item	Jennifer's Recommendations
Difficulty with group work	Revise/eliminate the jigsaw assignment, or have participants exchange personal email addresses. Make sure "News" item used whenever course information is distributed via UW-SP email. However, group work helps encourage student/student interaction.
Instructor feedback	Use news section more to communicate with participants and have instructors go through Desire2Learn orientation. Are there too many assignments to grade?
Consistency with assignment due dates	Have all due dates be consistent if possible from Monday to Monday or Monday to Friday.
Instructor/student interaction	Make sure that "News" section is used to communicate with students. Encourage students to call instructor if they have questions or concerns?

Student/student interaction	Should we encourage students to exchange personal email addresses? Split up each class into discussion groups of 12-13 students.
Problems with email/login	Contact me for problems with this. Cannot change UW-SP email, they must use to get information from UW-SP.
More time needed to complete assignments	Re-evaluate assignment due dates.
More references to search	Expand in-text references. Provide a list of additional resources to include websites, professional journals, books, textbooks etc.
Short activities more like in-depth activities	Re-evaluate extent of activities and time required to complete them. Perhaps re-assign titles of assignments.
More examples	Expand examples throughout text of the course.
Workshop option – one assignment per week	Consider requiring less of workshop participants, perhaps one assignment per week. So that requirements not the same for undergraduate student.
“Creating” answers for the discussion board	Split up each class into two discussion groups of 12-13 students each.
Expectations for graduate students (maybe for workshop participants as well)	Include list of expectations for graduate students, undergraduates and workshop participants as far as quality of work, participation on discussion board and number of assignments necessary to complete.
Presentation of online evaluation program options offered earlier	Discuss in beginning the importance of having a program to evaluate in mind or else using one that is provided. Could use the “News” section to discuss this right off the bat.
Frustration with pace	Cut back or combine assignments. Could also help instructor with workload.
Adding textbook (including suggestions of books for reference)	Provide a list of recommended resources including websites, journals, books, textbooks etc.
Design and Review Team – Based on the evaluation report, add any other items and recommendations here for convenient reference during the call	

Suggestions for review from design/review team

- Revision process (how, what, who, when)
- Georgia Jeppesen to discuss idea of pairing up design and review team members, to focus on particular aspects of the review.

Course/Enrollment Logistics

- Problems with initial start date (**Jenn**)
- Email issues (**Jenn**)
- Review timeline for revision (**Rick**)
- Start-up of the February course (**Rick**)
- Scheduling of next conference call (**Georgia**)

To Do Notes
Fall 2004 AEEPE Course Revision Conference Call #1
Thursday, January 13, 2005
2:00 PM Central Time

Design/review team present on the call: Dr. Rick Wilke, Jennifer Dillard, Georgia Jeppesen, Susan Toth, Lyn Fleming, Janice Easton and Lauri Munroe-Hultman

Jennifer Dillard

- Investigate email concerns. See if the UW-SP email account can be forwarded to personal email for instructors.
- Prepare for instructor orientation into Desire2Learn (UW-SP email use, “News” section, grading, feedback etc...)
- Update introductory instructor pages with photos and text.
- Begin making revisions to the course and send out revisions to design/review team for additional review.
- Create an Additional Resources page/ or determine if additional resources should be added as “other resources”, for each unit.
- Continue working on knowledge pretest/posttest, get IRB approval, pilot before first administration, recruit control group and create final version in FrontPage.
- Split up AEEPE course participants into two sections (section 1, Janice & section 2, Lyn). Then split up each of the sections into discussion groups, 12-13 students per group.
- Communicate with Janice and rest of review team via email/phone if necessary prior to next scheduled conference call.

Janice Easton

- Send out revisions to design/review team for comments. Compile final edits and send to Jenn.
- Compile Additional Resources list from review team. Once complete send to Jenn for addition in FrontPage.
- Send (via email) personal photograph to be included with introductory instructor page.

Review/Design Team

- **Georgia** – Send out additional resources to review team.
- **Lyn** – Write personal introduction statement to be included as an introductory instructor page within the text of the course. Send (via email) a personal photograph with written introduction.
- **Everyone** - Review course revisions made by Janice and provide feedback.
- **Everyone** – Send Janice program examples that can easily be used for additional examples of program logic models.
- **Everyone** – Send Janice any examples of good scoring rubrics for the “tools.

Agenda
Fall 2004 AEEPE Course Revisions Conference Call #2
Thursday, February 10, 2005
2:00 PM Central Time (3:00 PM Eastern Time)

Here is the call information from Georgia:

DIAL-IN NUMBERS:

USA Toll Free Number: 800-857-1778
PASSCODE: 28163

Goals of conference call:

- Review course revision process. Where are we at now in this process and where are we going?
- Discuss course logistics. Instructor support, training, orientation etc...
- To get specific suggestions regarding changes that need to be made in the AEEPE course that will be worked on between February and June and implemented in the next course offering in June.

Agenda Items

- Update on current revision process, where are we at now and what still needs to be done. **(Janice and Jenn)**

Janice's To-Do-List:

- 1) Rework course intro materials so participants are sharing what they do and plan to evaluate with class.
- 2) Do the PLT assignment.
- 3) Rework syllabus and timeline.
- 4) Look at the grading since a number of assignments have been reduced.

Jenn's To-Do-List

- 1) Continue implementing changes into FrontPage for units 1,2,6,7 and culminating assignment.
 - 2) Finalize the knowledge pretest/posttest questions and design test in Desire2Learn.
 - 3) Create bio page for Lyn.
 - 4) Conduct a Desire2Learn orientation for both Janice and Lyn
- Development of additional resources page for the course. Are we still doing this? **(Jenn)**
 - Update on Jenn's research (knowledge pretest/posttest) **(Jenn)**

- Status of enrollment for February course offering - numbers of participants in each session. (# of workshop, # of undergraduate, and # of graduate). **(Jenn)**
- Date for Janice and Lyn's Desire2Learn Orientation. **(Jenn)**
- Which instructor (Janice or Lyn) will have the 8 FWS course participants? **(Jenn)**
- Update on the continuation of co-op agreement through summer and fall offerings (5 FWS slots in each). **(Georgia and Rick)**
- Do we need a timeline for revision process from February to June? If so feedback from revision team as far as time constraints? **(Jenn)**
- Compiling a list of changes that still need to be considered for the next offering. List of items that will need to wait until the next revision cycle. (What we want to keep on the list to consider for next time). **(Janice and Georgia)**

Additional Questions/Comments/Suggestions

(All revision team members)

Next Revision Conference Call – Do we need to schedule another one?

APPENDIX E

Spring 2005 Design/Review Team Revision Notes

AEEPE Spring 2005 Revision Timeline

Janice and Lyn make revisions to the course on Word documents. Lyn to submit her revisions to Janice for incorporation into master Word document	April 18 – May 31, 2005
Janice submits preliminary revision recommendations to review team	April 18 – May 31, 2005
Review team sends comments to Janice regarding preliminary recommendations	April 18 – May 31, 2005
Janice and Lyn posts reminder in “News” asking course participants to complete final course/instructor evaluation and post-course assessment	April 29, 2005
Jenn sends email to control group participants with post-course assessment link	April 29, 2005
Jenn puts final course/instructor evaluation and post-course assessment in “content”	April 29, 2005
Course evaluations and post-course assessment submitted by course participants as well as control group	May 1 – 6, 2005
Jenn follows up with non-responders	May 9 – 13, 2005
Jenn compiles the evaluation/assessment responses and writes a final evaluation report	May 13 – 25, 2005
Evaluation report submitted to the review team by Jenn	May 25, 2005
Jenn sends agenda for revision conference call to review team	May 26, 2005
Review team sends changes to agenda to Jenn	May 27 – 30, 2005
Conference call to discuss the evaluation report and revisions	May 31, 2005 (2:00pm CDT)
Janice makes revisions to the course on Word documents and sends to Jenn as completed	April 18 – May 31, 2005
Jenn makes revisions in FrontPage and sends to review team for editing as completed	May 9 – June 3, 2005
Review team submits final edits to Jenn for changes to the course	June 3, 2005
Conference call to discuss additional revisions to the course	June 6, 2005 (only if necessary)
Janice and Jenn complete additional revisions based on conference call	June 8, 2005
Summer course begins	June 13, 2005

**Agenda Notes and Revision Items for Spring 2005 Generated from the
Fall 2004 AEEPE Course Revision Conference Call
Thursday, February 10, 2005
2:00 PM Central Time (3:00 PM Eastern Time)**

**Design/review team present on the call: Dr. Rick Wilke, Jennifer Dillard,
Georgia Jeppesen, Susan Toth, Dr. Lyn Fleming, Janice Easton and Lauri
Munroe-Hultman**

**Revision ideas for spring semester – to be implemented prior to
summer course offering.**

Glossary

Comment from Georgia:

A note for next time we review/revise. We have a number of terms that are highlighted 2-3 times throughout the text in different Units, and others highlighted just once, but used in different units. We do not have time this time around, but we should look at when a term is highlighted and make sure we are using the same criteria to determine when to highlight it. I think this is just a result of the revision process and trying to keep up with the changes and the implications of the changes.

Comment from Janice:

Hey - I just looked at G's glossary comments and they are hard for me to follow - I'm going to have to go thru the text to see what she's talking about. I say let's leave this until we have time to deal with it later - it will be an easy thing for me to do while I'm facilitating the course. Jan

Comment from Jenn:

I would like to include a glossary that allows students to click on word and have a small window opens up with the defined term...I have the HTML code to do this, however it is a pretty major project one that I may be able to work on and get done for fall course offering. I will look into this a little more.

Also Janice and Lyn please take note of additional terms that you think may need to be included in the glossary.

Content Changes and Recommendations

Comments from Lyn:

I'm still bothered that we don't mention in the discussion of Bloom's taxonomies that these are hierarchies, especially that higher order thinking skills are represented by analysis, synthesis and evaluation. . . We refer to these HOTS in Unit 4.1, too.
4.1 To the **Interviewing Youth** section, let's be sure to add a sentence recommending that students always pilot their questions with youth who are similar to their stakeholders and take copious notes to revise their final interview protocols. I know we say it later, but it bears repeating.

General comments made during conference call:

- Add concept map for each unit.
- Do we need Vignettes.....do we need to add more examples/stories?
- Add additional articles on asking youth questions/interview questions for youth.
- Add a better example of qualitative analysis or a different qualitative exercise.
- Lyn and Janice to look at Unit 3 to make it a design unit, which may include pieces of units 4&5.
- Creating and including a resource list.
- Looking at the resources listed within the content text as well....should we just put everything on a resource list?

Course Logistics

- Staggering due dates if necessary.
- Looking at changing the unit weeks, if they are too short or too long.
- Changing assignments....for example changing an EVERYONE assignment to a GRADUATE assignment.

Follow-up with Drop-outs

Recommendation follow-up questionnaire from Georgia:

Dear _____

You were enrolled in our Applied Environmental Education Program Evaluation course but did not complete the course. We are in the process of revising the course and would appreciate it if you would take a moment to respond to two questions.

1) Why did you decide to discontinue your participation in the course?

2) Do you have any suggestions to help us reduce the loss of course participants?

We could use this to follow-up with those that drop-out of the course, to try and find out more about their decision to not continue.

Any other revision ideas?

Agenda

Spring 2005 AEEPE Course Revisions Conference Call #1

Friday, April 8, 2005

1:30 PM Central Time

Call-In Information

CALL DATE: APR-08-2005 (Friday)
CALL TIME: 02:30 PM EASTERN TIME (1:30 PM Central Time)
DURATION: 1 hr 30 min
LEADER: MRS. GEORGIA JEPPESEN

USA Toll Free Number: 888-566-5772

PASSCODE: 62871

Goals of conference call:

- Discuss summer and fall enrollment logistics.
- Discuss additional ways to revise the course.
- Prioritize revisions based on what can be accomplished now and what can be implemented prior to a subsequent course offering.
- Determine responsibilities for revisions to be made

Suggestions for revisions from Janice Easton (Janice)

- Creating and including a resource list.
- Looking at the resources listed within the content text as well....should we just put everything on a resource list?
- Add more examples
- Simplify with better directions
- Need more information on participants programs, not thorough enough
- Switch interview and survey units
- Break after observation unit needed for instructors to catch up
- Have all course participants do the GWF assignment

Suggestions for revisions from Lyn Fleming (Lyn)

- Assignment 3 in unit 1.2 was a struggle for many students. The directions for the assignment need to be revised.
- **Bloom's taxonomies**
I'm still bothered that we don't mention in the discussion of Bloom's taxonomies that these are hierarchies, especially that higher order thinking skills are represented by analysis, synthesis and evaluation. . . We refer to these HOTS in Unit 4.1, too.

- Week 2 is crazy with Objectives, the Logic Model and the Evaluation Plan. Can we switch the Objectives to week 1?
- **Interviewing Youth**
4.1 To the **Interviewing Youth** section, let's be sure to add a sentence recommending that students always pilot their questions with youth who are similar to their stakeholders and take copious notes to revise their final interview protocols. I know we say it later, but it bears repeating. Let's add or remind students of the article that Janice and I attached to our notes for interviews (Children as Respondents in Survey Research)

Suggestions for revisions from Jennifer Dillard (Jenn)

- Glossary
- Resource list

Suggestions for review from design/review team

- Staggering due dates if necessary.
- Looking at changing the unit weeks, if they are too short or too long.
- Changing assignments....for example changing an EVERYONE assignment to a GRADUATE assignment.
- Add concept map for each unit.
- Do we need Vignettes.....do we need to add more examples/stories?
- Add additional articles on asking youth questions/interview questions for youth.
- Add a better example of qualitative analysis or a different qualitative exercise.
- Lyn and Janice to look at Unit 3 to make it a design unit, which may include pieces of units 4&5.

Course/Enrollment Logistics

- Problems with allowing students to take both courses at the same time (**Jenn**)
- Re-visit email issues (**Jenn**)
- Scheduling of next conference call (**Georgia**)
- Follow-up with drop-outs (**Jenn**)
- Update on summer course enrollment (**Jenn**)
- Marketing plan for summer and fall (**Jenn and Georgia**)

To Do Notes
Spring 2005 AEEPE Course Revisions Conference Call
Friday, April 8, 2005
1:30 PM Central Time

Review team present on the call: Dr. Rick Wilke, Jennifer Dillard, Georgia Jeppesen, Dr. Lyn Fleming, Janice Easton

Goals of conference call:

- Discuss summer and fall enrollment logistics.
- Discuss additional ways to revise the course.
- Prioritize revisions based on what can be accomplished now and what can be implemented prior to a subsequent course offering.
- Determine responsibilities for revisions to be made

Janice Easton

- Work on resource list with Jenn (need to compile all of the resources by unit and then add in additional resources from the larger more comprehensive list)
- Put the longer reports from the course text into the resource list
- Simplify Logic Model directions and add examples (Lyn may have some additional examples to include)
- Add an assignment in the beginning of the course that will give instructors more information about individual course participants' programs.
- With Lyn make a decision about the Groundwater Festival assignment (should everyone do the assignment or just the grad students)
- Write an additional paragraph about writing open-ended interview questions.
- In the survey unit look at assignment 1.....assignment directions need to be re-written
- With Lyn look at week 2 and see if the objectives can be switched to week 1.
- The interviewing youth article to be put in observation unit and included as a resource.
- Add a sentence or two with instructions under the different links in Unit 6.2 (see below).

Examples

The following links contain checklists that can be used to guide youth toward environmental service projects. In both "Give Water a Hand" and "Give Forests a Hand," youth use checklists to identify potential questions, concerns, and opportunities for action projects.



[Give Forests a Hand Leader Guide](#)

[Give Forests a Hand Youth Action Guide](#)

[Give Water a Hand](#)

Lyn Fleming

- Assignment 3 in unit 1.2 needs to be re-formatted or perhaps discarded.
- Write a paragraph regarding Bloom's taxonomies and send to Jenn for implementation in the course content.
- With Janice look at week 2 and see if the objectives can be switched to week 1.
- Look at the possibility of adding a better qualitative analysis exercise (perhaps not feasible until fall course offering)
- Write a paragraph to be included in the qualitative section of the course content.
- Write something up about readability and then decide where to incorporate this into the course content
- Research recommendations on "listenability".
- With Janice, consider having undergraduates complete measure-up activity.
- With Janice, clarify assignment instructions for Unit 6.1, assignment 1: Alternative Assessment.
- Look at staggering due dates for assignments especially in unit 2.....maybe have five days in between each assignment deadline.
- Incorporation of [*Environmental Education Materials: Guidelines for Excellence*](#) in an assignment for undergraduates?

Jennifer Dillard

- Work on designing the resource list in FrontPage.
- Implement all revisions into the course once final drafts received from Janice.
- Compile all final evaluation results and write a comprehensive report. Follow-up with non-responders if necessary.
- Compile and analyze the pre-course/post-course assessment results for experimental and control groups (include in final evaluation report)
- Recruit control group (knowledge pre/post course assessment) for summer course
- Follow-up with course drop-outs. Will include in final evaluation report.
- Continue marketing for summer and fall courses.
- Include a link at the end of the scavenger hunt assignment that will take the course participants to the general information webpage for first time Desire2Learn users.

Georgia Jeppesen and Dr. Rick Wilke

- Review all revision recommendations from Janice and Lyn
- Organize an additional conference call if necessary.
- **Georgia** – continue marketing course to FWS employees for summer and fall. And help with marketing the course to wider audience if need be in May and June.

To Do Notes

Summer 2005 AEEPE Course Revision Conference Call #1

Tuesday, May 10, 2005

1:30 PM Central Time

Design/review team present on the call: Dr. Rick Wilke, Jennifer Dillard, Dr. Lyn Fleming, and Janice Easton

****All Revisions Due to Jenn by: May 30, 2005 (submit earlier if possible) ****

Janice and Lyn will receive payment of \$1,000 each for completing the revisions by May 30th (payments will be made on June 15, 2005).

Review of Assignments Per Unit

Introduction and general comments

1. Introductory Unit – will be left unchanged
 - Biography
 - Pre-course Assessment
 - Scavenger Hunt (**Jenn** to add link for Desire2Learn tutorial)
 2. Discussion board participation rubric to be re-worked by **Janice**
 - If student posts something to discussion board they receive 1 point
 - Points 2-5 based on content of the response
 3. Graduate students total points different than undergraduates and non-credit course participants – **Jenn** to make sure this is reflected in Grades section of Desire2Learn.
 4. Need to make sure that assignment titles in the units coincide with titles on assignment sheet, discussion board and dropbox. (**Jenn**).
 5. Advise students to choose one part of their program to evaluate. They can't evaluate everything. Focus on a discrete program (**Lyn** put message in 'News' section).
 6. Encourage students to stick to maximum number of pages allotted for assignments (e.g. culminating assignment = maximum 5-7 pages) (**Lyn** put message in 'News' section).
-

Unit 1

Janice to add the EE Report Card link to Unit 1

Assignment 1: My EE Program

1. **Janice to:**
 - Expand on this assignment.
 - Add additional questions to help focus (i.e., goals and objectives, are you currently evaluating the program? If yes what are you doing?)

Assignment 2: Who are my stakeholders? – Keep as is

Assignment 3: It's just a phase

2. **Janice** - Change point value (from 30 points to 15). Add a table and improve directions.

Assignment 4: How does my program measure up?

3. **Janice to change:**
 - Allow graduate students 2 weeks to do this assignment
 - Undergrads and workshop students answer questions (one or two) to encourage them to look at this section (e.g., which of the NPE guidelines would be most valuable to you?)
-

Unit 2

Assignment 1: Writing SMART Program Objectives – Keep as is

1. **Janice** - Keep points at 30 for assignment, but add 5 points for discussion board participation.

Assignment 2: Creating a line of logic

2. **Janice and Lyn** add more examples (keep points at 40).

Assignment 3: Planning my evaluation – Keep as is

Unit 3

Janice to add a link to “Children as Respondents in Survey Research” article in unit content.

Assignment 1: My observation form

1. Both instructors made the most comments on this assignment. Most students did revisions and posted. **Janice to:**

- Change instructions to reflect the grading policy (i.e. when students revise and post their observation form they will receive however many points were withheld from Dropbox submission).
-

Unit 4

Lyn - work on adding in readability text to this unit (add into 4.1 and 5.2)

Assignment 1: Do you hear what I hear? – Keep as is

Assignment 2: Children’s Groundwater Festival – Keep as is

1. **Janice** - Change point value for assignment (45 points for assignment and 5 points for responding to each other on the discussion board).

Assignment 3: My interview or focus group guide – Keep as is

Unit 5

Assignment 1: Problem questions

1. **Jenn** to split this assignment in two parts.
 - 1st half – submit to dropbox
 - 2nd half – submit to discussion board
- **Janice** – change points (15 points for each part)

Assignment 2: My questionnaire – Keep as is

Assignment 3: Identify threats to internal validity

2. **Janice** - Change this to a graduate assignment/Read and Respond (25 points OK, add 5 pts for grad student discussion participation)
-

Unit 6

Assignment 1: Alternative assessment

1. **Janice** – Improve directions and change points to 20. Add a bulleted list of options so that students know that they need to do something different.

Assignment 2: My alternative assessment and scoring tool

2. **Janice** – Clarify what needs to be included and change points to 40. Develop an analytic rubric. Description of how you are going to score this. Add a line for total score.
-

Unit 7

Shorten to one week in length???

Assignment 1: Interview data

1. **Janice to:**
 - Describe what is meant by results, conclusions and recommendations in the instructions (e.g. results = 3 statements, conclusions = 1 statement, recommendations = 1 statement).
 - Change points to 30

Assignment 2: PLT survey data (difficult)

2. **Janice to:**
 - Use more specific language to direct students toward what they should be generating (e.g. do a correlation and report the R value)
 - Fix the data set table – one of the columns is hidden or delete some of columns?
 - Create a cheat sheet for students to use.
 - Cheat sheet link added to the assignment by **Jenn**.

Assignment 3: Evaluating means making decisions –Keep as is

**Conference Call Notes
Summer 2005 AEEPE Course Revision Conference Call #3
Tuesday, May 31, 2005
2:00 PM CDT**

Design/review team present on the call: Jennifer Dillard, Dr. Lyn Fleming, Janice Easton, and Georgia Jeppesen

Design/review team member absent from the call: Dr. Rick Wilke

Review of compiled comments from spring 2005 AEEPE Final Course Evaluation

Data analysis and interpretation

- **Janice** is working on creating “Excel Help Sheets” to be included with quantitative data analysis assignment.
- **Georgia** to recruit past FWS course participants to review the “Help Sheets” once they are complete.
- **Jenn** to add “Help Sheet” links within the appropriate assignment.
- **Lyn** will give students additional time to work on quantitative data analysis assignment in Unit 7. Message to be posted to the “News” section allowing students to have a little more time to complete assignment. Assignment due date will run into time allotted for culminating assignment.

Assignments

- Unit 2 will be 2 weeks long and Unit 7 will be 1 week in length with additional time to finish up assignments (change already made by **Janice**).
- Assignment revisions submitted by **Lyn and Jan** to be implemented into FrontPage by **Jenn** and then reviewed by **review team**.
- **Lyn** to put introductory message in “News” section advising students to read the entire unit first and then do the assignments.
- **Lyn** to draft initial recommendations for assignment due dates in order to address timing issues. Draft to be submitted to **review team** for feedback.
- **Janice** will work on grading rubrics for in-depth assignments during the summer. Goal for **fall** course offering = rubric for each assignment.
- **Jenn** to change In-depth assignments to 45 points each.

Assignment Due Dates

- **Jenn** to add additional link on assignment page that will allow course participants to print off just the assignment due dates.

Discussion Board/Dropbox

- **Jenn** to make changes to grade set-up so that discussion board participation points come right behind each unit's assignments.
- **Jenn** to change the points for discussion board participation so that the students do not see an "F" when they do not receive all of the points. The grade will be reported with a number instead of a letter value.
- **Lyn** to post a "News" item after unit 1 asking course participants to make sure they have checked their email and obtained instructor feedback from their dropbox assignment.

Miscellaneous

- **Jenn** to work with Glossary usability issue later in the summer.
- **Georgia** to provide additional examples to **Jan and Lyn** to be included subsequent course offerings.
- **Jan** included a simpler logic model example to help in ease of comprehension among course participants.
- **Lyn** to send additional information regarding evaluation plans to **Jan** for further review (additional information to be possibly implemented for fall course offering)
- **Lyn** to work on "readability" component to be added into course content. Will forward on to **Jenn** and **review team** ASAP.
- **Georgia** to re-word Question #19 on final course evaluation (#19 - I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period.)
- **Jenn** to add additional question in final course evaluation asking for permission to use respondents' comments for marketing the course (sample questions - May EETAP/UW-SP use your comments for use in course promotion?)
- **Jan** to compile separate resource lists (additional resources, reference list per unit). **Jenn** to create separate WebPages for each resource list in FrontPage to be added as a content link in introductory unit.

APPENDIX F

Summer 2005 Design/Review Team Revision Notes

To Do Notes
Summer 2005 AEEPE Course Revision Conference Call #1
Thursday, August 4, 2005
2:00 PM Central Time

Revision team present on the call: Jennifer Dillard, Lyn Fleming, and Janice Easton

Revision team absent from the call: Dr. Rick Wilke and Georgia Jeppesen

Jennifer

- Incorporate additional examples to the stakeholders assignment (1.1.2)

Example:

Funding Agency

- a. How many people are involved in the program?
- b. How are successful efforts communicated to a broader audience?
- c. What outcomes were produced from funds provided?

Adult Volunteers

- a. Are the subject matter and teaching methods of the training appropriate for me?
- b. Am I learning new skills that I will be able to use at the site and at home?
- c. Is this a good use of my time?

- Obtain additional information from Angela Arkin re: the group of 4 from the EPA, working in individual states for 319 Program Environmental Monitoring Guidance Programs. They are required to take the course through their employer.
- Add more examples to the Program Objectives section (unit 2.1) and implement additional sentence about HOTS to Bloom's taxonomy....I already have the revisions from Jan and Lyn.
- Pop-up glossary...have the glossary words (highlighted in a specific color, perhaps red) defined by a "pop-up window" the first time they are presented in the text. The second, third etc. times the word is used in the text, students can access the definition in the glossary.

- Write-up a short explanation of the glossary and how it is to be used. Add to the syllabus section of the course. Incorporate an additional step into the scavenger hunt to familiarize the course participants with the glossary.
- Write-up a short explanation re: time commitment for the course and include it on the website, in the first week course information, maybe on the assignment page or on the page with the grading details.

Example:

This course requires that you devote adequate time to successfully complete the readings, assignments, and discussion board interaction. You will need to spend an average of 5-10 hours per week on this course in order to obtain a passing grade and certificate of completion as a workshop participant. Those taking the course for credit will need to devote approximately 10 hours per week to be successful.

- Check with Dr. Wilke and Georgia to see if it may be possible to lengthen the course to 15 weeks in the summer and fall 2006. Dr. Wilke's Comment -It is possible. Let's discuss the advantages and disadvantages. Perhaps we should poll the fall course participants to get their opinions.
- Check on whether or not the "profile" in Desire2Learn can be altered to reflect pertinent questions we want to ask in regards to course participants' programs that they want to evaluate etc...
- Research the possibility of including streaming video into Desire2Learn for additional assignment to be implemented as the first assignment in the Observation Unit. This would be something that would get them thinking about observing the way that the Active Listening gets them thinking about interviewing.
- Unit 5.1, Assignment 1

Assignment 1: Problem questions



Short Activity
Assignment

[For each question on this page](#) (will open in new window), identify the source of at least one problem with the question. **The questions in this exercise are actual questions collected from several different questionnaires. It is not meant to be a final questionnaire designed to gather data for a specific purpose.** Post your response to the Dropbox Folder *Problem Questions*.

Jan

- Look for additional examples/studies with more statewide appeal that can be incorporated into the course.
- Write additional text to be included with the Principles of Quality Evaluation (Appendix A).

Example:

APPENDIX A PRINCIPLES OF QUALITY EVALUATION (AMERICAN EVALUATION ASSOCIATION)

- A. **Systematic Inquiry:** Evaluators conduct systematic, data-based inquiries about whatever is being evaluated.
- B. **Competence:** Evaluators provide competent performance to stakeholders.
- C. **Integrity/Honesty:** Evaluators ensure the honesty and integrity of the entire evaluation process.
- D. **Respect for People:** Evaluators respect the security, dignity and self-worth of the respondents, program participants, clients, and other stakeholders with whom they interact.
- E. **Responsibilities for General and Public Welfare:**
Evaluators articulate and take into account the diversity of interests and values that may be related to the general and public welfare.

-
- Write additional text to be added to the Logic model and SMART objective sections to help guide students through making the distinction between small & overall program goals.
 - Add additional bulleted item asking students to check for readability prior to submitting their surveys (Assignment 5.3).
 - Write additional text that will help students understand that there is a link between the evaluation tools and the evaluation plan.
 - Add evaluation plan to match the logic model – Jan to look for evaluation plan to match Logic model example in the course.
 - Write additional text that will help students with the analysis part of the evaluation plans (describing possible analysis – quantitative & qualitative options – and data display options).

Example:

Who are your stakeholders?
What do the stakeholders need to hear?
(Statistics, Stories, Graphs or Tables?)

- Make changes to the actual questions in Unit 5.1, assignment 1
-

Lyn

- Forward Chris Ramsey's (Salmon Habitat & Resource Recovery) forms to Jan for review. After review, forward forms to Jenn for implementation into the course.
-

Revisions on the Backburner

- **For Spring or Summer 2006** - Reduce requirements for workshop students so they will have the option of developing only 2 tools that will help them answer their evaluation plan questions. They may do the others, but they do not have to. For the tools they do not develop, they must participate in the discussion of at least 4 of the tools developed by their peers including judging the tools using the Observation Form Development Checklist and others.
- **For Spring or Summer 2006** – Add a seeing versus judging exercise to the observation unit (Lyn to look for something online).
- **For Summer or Fall 2006** - Lengthen the course to 15 weeks.
- **HOLD FOR NOW** - AEA hot topic discussions (since the 2004 conference) are now revolving around renaming the OLD phases (led by Patton and others) to these 4 phases:
 - Developmental (needs assessment, front end, formative evaluation)
 - Implementation (evaluability, process and formative)
 - Accountability
 - Impact (benefit/cost assessment, summative)

APPENDIX G

Fall 2005 Design/Review Team Revision Notes

Agenda
Fall 2005 AEEPE Course Revisions Conference Call
Monday, November 28, 2005
2:00 PM Central Time

Call-In Information

Call Date: November 28, 2005 (Monday)
Call Time: 2:00 PM Central Time
Duration: Approximately 2 hours

Toll-Free Dial-In Number: 1-800-977-8002
Participant Conference Code: 644097# *(FYI- don't forget the pound sign when you call in)*

Goals of conference call:

1. Discuss spring 2006 revisions
2. Determine responsibilities for revisions to be made
3. Discuss different requirements for graduate, undergraduate and workshop students as well as options for student support
4. Discuss Desire2Learn technical problems and solutions
5. Discuss options on how to prevent instructor burn-out
6. Discuss recruitment ideas for other course instructors
7. Determine whether a face to face meeting is needed

1. Discuss spring 2006 revisions &
2. Determine responsibilities for revisions to be made

- A. Lengthen the course to 15 weeks
- B. Make sure all links are linked to PDFs, so that links won't have to be checked before each course offering. Make sure that all links open in new windows.
- C. Change the grade setup, so that Desire2Learn just reports the points and not the letter grade.
- D. Consider making changes to all assignment instructions for better clarification.
- E. Consider creating grading rubrics for each assignment.
- F. Discuss other ways to lessen the "crunch" at the end.
- G. Change instructions for dropbox submissions (single-spaced?)

- H. Look at the multi-part exercises (i.e., submit first part of assignment to dropbox and then submit revised version to discussion board) these are problematic for many students.
- I. Give students the option to switch sections if they know the course instructor. Talk about how to handle issue of students being familiar with the course instructors.....list names of course instructors on course flyer and timetable. Often potential course participants ask who the course instructors are...may need to have Jan and Lyn review the registration information to alert us to problems with placement of students in sections.

Unit by Unit Revisions

- A. Unit 1 - Getting familiar with the guidelines is the only nonessential (meaning not directly related to their program work) activity...having said that I think Lyn will disagree and want to keep it in because this is what should be driving their programs to begin with.
- B. Unit 2 - all essential to the overall framework of the course.
- Re-work logic model instructions.
- C. Unit 3 - all essential
- Add streaming video into Desire2Learn for additional assignment to be implemented as the first assignment in the Observation Unit. This would be something that would get them thinking about observing the way that the Active Listening gets them thinking about interviewing.
 - Modify the observation form development checklist.
- D. Unit 4 - the Active Listening exercise can be optional for workshop and undergrads.
- Make the active listening and alternative assessment exercises optional. But do we still include the discussion points? Probably not since they can read them but may not be able to contribute in a meaningful way.
 - Modify the interview guide development checklist.
- E. Unit 5 - problem questions can be optional but we should encourage them to at least look at the problem questions
- F. Unit 6 - first Alternative Assessment exercise can be dropped.
- Make the active listening and alternative assessment exercises optional. But do we still include the discussion points? Probably not since they can read them but may not be able to contribute in a meaningful way.
- G. Unit 7 - all essential
- Consider making unit 7 two weeks long.

- Make changes to PLT Data Analysis assignment – get students working with Excel earlier in the semester?
- Create a rubric or checklist that will guide the students to write conclusions and recommendations for unit 7 assignments.

H. Culminating Assignment

- Revise the culminating assignment instructions for the Pre-evaluation report.

3. **Discuss different requirements for graduate, undergraduate and workshop students as well as options for student support**

- A. Reduce requirements for workshop students so they will have the option of developing only 2 tools that will help them answer their evaluation plan questions. They may do the others, but they do not have to. For the tools they do not develop, they must participate in the discussion of at least 4 of the tools developed by their peers including judging the tools using the Observation Form Development Checklist and others.
- B. Other possibilities are to have descriptors instead of grades for workshop participants.

4. **Discuss Desire2Learn technical problems and solutions**

- A. Discuss long-term solutions to computer access problems
- Remote access to computer here on campus,
 - Try out a different web browser like Mozilla
 - Look into using a different internet provider
 - Troubleshoot with current internet provider
- B. Talk about the possibility of providing a printed out “book” or “course manual” for course participants that want to have the course content in print format.

5. **Discuss options on how to prevent instructor burn-out and participant drop-out/frustration levels**

Instructors

- A. How do we prevent burn out? What was learned from Fundamentals of EE?
- B. We need to reduce the instructor time devoted to hand-holding, interpreting assignments, and grading.

- C. Who do we see as possible instructors if this course continues to be in such demand?
- D. What can be done for this next offering to help the instructors?
- E. We could also include discussions of what a TA (graduate student) could do to lighten this load.

Participants

- F. What can we do to lessen the frustration level for those that do not drop but take lots of hand holding?
- G. FWS will need to do something to work with FWS participants, but it would be great if we could think "class wide" about this issue so everyone benefits. We talked briefly about a "distance focus group" with at least FWS past participants- which might be easier to corral, since NCTC paid for their tuition.

6. Discuss recruitment ideas for other course instructors

- A. When would we want to bring other future instructors in so the learning curve is not overwhelming, particularly if they were not part of the development or review team? (Specific question for Janice and Lyn)

7. Determine whether a face to face meeting is needed

A. Revision Meeting

- Meeting face to face or distance.
- What are the objectives?
- Are we just tightening up or addressing bigger issues?
- What specifically needs a face to face meeting to address and how much would it cost FWS and EETAP?

B. The objectives

- We need more examples that cover the range of programs students “bring” to the course.
- We should have different (fewer) requirements for workshop students, with options, but need to be able to discuss and “meta-cogitate” over the possibilities.
- We need to reduce the instructor time devoted to hand-holding, interpreting assignments, and grading.
- We could also include discussions of what a TA (graduate student) could do to lighten this load.

- These topics would be so much easier to address and solve in person. I think we need to do this, in person, before we bring on another or other instructors.

C. The cost

- We would need access to computers, printers, internet and all the files we have used with the course to date.
- Three full days professional services (plus travel time) = \$1000; travel (food, lodging) expenses? Depends on location?

Conference Call Notes
Fall 2005 Course Revisions Conference Call
November 28, 2005
2:00pm Central Time

Revision team present on the call: Dr. Rick Wilke, Georgia Jeppesen, Lyn Fleming, Janice Easton and Jennifer Dillard.

Goals of conference call:

1. Discuss spring 2006 revisions
 2. Determine responsibilities for revisions to be made
 3. Discuss different requirements for graduate, undergraduate and workshop students as well as options for student support
 4. Discuss Desire2Learn technical problems and solutions
 5. Discuss options on how to prevent instructor burn-out
 6. Discuss recruitment ideas for other course instructors
 7. Determine whether a face to face meeting is needed
-

1. Discuss spring 2006 revisions &

2. Determine responsibilities for revisions to be made

- A. Lengthen the course to 15 weeks – We will make the course 11 weeks in length. Lyn requests that an additional week be added in to make unit 2 three weeks long instead of just two. Jan requests a break after unit 4. For the spring course offering there is a week off for spring break, making the course 11 weeks in length. We will re-visit this again after the spring course ends.
- B. Make sure all article links are linked to PDFs – Jenn will check on copyright issues with this and get back to the design team. In addition, Jenn will also make revisions in the course to ensure that all links open in new windows (request from one of the fall course participants).
- C. Change the grade reporting setup – Jenn to check and see if it is possible to have the grades available for credit students and points available for non-credit students (per Lyn's request). If not then arrange to have just points available for students to view.
- D. Consider making changes to all assignment instructions for better clarification – Lyn, Jan, and Jenn will do this when they meet in January.
- E. Consider creating grading rubrics for each assignment – Jan and Lyn will exchange rubrics/checklists that they have come up with for the course. They will discuss this during the meeting in January.

- F. Discuss other ways to lessen the “crunch” at the end – The addition of an extra week into the course will help with this.
- G. Change instructions for dropbox submissions (single-spaced) – Jenn to make this change to the dropbox instructions for consistency.
- H. Look at the multi-part exercises – There was discussion about having the students post their tools only if they have revised them. Perhaps an additional culminating assignment option could be to revise two of your evaluation tools and then submit them for final review. This will be discussed in greater detail during the January meeting.
- I. Jan and Lyn review the course participants’ list – Jenn will forward the course participant registration list to Jan and Lyn prior to placing students into sections.

Unit by Unit Revisions – These were not discussed during the conference call...will be discussed in detail during the meeting in January.

A thru G – We had a general discussion about changing the requirements for workshop students. They will be expected to do 2 of the 4 evaluation tools; this will be decided upon by the instructor based on the student’s evaluation plan. Graduate students will continue to do all 4. In addition, Jan discussed the document she created with changes to the assignments page. This will be discussed in greater detail during January’s meeting.

- J. Culminating Assignment – Jan and Lyn recommended cutting down the culminating assignment, re-working directions and perhaps adding additional options.

3. Discuss different requirements for graduate, undergraduate and workshop students as well as options for student support

Reduction in requirements for workshop students will be discussed during the January meeting.

4. Discuss Desire2Learn technical problems and solutions

- A. Discuss long-term solutions to computer access problems - Jenn to research the various options available and will go over this with Lyn during the January meeting.
- B. Talk about the possibility of providing a printed out “book” or “course manual” – This is not a possibility at this time due to concerns about having

the course material distributed in a printed format. Jenn will continue to support students that want to copy off the course materials on their own.

5. Discuss options on how to prevent instructor burn-out and participant drop-out/frustration levels

Instructors

- A. How do we prevent burn out? What was learned from Fundamentals of EE? – Here is a list of ideas that were presented: bring in additional instructors in the future, make the course longer, tighten up the assignments, clarify the directions for the assignments, make the workshop requirements less stringent and continue to have a support person (i.e., graduate assistant) to help with the work-load.
- B. We need to reduce the instructor time devoted to hand-holding, interpreting assignments, and grading – Jenn to see if there is a way to restrict the students from bypassing the “notes” section of the course. This will require the students to read the notes posted by the instructors, hopefully alleviating some of the redundancy in questions from course participants.
- C. Who do we see as possible instructors - Julie Athman, Kate Wiltz, Nicole Ardoin. However, everyone agreed that it would not be a good idea to bring anyone else on until the course was in its “Final” version. Also anyone that is considered as a possible instructor for the course should take the course; this would be at no-cost to the potential instructor.
- D. What can be done for this next offering to help the instructors? – The additional spring break week will help, making significant revisions to assignments, and using the graduate assistant to help with inputting grades.
- E. We could also include discussions of what a TA (graduate student) could do to lighten this load – Jan and Lyn will utilize the graduate student to help in inputting grades if necessary.

Participants

- F. What can we do to lessen the frustration level for those that do not drop but take lots of hand holding? - Will deal with this on a student by student basis. Lyn and Jan will continue to utilize the graduate assistant to help with this.
- G. FWS to conduct a “distance focus group” with past course participants – This was discussed briefly, but put on the back-burner for further discussion at a later date.

6. Discuss recruitment ideas for other course instructors

- A. When would we want to bring other future instructors - We discussed the importance of choosing the right people to bring on as future instructors. It is important to choose someone that will be willing to come in and be an instructor without having ownership in the development process.

7. Determine whether a face to face meeting is needed

The option of a face to face revision meeting for Jan, Lyn, and Jenn was discussed in general by everyone on the call. It was determined that this meeting would be a great way to really finalize the various course components that need revising, thus getting us much closer to a “Final” version of the course. Dr. Wilke and Georgia agreed to look for funds to help support this request.

Jan, Lyn and Jenn talked additionally about travel logistics. A date and place was decided upon and Lyn agreed to send out an email to Dr. Wilke and Georgia summarizing our discussion.

APPENDIX H

Spring 2005, Summer 2005 and Fall 2005 Knowledge
Pretest/Posttest Questionnaire, Experimental Group Administration

Sample Message Posted in Desire2Learn “News” Section

Pre-Course Knowledge Assessment

Before you look at any of the course content please complete the pre-course assessment. This assignment is due by September 16. To get started now, click on "Pre-course Assessment" in the box on the left side of your screen.

Applied EE Program Evaluation

Thank you for your participation in the Applied EE Program Evaluation research project and for completing this assessment. Your input is important. The obtained results will assist us in the evaluation and improvement of the course. We really appreciate the time and effort you are contributing.

When you are finished completing the assessment, click the "Submit" button.

For each question below please select the "best" answer choice. There is only one correct answer for each question.

1. Which of these scoring tools measure the quality of performance on the basis of established criteria?

- Checklist
- Concept map
- Rating scale
- Scoring rubric

2. An evaluator would conduct an evaluation to determine _____?

- Changed attitudes
- Changed behavior
- Gained knowledge
- Gained skills
- All of the above

3. research is concerned with describing and developing explanations of social phenomena.

- Descriptive
- Developmental
- Qualitative
- Quantitative

4. The three main approaches to front-end evaluation include _____ ?

- Formative evaluation, process assessment, and participant review
- Key informant interviews, participant review, and summative evaluation
- Needs assessment, research review, and review of exemplary practice
- Nominal group assessment, formative evaluation, and key informant interviews

5. The activities, services and products that are generated through the investment of resources are considered to be the program's _____ ?

- Effects
- Inputs
- Outcomes
- Outputs

6. Descriptive statistics can describe data in terms of _____?

- Analysis of variance
- Independent samples t-test
- Measures of central tendency
- Probability
- All of the above

7. _____ standards are intended to ensure that an evaluation will be conducted legally, ethically and with due regard for the welfare of those involved in the evaluation, as well as those affected by its results.

- Accuracy
- Feasibility
- Propriety
- Utility

8. The SMART acronym for writing good program objectives stands for _____?

- Scientific, Manageable, Age-specific, Relevant, Time-bound
- Scientific, Measurable, Audience-specific, Reliable, Time-bound
- Specific, Manageable, Appropriate, Relative, Time-bound
- Specific, Measurable, Audience, Relevant, Time-bound

9. What type of interview are you conducting if you are an interviewer adhering to a list of questions, with little or no deviation in the wording or order of questions?

- Guided interview
- Informal conversational interview
- Participatory open-ended interview
- Structured interview
- None of the above

10. _____ is the extent to which a study, test or any measuring procedure yields consistent results.

- Correlation
- Correspondence
- Reliability
- Validity
- None of the above

11. What are the three learning domains that are used in writing objectives for an educational program?

- Affective, Social, Psychomotor
- Cognitive, Affective, Psychomotor
- Cognitive, Social, Psychomotor
- Knowledge, Social, Psychomotor

12. The results or changes in a program participant's knowledge, behavior and skill level that occurred from the educational effort are considered to be the program's_____?

- Effects
- Inputs
- Outcomes
- Outputs
- Effects and Outcomes

13. What is the first step in focusing an evaluation?

- To conduct a formative evaluation
- To conduct a front-end evaluation
- To define what you are going to evaluate
- To identify your target audience
- To conduct a needs assessment

14. Using several data collection methods to answer the same evaluation question is known as_____?

- Generalizability
- Integration
- Reliability
- Triangulation
- Validity

15. What kind of evaluation would you use if you wanted to find out the unintended benefits and consequences of the program?

- Formative evaluation
- Front-end evaluation
- Needs assessment
- Summative evaluation

16. To get a more holistic or in-depth picture of a program you would collect _____?

- Descriptive statistical data
- Empirical data
- Qualitative data
- Quantitative data
- Statistical method data

17. A _____ is defined as any person or group who has an interest in the program being evaluated or in the results of the evaluation.

- Board member
- Evaluator
- Program director
- Stakeholder
- Teacher

18. Which one of these question formats is not considered closed-ended?

- Dichotomous
- Matching
- Multiple-choice
- Numeric response
- All of the above are considered closed-ended

19. If you were observing a program or activity through a hidden camera or a one-way mirror, you would be considered a(n)_____?

- Collaborative observer
- Covert observer
- Overt observer
- Participant observer

20. Which of these designs is a pre-experimental design?

- One group pretest-posttest design
- The nonequivalent comparison group design
- Time-series design
- None of the above

21. _____ standards are intended to ensure that an evaluation will serve the informational needs of intended users.

- Accuracy
- Feasibility
- Propriety
- Utility

22. Which assessment tool would you most likely use if you wanted to measure the growth of student learning by their ability to organize and represent knowledge?

- Concept map
- Exhibition
- Jigsaw
- KWL chart
- Portfolio

23. Which of the following data collection methods would you use if it were necessary to protect a participant's confidentiality in order to ensure honest responses?

- Focus groups
- Interview
- Low-profile surveys
- Observations
- Questionnaire

24. The formative evaluation is conducted _____?

- At the beginning and throughout the program
- At the beginning of the program
- Throughout the program
- To determine the long term impacts of a program
- All of the above

25. _____ refers to the degree in which an instrument measures what it is intended to measure.

- Consistency
- Correlation
- Reliability
- Validity

26. What are the three "broad" phases of program evaluation?

- Cumulative, organizational, developmental
- Developmental, organizational, summative
- Formative, developmental, summative
- Front-end, formative, summative
- Front-end, developmental, cumulative
- Top-end, bottom-end, cumulative

27. _____ research is concerned with investigating things that can be observed and measured.

- Developmental
- Inferential
- Qualitative
- Quantitative

28. What type of sample is used when you are using a predetermined number of non-randomly selected individuals with certain characteristics?

- Haphazard samples
- Convenience samples
- Purposive samples
- Quota samples

29. The group in the study that does not receive treatment is the _____?

- Control group
- Experimental group
- Pre-experimental group
- Quasi-control group

30. Which data collection tool is dependent on the interactions among the participants?

- Concept maps
- Focus groups
- Portfolios
- Questionnaires/surveys
- Focus groups and Questionnaires/surveys

31. Your study findings can be generalized to the population at large, so your study has high _____?

- Construct validity
- Content validity
- External validity
- Internal validity
- Reliability

32. Which assessment tool shows the change in the quality of a person's work over time and enables learners to take an active role in evaluating their own work?

- Concept map
- Exhibition
- Jigsaw
- KWL chart
- Portfolio

33. What type of analysis would you use if your focus is on analyzing and interpreting the information collected from observations, interviews and questionnaires?

- Content analysis
- Context analysis
- Descriptive analysis
- Inferential analysis
- None of the above

34. What type of sampling takes place when individuals are selected on the basis of their availability for the survey process?

- Cluster sampling
- Convenience sampling
- Random sampling
- Systematic sampling

35. What type of evaluation would you use if you wanted to provide program staff with information for improving their program?

- Cumulative evaluation
- Formative evaluation
- Front-end evaluation
- Needs assessment
- Summative evaluation

36. Observable evidence of program accomplishments, changes made or progress achieved are known as _____?

- Indicators
- Inputs
- Outcomes
- Outputs
- Outcomes and Outputs

37. What type of evaluation approach or model will best meet your evaluation needs if you want to know the impact that a certain training had on the participants in terms of their reactions, learning and behaviors?

- Accreditation
- Cost/benefit analysis
- Empowerment evaluation
- Kirkpatrick's four-levels model
- None of the above

Rate your level of confidence with the following aspects of evaluation.

How confident are you...

38. With your knowledge of program evaluation?.....

39. In your ability to develop an evaluation plan for evaluating a specific educational program.....

Name:

Email Address:



APPENDIX I

Pilot Study Questionnaire and Feedback

Dear Pilot Study Participant,

I am in need of your knowledge, expertise and time in helping me to develop a valid research tool to be used this semester in collecting the first data set for my thesis. As many of you may already know, I am in the process of designing a knowledge assessment for EETAP's Applied EE Program Evaluation online course to evaluate whether or not a participant's knowledge changes as a result of their participation in the course. I am looking to you to help ensure that the assessment uses appropriate language, is easy to understand, and is an accurate measure of a participant's experience. Here is what I need you to do. Please take the attached knowledge assessment and record how long it actually takes you to complete it. You can make comments directly on the assessment itself, and/or consolidate your feedback into general statements and fill out the form below. Then send your comments/feedback to me via email by **February 9th**.

Thank you all for taking the time out of your busy schedule to help me in my research, I really appreciate all of your time and effort. Please let me know if you have any further questions.

Respectfully,
Jennifer Dillard

General Questions for AEEPE Knowledge Assessment Pilot Test Participants
(Please provide feedback directly on the attached assessment and send it back to me via email)

- 1) Is the knowledge assessment clearly written and presented in easy to understand vocabulary?
YES _____ NO _____

If you answered NO, please explain your reasoning.

2) Are the directions for each question clear, including tasks required and the answer format?

YES _____ NO _____

If you answered NO, please explain your reasoning.

3) Did you understand the words, concepts, or terms?

YES _____ NO _____

If you answered NO, please explain your reasoning.

4) Were there any questions that could perhaps be interpreted in different ways?

YES _____ NO _____

If you answered YES, please explain your reasoning.

5) How long did it take you to complete the knowledge assessment?

_____ minutes

6) Do you think this is an appropriate amount of time to spend on a multiple-choice test? Is it too long or too short?

7) What other suggestions/recommendations do you have regarding the knowledge assessment?

Applied Environmental Education Program Evaluation Knowledge Assessment

Thank you for your participation in the Applied EE Program Evaluation online course (Applied EE Program Evaluation research project) and for completing this assessment. Your input is important. The obtained results will assist us in the evaluation and improvement of the course. We really appreciate the time and effort you are contributing.

For each question below please select the “best” answer choice. There is only one correct answer for each question.

1. Which of these scoring tools measure the quality of performance on the basis of established criteria?
 - A. Checklist
 - B. Concept map
 - C. Rating scale
 - D. Scoring rubric

2. An evaluator would conduct an evaluation to determine_____?
 - A. Changed attitudes
 - B. Changed behavior
 - C. Gained knowledge
 - D. Gained skills
 - E. All of the above

3. _____?_____ research is concerned with describing and developing explanations of social phenomena.
 - A. Descriptive
 - B. Developmental
 - C. Qualitative
 - D. Quantitative

4. The three main approaches to front-end evaluation include _____?
- A. Formative evaluation, process assessment, and participant review
 - B. Key informant interviews, participant review, and summative evaluation
 - C. Needs assessment, research review, and review of exemplary practice
 - D. Nominal group assessment, formative evaluation, and key informant interviews
5. The activities, services, and products that are generated through the investment of resources are considered to be the program's _____?
- A. Effects
 - B. Inputs
 - C. Outcomes
 - D. Outputs
6. Descriptive statistics can describe data in terms of _____?
- A. Analysis of variance
 - B. Independent samples t-test
 - C. Measures of central tendency
 - D. Probability
 - E. All of the above
7. _____ standards are intended to ensure that an evaluation will be conducted legally, ethically, and with due regard for the welfare of those involved in the evaluation, as well as those affected by its results.
- A. Accuracy
 - B. Feasibility
 - C. Propriety
 - D. Utility

8. The SMART acronym for writing good program objectives stands for _____?
- A. Scientific, Manageable, Age-specific, Relevant, Time-bound
 - B. Scientific, Measurable, Audience-specific, Reliable, Time-bound
 - C. Specific, Manageable, Appropriate, Relative, Time-bound
 - D. Specific, Measurable, Audience, Relevant, Time-bound
9. What type of interview are you conducting if you are an interviewer adhering to a list of questions, with little or no deviation in the wording or order of questions?
- A. Guided interview
 - B. Informal conversational interview
 - C. Participatory open-ended interview
 - D. Structured interview
 - E. None of the above
10. _____ is the extent to which a study, test, or any measuring procedure yields consistent results.
- A. Correspondance
 - B. Correlation
 - C. Reliability
 - D. Validity
 - E. None of the above
11. What are the three learning domains that are used in writing objectives for an educational program?
- A. Affective, Social, Psychomotor
 - B. Cognitive, Affective, Psychomotor
 - C. Cognitive, Social, Psychomotor
 - D. Knowledge, Social, Psychomotor

12. The results or changes in a program participant's knowledge, behavior, and skill level that occurred from the educational effort are considered to be the program's _____?

- A. Effects
- B. Inputs
- C. Outcomes
- D. Outputs
- E. A and C

13. What is the first step in focusing an evaluation?

- A. To conduct a formative evaluation
- B. To conduct a front-end evaluation
- C. To define what you are going to evaluate
- D. To identify your target audience
- E. To conduct a needs assessment

14. Using several data collection methods to answer the same evaluation question is known as _____?

- A. Generalizability
- B. Integration
- C. Reliability
- D. Triangulation
- E. Validity

15. What kind of evaluation would you use if you wanted to find out the unintended benefits and consequences of the program?

- A. Formative evaluation
- B. Front-end evaluation
- C. Needs assessment
- D. Summative evaluation

16. To get a more holistic or in-depth picture of a program you would collect_____?
- A. Descriptive statistical data
 - B. Empirical data
 - C. Qualitative data
 - D. Quantitative data
 - E. Statistical method data
17. A _____ is defined as any person or group who has an interest in the program being evaluated or in the results of the evaluation.
- A. Board member
 - B. Evaluator
 - C. Program director
 - D. Stakeholder
 - E. Teacher
18. Which one of these question formats is **not** considered closed-ended?
- A. Dichotomous
 - B. Matching
 - C. Multiple-choice
 - D. Numeric response
 - E. All of the above are considered closed-ended
19. If you were observing a program or activity through a hidden camera or a one-way mirror, you would be considered a(n)_____?
- A. Collaborative observer
 - B. Covert observer
 - C. Overt observer
 - D. Participant observer

20. Which of these designs is a pre-experimental design?
- A. One group pretest-posttest design
 - B. The nonequivalent comparison group design
 - C. Time-series design
 - D. None of the above
21. _____ standards are intended to ensure that an evaluation will serve the informational needs of intended users.
- A. Accuracy
 - B. Feasibility
 - C. Propriety
 - D. Utility
22. Which assessment tool would you most likely use if you wanted to measure the growth of student learning by their ability to organize and represent knowledge?
- A. Concept map
 - B. Exhibition
 - C. Jigsaw
 - D. KWL chart
 - E. Portfolio
23. Which of the following data collection methods would you use if it were necessary to protect a participant's confidentiality in order to ensure honest responses?
- A. Focus groups
 - B. Interview
 - C. Low-profile surveys
 - D. Observations
 - E. Questionnaire

24. The formative evaluation is conducted _____?
- A. At the beginning and throughout the program
 - B. At the beginning of the program
 - C. Throughout the program
 - D. To determine the long term impacts of a program
 - E. All of the above
25. _____ refers to the degree in which an instrument measures what it is intended to measure.
- A. Consistency
 - B. Correlation
 - C. Reliability
 - D. Validity
26. What are the three “broad” phases of program evaluation?
- A. Cumulative, organizational, developmental
 - B. Developmental, organizational, summative
 - C. Formative, developmental, summative
 - D. Front-end, formative, summative
 - E. Front-end, developmental, cumulative
 - F. Top-end, bottom-end, cumulative
27. _____ research is concerned with investigating things that can be observed and measured.
- A. Developmental
 - B. Inferential
 - C. Qualitative
 - D. Quantitative

28. What type of sample is used when you are using a predetermined number of non-randomly selected individuals with certain characteristics?
- A. Haphazard samples
 - B. Convenience samples
 - C. Purposive samples
 - D. Quota samples
29. The group in the study that does not receive treatment is the _____?
- A. Control group
 - B. Experimental group
 - C. Pre-experimental group
 - D. Quasi-control group
30. Which data collection tool is dependent on the interactions among the participants?
- A. Concept maps
 - B. Focus groups
 - C. Portfolios
 - D. Questionnaires/survey
 - E. B and D
31. Your study findings can be generalized to the population at large, so your study has high _____?
- A. Construct validity
 - B. Content validity
 - C. External validity
 - D. Internal validity
 - E. Reliability

32. Which assessment tool shows the change in the quality of a person's work over time and enables learners to take an active role in evaluating their own work?
- A. Concept map
 - B. Exhibition
 - C. Jigsaw
 - D. KWL chart
 - E. Portfolio
33. What type of analysis would you use if your focus is on analyzing and interpreting the information collected from observations, interviews, and questionnaires?
- A. Content analysis
 - B. Context analysis
 - C. Descriptive analysis
 - D. Inferential analysis
 - E. None of the above
34. What type of sampling takes place when individuals are selected on the basis of their availability for the survey process?
- A. Cluster sampling
 - B. Convenience sampling
 - C. Random sampling
 - D. Systematic sampling
35. What type of evaluation would you use if you wanted to provide program staff with information for improving their program?
- A. Cumulative evaluation
 - B. Formative evaluation
 - C. Front-end evaluation
 - D. Needs assessment
 - E. Summative evaluation

36. Observable evidence of program accomplishments, changes made, or progress achieved are known as _____?

- A. Indicators
- B. Inputs
- C. Outcomes
- D. Outputs
- E. C and D

37. What type of evaluation approach or model will best meet your evaluation needs if you want to know the impact that a certain training had on the participants in terms of their reactions, learning, and behaviors?

- A. Accreditation
- B. Cost/benefit analysis
- C. Empowerment evaluation
- D. Kirkpatrick's four-levels model
- E. None of the above

General Questions for AEEPE Knowledge Assessment - Gwen Herrewig

(Please provide feedback directly on the attached assessment and send it back to me via email)

- 1) Is the knowledge assessment clearly written and presented in easy to understand vocabulary?

YES NO

If you answered NO, please explain your reasoning.

It was for the most part – Please see comments throughout. Many of the questions asked what you wanted to know last in stead of first (see changes I made in the questions). You also had a few fluff words and the question could be state more clearly just by using one (but I didn't change it on the test because it is not a big deal) -

for example:

- A. hidden camera or a one-way mirror**
- B. a program or activity**
- C. more holistic or in-depth**
- D. a participant or group of participants**
- E. evaluation approach or model**

- 2) Are the directions for each question clear, including tasks required and the answer format?

YES NO

If you answered NO, please explain your reasoning.

- 3) Did you understand the words, concepts, or terms?

YES NO

If you answered NO, please explain your reasoning.

See comments from #1

4) Were there any questions that could perhaps be interpreted in different ways?

YES _____ NO X _____

If you answered YES, please explain your reasoning.

5) How long did it take you to complete the knowledge assessment?

25 _____ minutes

6) Do you think this is an appropriate amount of time to spend on a multiple-choice test? Is it too long or too short?

It is appropriate I think. I think it depend on how many credits the course is for and if this is the only test. If this is a one credit and only test I think it is appropriate.

7) What other suggestions/recommendations do you have regarding the knowledge assessment?

Nice job Jenn.

General Questions for AEEPE Knowledge Assessment – Karla Lockman

(Please provide feedback directly on the attached assessment and send it back to me via email)

- 1) Is the knowledge assessment clearly written and presented in easy to understand vocabulary?

YES X **Absolutely!** NO _____

If you answered NO, please explain your reasoning.

- 2) Are the directions for each question clear, including tasks required and the answer format?

YES X NO _____

If you answered NO, please explain your reasoning.

- 3) Did you understand the words, concepts, or terms?

YES X NO X

If you answered NO, please explain your reasoning.

I didn't always understand the terms in question. It was only hard because I didn't know the definitions you were looking for. The sentence structure and the "fill-in" words were very clear.

- 4) Were there any questions that could perhaps be interpreted in different ways?

YES _____ NO X

If you answered YES, please explain your reasoning.

I did make a couple comments on the test form... See that for more comments.

5) How long did it take you to complete the knowledge assessment?

38 minutes

6) Do you think this is an appropriate amount of time to spend on a multiple-choice test? Is it too long or too short?

Yes, I think it is appropriate for a test... Most tests, I think, should be between 30 and 60 minutes for a 3 credit course.

7) What other suggestions/recommendations do you have regarding the knowledge assessment?

Perhaps, instead of the asterisk, you could give them the option to bold the answer

- A. Apples**
- B. Bananas**
- C. Carrots**
- D. Pears**

General Questions for AEEPE Knowledge Assessment – Jeremy Higgins

(Please provide feedback directly on the attached assessment and send it back to me via email)

- 1) Is the knowledge assessment clearly written and presented in easy to understand vocabulary?

YES NO

If you answered NO, please explain your reasoning.

Some of the vocabulary is difficult, but it is mostly content based.

- 2) Are the directions for each question clear, including tasks required and the answer format?

YES NO

If you answered NO, please explain your reasoning.

- 3) Did you understand the words, concepts, or terms?

YES NO

If you answered NO, please explain your reasoning.

Some of the vocabulary is difficult, but it is mostly content based. Part of the test process.

- 4) Were there any questions that could perhaps be interpreted in different ways?

YES NO

If you answered YES, please explain your reasoning.

5) How long did it take you to complete the knowledge assessment?

20 minutes

6) Do you think this is an appropriate amount of time to spend on a multiple-choice test? Is it too long or too short?

Pretty good timing. Might be quite a bit different after taking the course.

7) What other suggestions/recommendations do you have regarding the knowledge assessment?

Make sure your database doesn't automatically move answers around to fill in unanswered or blank questions.

General Questions for AEEPE Knowledge Assessment – Lester Dillard

(Please provide feedback directly on the attached assessment and send it back to me via email)

- 1) Is the knowledge assessment clearly written and presented in easy to understand vocabulary?

YES _____ NO X (see my revisions in WORD)

If you answered NO, please explain your reasoning.

**Perhaps you should use _____ instead of?.....
to define your blanks.**

- 2) Are the directions for each question clear, including tasks required and the answer format?

YES X NO _____

If you answered NO, please explain your reasoning.

- 3) Did you understand the words, concepts, or terms?

YES _____ NO X

If you answered NO, please explain your reasoning.

Some of the terms are not familiar to me like the various testing techniques, etc.

- 4) Were there any questions that could perhaps be interpreted in different ways?

YES _____ NO _____

If you answered NO, please explain your reasoning.

See my notes on the test itself

5) How long did it take you to complete the knowledge assessment?

20 minutes

6) Do you think this is an appropriate amount of time to spend on a multiple-choice test? Is it too long or too short?

I think it is a little bit too long, but perhaps that is because I am not familiar with the subject matter. Perhaps if I knew my stuff, then it wouldn't take as long.

7) What other suggestions/recommendations do you have regarding the knowledge assessment?

none

General Questions for AEEPE Knowledge Assessment – Sarah Wilcox

(Please provide feedback directly on the attached assessment and send it back to me via email)

- 1) Is the knowledge assessment clearly written and presented in easy to understand vocabulary?

YES _____ NO _____

If you answered NO, please explain your reasoning.

Others might disagree with me on this, but it seems to me that because your goal is to find out whether one group of people knows more (course participants) than another group (non-course participants), you wouldn't need to take the approach of "there's one BEST answer." There's no need to trick them, like a college professor would when s/he writes a test, since you're not ranking them to find out which individuals know the most content (or are the best test takers). In other words, you're not interested in who knows the BEST answers (i.e., the answer that the course teaches), but which group gets the most CORRECT answers. I suggest you consider reviewing the questions to make sure there is only ONE correct answer for each question, rather than one BEST answer that the course teaches. Because obviously, if they've taken the course, they're going to choose the answer that the course taught them. If one of the other answers is feasible, however, the non-course participants might choose it simply because it COULD be correct, and that will confound your findings. I hope that makes sense.

Take question #3 for example. I'm sure one of these methods describes social phenomena BEST, but couldn't more than one of them do it adequately? Ditto for #15 – D is probably the best way, but A COULD do it too. Ditto for #39... there COULD be more than one correct answer.

- 2) Are the directions for each question clear, including tasks required and the answer format?

YES _____ NO _____

If you answered NO, please explain your reasoning.

3) Did you understand the words, concepts, or terms?

YES NO

If you answered NO, please explain your reasoning.

4) Were there any questions that could perhaps be interpreted in different ways?

YES NO

If you answered YES, please explain your reasoning.

The only one I had a problem with was #38.

5) How long did it take you to complete the knowledge assessment?

20 minutes

But you should give them longer than that if it's going to be 40 questions long. Maybe one minute per question?

6) Do you think this is an appropriate amount of time to spend on a multiple-choice test? Is it too long or too short?

For those who have taken the course, it won't seem long, but your control group might be a little turned off by the length if they find themselves guessing a lot. Some questions could be cut... maybe down to 30? Think about which questions are most important for them to know as a result of taking the course (e.g., #17 doesn't seem that important).

I like that you have a few easy ones (#2, 4, 30) – make sure to spread them out so the control group gets one right once in a while and is motivated to continue.

- 7) What other suggestions/recommendations do you have regarding the knowledge assessment?

Jenn – This draft looks great! It's come a long way. I hope my suggestions are helpful. I haven't looked at the course in 3-4 months, so I couldn't give it as thorough a review as I would have liked. And I had to guess on a few (you can consider those "the hard ones" I suppose)! I think overall it's easy to understand and the questions are well written. My biggest concern is whether or not all the questions are necessary. If you decide to trim them down, you might need some help from the team in determining which concepts are most important for course participants to have learned. Good luck! ~Sarah

APPENDIX J

Spring 2005, Summer 2005 and Fall 2005 Knowledge
Pretest Questionnaire, Control Group Administration

Sample Control Group Pretest Knowledge Assessment Email

Congratulations!!!!

You have been chosen by the Environmental Education and Training Partnership and the University of Wisconsin-Stevens Point to be involved in a unique research project. We are conducting a survey to find out if there is significant knowledge gained as a result of our “Applied Environmental Education Program Evaluation” online course. The research design is set-up so that we have two groups that are involved in the project; the course participants and a non-course participant group (control group). Each of these groups will take an identical test before and after the course. Since you have shown interest in our online courses by contacting us for additional information, we wanted to give you the first chance to take advantage of this opportunity as a member of the non-course participant group. If you successfully complete both the pre-course and post-course assessments you will receive a voucher for **\$25 off** the enrollment fee in one of our environmental education online courses. Please respond quickly, as we will accept the first 50 responses only!

Your participation is voluntary, but we sincerely hope that you will help us with this project. Please be assured that we will not release information that could identify individuals who participate in this research. We do ask that you provide your name, but we assure you this information will only be used to keep track of which research participants have and have not completed the pre/post-course assessments. All responses will be confidential.

The pre-course assessment should take no more than 20 minutes of your time. 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 May. Once we have received both assessments, you will be sent the \$25 voucher.

If you have any questions; please do not hesitate to contact either of us. We would like to thank you for your interest in our online courses and your help in advancing research in the field of environmental education and evaluation.

Please complete the following assessment by February 28, 2005.

Respectfully,

Dr. Richard Wilke
Director
Environmental Education & Training
Partnership
(715) 346-4766
rwilke@uwsp.edu

Jennifer Dillard,
Graduate Assistant
Environmental Education & Training
Partnership
(715) 346-4957
jdillard@uwsp.edu

[Click Here To Access Pre-course Assessment](#)

APPENDIX K

Spring 2005, Summer 2005 and Fall 2005 Knowledge
Posttest Questionnaire, Control Group Administration

Sample Control Group Posttest Knowledge Assessment Email

Hello Environmental Education Research Participants!

In February of this year you submitted a pre-course knowledge assessment as a part of an Environmental Education and Training Partnership and University of Wisconsin-Stevens Point's research project. The research design is set-up so that two groups involved in the project, the course participants and non-course participants (control group). Participants from each group take an identical test before and after the course. The "Applied Environmental Education Program Evaluation" online course is coming to an end this next week, so it is time to begin administering and collecting the post-course assessment for both groups.

Your participation is voluntary, but we sincerely hope that you will help us with this project. Please be assured that we will not release information that could identify individuals who participate in this research. We do ask that you provide your name, but this information will only be used to keep track of which research participants have and have not completed the pre/post-course assessments. All responses will be confidential.

The post-course assessment should take no more than 20 minutes of your time. If you agree to participate in this research project, click on the link below to access the assessment. Once we receive your post-course assessment, we will send you a voucher for **\$25 off** the enrollment fee in one of our environmental education online courses.

If you have any questions; please do not hesitate to contact either of us. We would like to thank you for your interest in our online courses and your help in advancing research in the field of environmental education and evaluation.

Please complete the following assessment by May 9, 2005.

Respectfully,

Dr. Richard Wilke
Director
Environmental Education & Training
Partnership
(715) 346-4766
rwilke@uwsp.edu

Jennifer Dillard,
Graduate Assistant
Environmental Education & Training
Partnership
(715) 346-4957
jdillard@uwsp.edu

[Click Here To Access Post-course Assessment](#)

Sample Control Group Voucher Email

Hello Applied Environmental Education Program Evaluation (AEEPE) Control Group Participants,

Congratulations on successfully completing both of the knowledge assessments. As control group participants of the AEEPE research project, you are now eligible to receive \$25 off the course fees of one of our online EE courses.

We are offering the Fundamentals of EE (FEE) and AEEPE online courses this upcoming spring and we encourage you to enroll quickly in order to secure your spot.

To find out more information about these courses please access our website at: <http://www.uwsp.edu/natres/rwilke/eetap/>

If you are ready to register for one of the courses you can contact Angela Arkin at aarkin@uwsp.edu for a registration form. When you submit your registration form please indicate that you are a control group participant by writing “**\$25 voucher recipient**” on the top of your registration form before submitting it.

Thanks for making this such a successful research project. We really appreciate all of your time and effort. And we are looking forward to working with all of you in one of our upcoming EE online courses.

Sincerely,

Jennifer Dillard

Online EE Course Graduate Assistant
Environmental Education & Training Partnership
University of Wisconsin-Stevens Point
College of Natural Resources
Stevens Point, WI 54481
Phone: (715) 346-4957
Email: Jenn.Dillard@uwsp.edu
www.eetap.org

APPENDIX L

Spring 2005, Summer 2005 and Fall 2005 Knowledge
Control Group Participant Lists

Spring 2005 Knowledge Pretest/Posttest Control Group List

Pre/Post Control Spring 2005	
Name	Email
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Maggie Wolfe	naturegeek57@yahoo.com or maggiewolf@mac.com
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Summer 2005 Knowledge Pretest/Posttest Control Group List

Pre/Post Control Summer 2005	
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Stephanie Townsend	steph@jgiuganda.org

Fall 2005 Knowledge Pretest/Posttest Control Group List

Pre/Post Control Fall 2005	
Name	Email
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Tamara Coleman	Tamara.Coleman@state.tn.us

APPENDIX M

Fall 2004 Student Questionnaire Open-ended Responses

Course Objectives

<p>9. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course objectives:</p>
<p>1. <i>I am hoping to get some good feedback from my final project in order to feel that I am on the right track in evaluating my program.</i></p>
<p>2. <i>(No response)</i></p>
<p>3. <i>I did not feel that the evaluation or outreach plan area helped me as much as I had hoped. Rather than a "how to" it was an introduction to the concept of evaluation planning. It needed to be more in-depth and provide some good examples of a completed plan to be useful.</i></p>
<p>4. <i>(No response)</i></p>
<p>5. <i>(No response)</i></p>
<p>6. <i>(No response)</i></p>
<p>7. <i>(No response)</i></p>
<p>8. <i>(No response)</i></p>
<p>9. <i>(No response)</i></p>
<p>10. <i>Overall I really learned a ton from this course!</i></p>
<p>11. <i>(No response)</i></p>
<p>12. <i>(No response)</i></p>
<p>13. <i>(No response)</i></p>
<p>14. <i>(No response)</i></p>
<p>15. <i>(No response)</i></p>
<p>16. <i>Very interesting, as I read your questions, and ponder the answer, I realize I learned a lot.</i></p>
<p>17. <i>(No response)</i></p>
<p>18. <i>please include the comments I made to jenny, thanks (1)differences in software install in my computer and could be remediate, if maybe the program provides us 3rd world customers with simpler less advanced program uses, an example of such obstacles was when I wanted to access some special recommended references or needed to fill up a chart or provide a response in a given questionnaire; I ended up improvising and sending my instructor by fax some of the homework; it was frustrating and possibly misleading to both, she (my instructor) must of thought that I was just not corresponding nor following the instructions nor using the system and I was hesitant, wondering on my own by not hearing from her, all thought at the end she and I agree that it would be in our mutual best interest to wait until the end of the course so she could have more time just to evaluate my assignments and provide me with an answer to my doubt's; in that same respect I later also learn that (2) some emails I had forward had not reach her; (3) the system at UW had gone down so (4) later I got her personal email and started reconnecting with her...something similar happen to us during the first UW course we took and so I went back applying some tricks I use in order to set up some way of communication and do the best possible in all my assignments..... (5)something that also contribute greatly to my limited-absent participation was the fact that this past year was to me one of constant traveling to two new paper mills we are trying to operate in the south parts of Mexico, it force me to be absent and have no access to my course, so by the time I came back; (6) all the class had move on and I was left behind and trying to catch up....(7)this also contributed in almost not allowing me to participate more actively with the dialogues and discussion forums nor provide my comments on the “drop boxes” (that were also not working for me); as of now I still don't know if my responses to my homework were the correct ones (so ill assume they were)...as for the final assignment (9) mine was related to evaluating the Spanish version of Project Learning Tree, using a CD format (that was always clear and was my final reason-intention for taking the course)....(10) as for the contents of the course, I was able to do some quick re-evaluations using the new tools and did work better for my answers, so I can say that this coming next 6 months will redo some further questionnaires and try to compare all the data and conclude results by September-05; I will send you all a report maybe to be use for case studies...(11) an idea on how we might make the system better could be to include examples as to how to use..... but not just written instructions also graphic charts as to how to use a given tool included in the software....or how to assure, that you were able to communicate with someone (I forward some emails to my course</i></p>

colleagues at the beginning but never got an answer from them, my system assure me that communication was made but response was never send to me) and (12) and maybe it has no baring at all but age(item 54) could be a factor when it comes to using computers and surfing along the net and the programs, if such could be the case; then let us oldies use simpler or friendlier options

19. (No response)

Overall Course Outcomes

12. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the overall course outcomes:

1-15. (No responses)

16. While I realize that I learned A LOT, I feel it might be a bit of a leap to say I am any kind of expert when it comes to knowing what evaluation model to use given various situations. Also rubrics for each assignment.

17. (No response)

18 and 19. (No response)

Course Structure

20. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:

1. I thought the course was very well organized. I felt a bit frustrated with the pace – some of the topics needed 2 weeks. I would definitely have liked more time on quantitative assessment tools/methods, and the qualitative tools section was too brief to be helpful (it really needs a whole course). I felt frustrated at times because it is hard to put every question in words on paper – I am used to interacting face-to-face.

2. This is the first time I have ever participated in an on-line course and I knew it was going to be fast paced, however I didn't know how fast paced it was going to be. I felt that some of the units could have been placed differently. When you finish a unit the next one you start explains how to do the material in the last unit a lot better. I guess I am just a better face to face learner; I would rather have done this class in a classroom setting than on an online course. I think I would have gotten a lot more out of it.

3. I think I am a better in-person learner, so I would love to see this given at NCTC, however, I am also very grateful to have been able to take it on-line, because I was able to spend more time on the areas I needed to focus on. In a perfect world, we would do both, as it is, it's a great course and should at least continue as an on-line course.

4. I think the option of taking the course face to face (at NCTC) or online would be good. For some people, this course would be better suited for them in a face to face format.

5. **Question 13.** Creating the evaluation plan in Unit 2 was hard for me, since I didn't know much about collecting and using information at the time. I think it would have been better to complete the plan after I'd done the other units.

Question 15. I didn't think there was enough communication from the instructor. I felt she just checked in every so often.

Question 18. I would only choose an on-line course if I couldn't attend a week-long off-site course. I prefer the intensive, focused learning of a week-long course.

Question 16. The Jigsaw exercise didn't work well. It was hard to coordinate with team members

<i>through the email system.</i>
<i>6. The only difficulty with the structure that I encountered was the group work in Unit 6, the Jigsaw assignment. Also, being an older student I missed the face-to-face discussions and interactions of the past!</i>
<i>7. I would prefer to have taken this course in a shorter period of time, with face to face contact. I found it difficult to make adequate time to complete my assignments by the due dates and in several instances, did not complete them. This course allowed more in-depth study of each topic than probably would have been possible at a week long training workshop. At this point in my life and career, I prefer "quick" knowledge with minimal time expended on my part.</i>
<i>8. Question 19: I do not think that a one week period would be enough time to learn and process all the information that is provided in this course!! Face-to-face interaction with the professor and other students might be nice, but then I think the course would have to be over a quarter or semester term.</i>
<i>9. #15 – At the beginning of the course, I did not receive much feedback from the instructor. Receiving consistent and expanded feedback would have been very helpful, as that was the point in the course when we were developing objectives, an evaluation plan, etc. We had to move onto next steps before getting feedback on our performance in earlier ones, that served as building blocks. Later in the course, this improved, but I think the relative lack of feedback early on was a detriment overall.</i>
<i>#20 – Being able to take this course and pack in so much content over several weeks was a far better format for me. I like face-to-face courses, but this content lends itself well to online instruction, and I would much rather take it online than face-to-face.</i>
<i>10. #13. The due dates for each unit were very confusing...sometimes they went from Monday to Monday, sometimes Monday to Friday and sometimes Friday to Monday. When it constantly changed it was hard to keep track of when things were due and hard to have a set time each week to work on things.</i>
<i>#14. It seemed to flow alright overall but there was so much information that it was hard to absorb all that was in one unit before moving on to the next. Because of this I felt that I had to rush through the info and not get as much out of it as I could have.</i>
<i>#15. At the beginning of the class, we were told that we should be checking the course website at least every day. While I think that this is a reasonable expectation, I also think that the instructor should also be expected to check the website regularly. Weeks would go by before assignments were commented on or updates for the class were posted. It was frustrating when you often needed one assignment for another...especially with such a fast-paced class.</i>
<i>#16. I put agree – but I think that the work load prevented more in-depth and quality interaction with other students. I think the intro activities were great though! It was very useful to get to know the other students and find similarities in situations and projects.</i>
<i>#17. It was alright to take on-line, it may have been easier to interact with the instructor in person (but that is probably always the case with online courses)</i>
<i>#19. Although I think it would be much more worthwhile – it would be hard to take the time away from school/work for a whole week...as well as travel expenses.</i>
<i>11. I definitely could see the benefit of taking this type of course "in person" however if I did it over a week I think it would have been too much in too little time. The course flowed in a logical way for evaluation as a topic but for logistics and people's schedules some of the more challenging or time consuming assignments came at the end when you were already scrambling to complete your culminating assignment...</i>
<i>12. I would have liked more prompt grading of assignments and more personal interaction with the instructor. I began the course very motivated to turn in all assignments on time, but when they weren't graded for weeks, I lost this motivation!</i>
<i>13. I think more effort needs to be put into making the course more interactive between students and instructor, as well as student to student. I think this has to do with the course design and the limitations of the desire to learn software used by UWSP. Ideas – phone conference calls (required as part of course) every couple weeks; Video streaming of lecture/presentation delivered by instructor; establish cohorts/groups regionally that can meet or talk on the phone; encourage student to student interaction more – I gained very little from the comments made during the course (I wonder how many participants made comments just because they were required and did not care about the content of the</i>

<p>comment).</p> <p><i>I have taken two other on-line courses with different formats that were easier to interact with than desire to learn. Hamline University has a pretty system (or they did in 2002).</i></p> <p><i>I am much more of a face-to-face learner. But have no option to take certain courses on-line and am trying to like it.</i></p> <p><i>No one – not even the instructor – seemed to check their UWSP email as required for the course. I do not think using the UWSP email system is a good idea for a course like this, which targets education professionals who are not enrolled as students at UWSP.</i></p>
<p>14. (no response)</p>
<p>15. <i>Janice did an excellent job as instructor in spite of the volume of student material she had to deal with. I also marked that I would have preferred to do this course face to face but in reality I would not have had the time. So even though face to face is preferred learning method in the real world I have to use other methods because of time.</i></p> <p><i>And final comment the only area where there was problems was in doing a group project. It was practically impossible especially when it falls over a holiday. Many of us taking the course are strapped for time and working full time active jobs. This doesn't allow for email coordination and I would suggest eliminating this feature from your course.</i></p>
<p>16. <i>The part of course I would like more of are: 1) More opportunity to chat with the instructor, especially about my completed assignments. The feedback was so limited and for the most part minimal in detail. The hardest part was trying to work in our assigned groups. For the next class perhaps you will improve the chat mechanisms and provide us with each other's phone numbers, (those willing) so we can chat more naturally and more in-depth. There has to be a way to build in more collaboration and networking.</i></p>
<p>17. #15. <i>I found that I wanted more feedback from the instructor. Had I known that the course would have over 30 participants in it, I might not have signed up for it.</i></p> <p>#19. <i>I would prefer that the course be offered online, be offered over a longer time period (too many assignments to complete in a given week while still working a full-time job), and be offered to a smaller number of participants.</i></p>
<p>18. <i>Q16, I made several email notes but never got an answer from my colleagues...there was a lot of suggestions and advice flowing via the dialogue box but as I understand it no one was actually in a one to one dialogue, but then again most of the time I had difficulty contacting my instructor by email or opening the boxes..sorry</i></p>
<p>19. <i>Interaction between the instructor and students seemed to be sporadic - at times it was great, and times, not so good. I might not have been able to attend a class at NCTC (timing, expense, etc.), but think that I probably would have gotten more out of it in a classroom situation.</i></p>

Technology

<p>27. If you responded “With difficulty or Not at all” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course technology:</p>
<p>1. <i>I was never able to get the instructor's comments on my papers -- on one she said she had changes tracked, but I never got the feedback. Nothing happened when I clicked on the buttons that were supposed to contain feedback.</i></p>
<p>2. (No response)</p>
<p>3. <i>The e-mail setup was cumbersome and difficult to use. It would have been nice to be able to easily select several addressees, since we had a group project. Not all members of our group could use the e-mail system.</i></p>
<p>4. (No response)</p>
<p>5. #23. <i>I had trouble downloading some of the assignments (for example, Unit 7, assignment 1).</i></p>

<i>#25. Sending a message on Outlook wasn't intuitive to me. I had a hard time finding people's addresses.</i>
<i>6. (No response)</i>
<i>7. (No response)</i>
<i>8. (No response)</i>
<i>9. #25 -- It would be much easier to communicate if we had been able to do so through our regular work addresses, rather than thinking about another account through UWSP. It took a while to get in the habit of checking that email account, and I missed a few things at the beginning. If that email address could be automatically forwarded to my regular work account, I would be able to communicate more effectively via email.</i>
<i>10. (No response)</i>
<i>11. (No response)</i>
<i>12. The e-mail system was pretty slow for me, I am not sure why.</i>
<i>13. Email worked best if using non-UWSP email addresses for both students and instructor. I had difficulty setting up my account and logging in the first time due to a registration error. Grades (and instructor comments) were often not posted until weeks after the turned in. This is ok, but should be told to students at beginning of course if that is the approach. I had trouble identifying where to look for certain information. Such as assignment deadlines - to me it seemed they should be with the assignments, not in a separate area, etc. This could have addressed by verbal tutorial or someone to quickly and easily call with questions.</i>
<i>14. (No response)</i>
<i>15. Drop box submission did not always work easily and I had to repeatedly submit before it would show. Also, using the email provided by the college is difficult and required too many extra steps to be practical for me. I preferred to use personal email with instructor, etc.</i>
<i>16. I would have liked more visual aids, more variety of presentation, perhaps a live chat, and some audio and photos enhancements.</i>
<i>17. (No response)</i>
<i>18. almost all questions are w diff or not at all in my case ...either my computer settings are not adequate or maybe the company system security codes are a deterrent to use in courses as this one; I still don't know if I got some homework assignments delivered to my instructor; I still don't know if she did get almost all my home work or if she got the final project for evaluation...at the end I was able to learn the importance of doing evaluations and to structure questionnaires about them.....maybe this course could be included also in my first course so if we need to evaluate something at least to have some basic tools to do it...also I would suggest that all the basic literature and suggested references for reading be set up in a special box with in the course so we can have direct access to them and not get " error pages or pages temporarily being done" AS I DID WITH SEVERAL OF THE REFERENCES"..the ones highlighted in blue were easy but the complimentary ones to be found in other data banks or reference sources were for me impossible</i>
<i>19. (No response)</i>

Course Content

<p>48. If you responded “Disagree” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:</p>
<p>1. <i>Some weeks were more involved than others...The last week’s activities should have been split into 2. I would have liked more references to search.</i></p>
<p>2. <i>I am more of a face to face learner. I can read something and totally forget what I just read. I need visuals. Also, about the course load I think it was a lot, however if this was the only thing that you are doing then you would easily be able to complete everything. However, I noticed we were doing a lot of these activities at work. Some of the in-depth assignments were very lengthy. Also, some of the short activities I felt could have been placed in the in-depth activity section.</i></p>
<p>3. <i>There needed to be better/more examples, especially when the topic was planning (evaluation planning) and it would have been nice to have a section on preparing an envt ed proposal with examples. Having assignments due every few days was nerve wracking. Since most of us work full-time jobs, having a few assignments due once a week, at the end of the weekend, is much more manageable than having things due on Tuesday night. That was extremely difficult to do. Some sections were too brief and didn’t provide enough of a description to understand them (the section where we had to describe threats in evaluation needed lots more information).</i></p>
<p>4. <i>The amount of work in the course was a little more than I expected. But looking back over the course, seemed appropriate. At times it was too time consuming to read every single person’s comments and responses in the discussion section. I picked and chose those that I wanted to read, but there was no way I could sit and read every single comment. I thought that the Colorado Youth Corps project should have been a discussion board assignment. I am not sure that the group project worked too well in this electronic format.</i></p>
<p>5. 42. and 43. <i>I didn’t have time to read many of the postings thoroughly. I usually read them until I found one to respond to, then stopped.</i></p> <p>45. and 46. <i>I was surprised by the amount of work required for someone taking the course as a workshop. If I understand correctly, it was the same amount as someone taking it for undergraduate credit. I had a hard time keeping up with the assignments and usually did them as quickly as possible due to time constraints. I think there should be a true workshop or “audit” option, where you complete one assignment per week.</i></p>
<p>6. <i>Unit 2 and Unit 6 took longer to complete, but the instructor was very patient and considerate. Unit 2 was long and Unit 6 took a while to coordinate due to the “group” nature of the assignment.</i></p>
<p>7. <i>(No response)</i></p>
<p>8. <i>(No response)</i></p>
<p>9. <i>The culminating assignment was a good exercise; however, it was difficult to make a good PowerPoint presentation when everything had to be within the text of the slides. I suggest having students submit notes pages with explanation for each slide, as necessary, so that the slides can be less cluttered and more “ready to go” when the content is completed, while also allowing the instructor to see the full depth of knowledge of the subject matter.</i></p> <p>#43 – <i>In responding to others on the discussion board, sometimes I felt like I was trying to create answers when they really didn’t need comment, to make the discussion board work and get credit for my answers. This content wasn’t very conducive much of the time to “conversation” on the board.</i></p> <p>#45-46 – <i>I think it would have made more sense, since a majority of course participants were working professionals, to have less deadlines. Having folks check in once a week, or perhaps twice, seems more realistic. Perhaps put deadline on each unit, and let folks self-select their timing to complete all assignments within a unit. Some assignments had adequate time for completion, while others seemed like they were really crammed in for time.</i></p> <p><i>Also, it seemed like there was a lot of work for a workshop credit, with very little additional work required of those individuals taking the course for credit. There should be more of a difference in the requirements between the two options, and less small assignments required of the workshop</i></p>

<p>participants.</p> <p><i>It seemed hard for some groups to get together all of the work on their jigsaw assignments, which may mean that this type of group work won't work as well for this course as possibly some others.</i></p> <p><i>It might make sense to have some of the shorter assignments lead directly into the culminating assignment, such that completion of work throughout the course would lead to most of the culminating assignment being done by the end. Then, more reflection could be done at the end of the course, rather than starting a whole new project. The essence of the final assignment was great, but I wonder if there's a way to make this a little more integrated and functional overall.</i></p>
<p>10. 45. <i>I think that there was much more work here than what should be required for a three credit course! There was no breathing/absorbing time. I really learned a lot but I think I could have learned even more if there was less info, or if the information was spread out more (possible into two courses?)</i></p>
<p>11. <i>(No response)</i></p>
<p>12. <i>(No response)</i></p>
<p>13. <i>In previous courses I have found the student interaction portion somewhat useful – but never as useful as face-to-face class time. It is very difficult to replicate the learning that happens when people are talking (not writing) with each other. It was impossible to establish a rapport with other students and thus further engage in useful on-line writing.</i></p> <p><i>Very few of the comments/response on the discussion board were helpful to me.</i></p> <p><i>I realize that not everyone was keeping up with their assignments/reading and thus could not participate on time and that presented challenges for discussion and group work.</i></p> <p><i>My comments in this box are in no way reflective of the instructor – they are directed at the delivery format and student participation.</i></p> <p><i>Assignment times – I think these were mis-judged. Many of the short assignments took me a long time to do and some of the in-depth assignments seemed easy. I realize this is the first time you have offered the course and it is difficult to know about assignments until they are done. It would have been useful to ask participants immediately after turning in assignments how much time the spent on each one to help you get a better handle on which ones were off the mark. I am not sure I could accurately reflect on this now.</i></p>
<p>14. <i>Too many due dates and mini-assignments. Focus on fewer assignments, and the culminating project.</i></p>
<p>15. <i>I do think it would have been helpful to have course due dates associated or linked with pages at table of contents area. I kept overall assignments summary printed out and with my calendar to be sure I was not late or missed an assignment but it was tiresome to have to find where assignment was in course reading materials.</i></p>
<p>16. <i>(No response)</i></p>
<p>17. <i>Again, I felt more time should be given to complete assignments.</i></p>
<p>18. <i>(No response)</i></p>
<p>19. <i>(No response)</i></p>

Overall

<p>50. Do you believe that this was an appropriate amount of time to have spent? Why or why not?</p>
<p>1. <i>It was a lot for a non-credit course, but the skill building was worth it.</i></p>
<p>2. <i>Yes and no. When I was in college I know that I didn't spend this much time on my assignments. I got good grades also. I just am not used to spending a lot of time on school assignments.</i></p>
<p>3. <i>A lot for one course, but since this material was new to me, I needed the time to investigate topics and absorb the materials and concepts.</i></p>
<p>4. <i>Since I only work part time (20 hours/week) I spent most of my time at work, working on this course. I was able to put a few of my normal responsibilities on the back burner for a little while, but other</i></p>

<i>folks might not be able to do this.</i>
<i>5. It seems appropriate, if I could have done it all at work. However, most of it was on weekends. For this reason, I strongly favor a week-long, face-to-face course.</i>
<i>6. Yes, I had planned on about 5 to 7 hours a week which is what an "in person".</i>
<i>7. No. I did not complete several of the assignments due to other commitments.</i>
<i>8. Yes- Although I felt like I dedicated a lot of time to this course, I feel that the time spent was necessary. I actually wish I had had more time to devote to the course!</i>
<i>9. Yes, for the most part. I was able to plan to spend about 4-6 hours a week on assignments and discussion. Some weeks required a lot more work, and others required less. It would be great if this could balance out a bit more.</i>
<i>10. It was overwhelming with 13 other credits, 20-30 hours a week of work, and a thesis to write. Any other 3 credit course I could have handled easily, this one I really had to spend a lot of time on (and I wish I would have had time to spend more!)</i>
<i>11.(No response)</i>
<i>12. Yes, because I did learn a lot, even though it was hard to fit it in around work.</i>
<i>13. Since I took it for graduate credit, I felt it was appropriate. I think the range of options – workshop, undergrad, grad – made it impossible to find an equitable approach. A grad course should be more demanding than undergrad and workshop. The course design leaves it up to the individual participant to put in the extra time to make it a grad level course. I also found myself putting in a lot time on the course because I was unsure what extra was expected from graduate students. I do not think the course was rigorous enough for grad credit unless the student put extra work in.</i>
<i>14. Yes.</i>
<i>15. I would have preferred to spend less just due to my schedule but for a graduate level grade I believe this amount of time is necessary.</i>
<i>16. Yes, because I enjoyed (almost) every moment. So time flew by. I didn't even want to watch as much TV (I have three favorite programs) nor read for pleasure. Reading the materials was pleasurable.</i>
<i>17. I felt the amount of time spent was appropriate, but wish that the course began earlier in the fall so that assignments could be spread out better.</i>
<i>18. I have invested around two years in creating a plt Spanish cd version; we have done some trouble shooting, have done some experimental workshops with some targeted audiences, all with limited or no economical resources at all, time in hours have been supplemented by reaching the goal of creating the cd; I am much like the Chinese people, the goal was to create the wall so they could isolate and safely protect their future townfolks, no one ask how long nor how much, but once the wall was erected it gave them more security...I'm in that dilemma still with the cd...</i>
<i>19. Yes. I think the number of hours was appropriate, but felt rushed on some of the assignments (I had to attend training two separate weeks during the course). It might have worked better if the course began earlier and assignments were spaced out little more.</i>

51. What did you like the most about the course?
<i>1. The variety of exercises which covered the topics well.</i>
<i>2. The knowledge that was gained through the class process. I printed everything out so I will be able to have something to refer back to in the years to come.</i>
<i>3. It did cover a lot of new information and educational tools that I can use.</i>
<i>4. I had the flexibility to do it when I wanted or had the time. I enjoyed learning about and from the other participants</i>
<i>5. The ability to access it at any time, from home or work.</i>
<i>6. Information on how to develop a thorough approach to evaluation and the variety of assessments available.</i>
<i>7. I gleaned lots of information both from the readings, other students, and the instructor.</i>
<i>8. I loved the way the course content was laid out. The units and course content flowed together very well. Also, the way the professor presented everything was very easy to digest and understand. The</i>

<i>assignments were well thought out and allowed me to apply the new information I learned. I also thought the professor was very fair, helpful, and encouraging. I really feel like I will (and have already!) be able to apply what I learned from this course to my work in environmental education. It gave me new perspectives in which to look at the work that I do. The course also provided me with ways to test/assess our programs and show results, conclusions, and recommendations in a legitimate way.</i>
<i>9. Content – great new knowledge gained. Everything was applied and generally practical.</i>
<i>10. There was lots of great information and the resources that were listed in the units were great suggestions for future reference.</i>
<i>11. flexibility and helpfulness of instructor</i>
<i>12. Applying what I learned to my work.</i>
<i>13. Learning about evaluation in the context of EE instead of a general eval course. The connections to projects or publications I know. Developing evaluation tools that are applicable to my ee program. (This is the best one!) Positive attitude of the instructor.</i>
<i>14. The content and the culminating assignment.</i>
<i>15. The discussion area and Janice.</i>
<i>16. I learned SO MUCH of what I have always wanted to know about evaluation...and I have a hard copy to review when I start to apply it.</i>
<i>17. I enjoyed the discussion board.</i>
<i>18. it was practical and it did provide me with a lot of ideas and good information that I will use for my project(it will be part of my ee ms thesis this year)</i>
<i>19. I liked the examples and hands-on work - especially planning evaluations for our own programs</i>

52. What aspects of the course could be improved?
<i>1. Anything you can do to tear down the distance factor – and encourage more interaction with the instructor, especially getting feedback on assignments.</i>
<i>2. The flow of the class. Putting like assignments together. Explaining better how to do certain activities (concept maps, rubrics). We saw pictures of them, but I didn't feel that I got a good understanding on what they were.</i>
<i>3. Consider adding a short book (like a practical guide) that is readily available as a reference. Even suggesting books (available at amazon.com, for example) at the end of the sections for students to read if they want more info. Many of the references were good, but I would prefer in addition to have some resources that the instructor recommended.</i>
<i>4. See above, The group project needed a little more organization. I don't think many people used the email. Perhaps this could be encouraged more.</i>
<i>5. It would have been really helpful to be told up-front (before the course started) that I needed a program to evaluate throughout the course. When I read this the first week, I was caught off-guard and had to scramble to find one, since I'm not a field person. The two on-line options offered would have been helpful, if I had known about them a couple of weeks ahead and could have read up on them more. As it was, I ended up changing my program a couple of times and ended up feeling it wasn't developed enough to use for the final assignment.</i>
<i>6. Avoid group work unless the groups are developed early in the course. Toward the middle of the course it seemed like about half the people had dropped out. It would have been nice to know whether they were still involved or not.</i>
<i>7. (No response)</i>
<i>8. A. The Jigsaw assignment was tough! We did not have any other real way that we were communicating to other students (except for the discussion board), and it was hard to get 4 or 5 people together to do the assignment. I recommend either making it a solo assignment or re-formatting it so that it is easier to complete as a group.</i>
<i>B. I thought the explanation of how to make charts/graphs in Excel to complete Assignment 2, Unit 7 was not sufficient enough. If people have experience in Excel already, then the assignment would not</i>

<p><i>be as hard. But, from the explanations of how to use Excel to do the assignment, for someone who hasn't used Excel that much, I felt like I needed more instruction. The link to the University of Florida website helped, but I think what would really help is a step-by-step guideline to exactly how to make a certain kind of graph or chart (especially Scatterplots!).</i></p> <p><i>C. I also felt that it was hard to go back to things posted on the discussion board and keep up with the threads from other students. I feel like I missed out on important comments or conversations with other students because it was difficult to constantly go back to the separate units and check the discussion board. This might be just the nature of on-line courses, but I just thought I'd put it out there!</i></p>
<p><i>9. It would have been great to somehow make this even more applied to current work, with less read and responds and more focused on what we're actually doing day-to-day. This was generally done well, but some assignments that didn't relate to our current application were less useful. Feedback from the instructor was extremely important and was sometimes slow.</i></p>
<p><i>10. Prioritize the information that is given and reduce the number of assignments so that students are able to focus on quality of assignments instead just trying to finish one before having the next one due.</i></p>
<p><i>11. (No response)</i></p>
<p><i>12. Communication from the instructor.</i></p>
<p><i>13. Mentioned above</i></p>
<p><i>14. Reduce # of assignments. Too many due dates for working professionals.</i></p>
<p><i>15. Group assignment</i></p>
<p><i>16. Chat room, visual aids, variety of presentation styles to accommodate a variety of learning styles, more access and chat time with instructor, phone numbers or emails of each class member. A biography of each with a photo during the precourse would be fun! Host a webinar, too.</i></p>
<p><i>17. The group project was difficult to complete online.</i></p>
<p><i>18. maybe add some view and follow examples for us non computer skilful ones; i think i learn a lot from seeing and comparing so if you could provide me with a graphical sequence and a case example I just might learn more as to how to avoid obstacles; maybe also the reading references and further suggested references need to be incorporated in a special direct access box with in our course, maybe as an added plus of materials with easier access, I got some error pages when I tried to download them from the data sources, or got some outdated notes or no longer in service notifications, so as good as they seem I was not able to read such materials so maybe if you include them in the course we can copy and down load them directly</i></p>
<p><i>19. *timely comments on grades</i> <i>*I didn't understand that the program that we chose at the beginning of the course would be used for the entire time. I would like to have had more time to choose the program.</i> <i>*The evaluation plan was difficult to complete - maybe more examples or more explanation of the end product was needed. Again, I didn't know that we would be using the evaluation plan for the remainder of the course.</i></p>

<p>53. Would you recommend this course to a colleague or friend? If no was your answer, please explain why:</p>
<p><i>1. Yes</i></p>
<p><i>2. Yes</i></p>
<p><i>3. Yes</i></p>
<p><i>4. Yes</i></p>
<p><i>5. Yes. Only if the person is looking for college credit</i></p>
<p><i>6. Yes</i></p>
<p><i>7. Yes</i></p>
<p><i>8. Yes</i></p>
<p><i>9. Yes</i></p>
<p><i>10. No. Unless they are a full time student with a light workload, I think it would be tough to keep up with this course. The info was great, but there was so much of it! And a lot of assignments on top of</i></p>

<i>it!</i>
<i>11. Yes</i>
<i>12. Yes</i>
<i>13. Yes</i>
<i>14. Yes</i>
<i>15. Yes</i>
<i>16. Yes</i>
<i>17. Yes</i>
<i>18. Yes</i>
<i>19. Yes</i>

54. Where did you hear about the course?
<i>1 Internet.</i>
<i>2. Work</i>
<i>3. (No response)</i>
<i>4. The National Conservation Training Center</i>
<i>5. through NCTC</i>
<i>6. The National Office of Project WET out of the Montana State University sent me a notice.</i>
<i>7. E-mail</i>
<i>8. The Golden Gate EE Consortium e-mail group.</i>
<i>9. NAAEE</i>
<i>10. An email from Dr. Wilke and an EE New email bulletin.</i>
<i>11. An email from Dr. Wilke and an EE New email bulletin</i>
<i>12. In an e-mail from a colleague</i>
<i>13. PLT and USFS</i>
<i>14. I took the EE Fundamentals course.</i>
<i>15. Through NAAEE</i>
<i>16. Through NCTC, US FWS Training Center, Georgia Jeppesen</i>
<i>17. an email about scholarship opportunities was forwarded to me by a colleague.</i>
<i>18. the PLT newsletter and branch</i>
<i>19. USFWS email</i>

APPENDIX N

Spring 2005 Student Questionnaire Open-ended Responses

Course Objectives

9. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course objectives:
<i>1-1 thru 1-7. (No responses)</i>
<i>1-8. The final unit 7 was very confusing for many people my self included. For this session in particular I think it would be nice to have an animated or verbal explanation of how statistics are used. I still do not have any clue how assigning a number to male and female, race, or any of those descriptive statistics helps in obtaining correlations or any other graphs or data. I had to do that part using the low-tech counting method.</i>
<i>1-9. (No response)</i>
<i>1-10. (No response)</i>
<i>1-11. Because I had to withdraw from the class because of my workload, I put 3 on each above.</i>
<i>1-12. (No response)</i>
<i>1-13. (No response)</i>
<i>1-14. have felt overwhelmed at times by competing the content of this course in the short time, and know that I am not able to fully comprehend the analyzation when it is not something I have additional training and or support to complete.</i>
<i>1-15 thru 2-1. (No responses)</i>
<i>2-2. I was already intimately familiar with many of the aspects of evaluation before taking the course-- particularly in terms of being able to distinguish between front-end, formative, and summative evaluation.</i>
<i>2-3 thru 2-7. (No responses)</i>
<i>2-8. It was a wonderful course and I learned so much. It was time very well spent.</i>
<i>2-9 thru 2-19. (No responses)</i>
<i>2-20. I don't think there was enough time or detail for data analysis and interpretation. If I hadn't had several stats courses in the past, the text provided wouldn't have gotten me too far. (Although I have to admit, I didn't put in as much effort on this unit, so my work doesn't really show my understanding or experience.)</i>
<i>2-21 thru 2-23. (No response)</i>

Overall Course Outcomes

12. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the overall course outcomes:
<i>1-1 thru 1-10. (No responses)</i>
<i>1-11. I had to withdraw from the course</i>
<i>1-12 thru 1-18. (No responses)</i>
<i>2-1. It might be beneficial to not only see program evaluation reports, but also to demonstrate how they can be included into overall grant reports--the evaluation section for those types of programs is typically only a few paragraphs so it'd be good to see a strategy for incorporating evaluation information into a few paragraphs.</i>
<i>2-2 thru 2-23. (No responses)</i>

Course Structure

<p>20. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:</p>
<p>1-1. <i>The course is much more accessible to me online (both for physical location and time concerns).</i></p>
<p>1-2. <i>I still feel I would prefer taking ANY course face-to-face, if time and logistics permitted. I have taken other courses (face-to-face) in one week intensive courses, and would NOT want to take this one that way!</i></p>
<p>1-3. <i>I would have preferred a face-to-face format because I really value that type of class interaction. Since I would not have been able to take it face-to-face, because of the travel costs, I am glad that it was available online.</i></p>
<p>1-4. <i>(No response)</i></p>
<p>1-5. <i>(No response)</i></p>
<p>1-6. <i>(No response)</i></p>
<p>1-7. <i>The reason I disagreed with number 15 is because for several weeks none of us heard from our instructor. During that time I had questions that I posted on our question board which were never answered. I had to work with other classmates who were also confused by the assignment. I felt that there were several assignments that could have been defined more clearly. We were sort of left on our own to figure out the information. I enjoyed taking this course on line and had it not been for unit seven I think I would enjoy taking this online again. Unit seven was just a little bit difficult for someone who doesn't remember how to do statistics any more.</i></p>
<p>1-8. <i>(No response)</i></p>
<p>1-9. <i>(No response)</i></p>
<p>1-10. <i>Q#20--a week for this course is way too intensive--I enjoyed the on-line format.</i></p>
<p>1-11. <i>I had to withdraw from the course</i></p>
<p>1-12. <i>I generally prefer to be able to take courses with personal contact with the professor, but I would be unable to do so, in my current job. So, the convenience of the online format is great.</i></p>
<p>1-13. <i>To clarify Q#17 and Q #19 - to have taken this course would be ideal but second best was online. I would imagine it would take longer than a week in person though.</i></p>
<p>1-14. <i>Q#15/16. I had never taken an on-line course before, and it was difficult for me to feel like I had sufficient interaction with anyone in this format. I will probably never take an online course again.</i> <i>Q#18. There were many challenges for me with this, as I mentioned before. Primarily, I don not own a computer, and it was extremely hard to fit this into my work day.</i> <i>Q#19. I am never able to take a week away from work, unless it is vacation, and I wouldn't spend my vacation days at a training.</i></p>
<p>1-15. <i>I would not have been able to take this class in person.</i></p>
<p>1-16. <i>(No response)</i></p>
<p>1-17. <i>(No response)</i></p>
<p>1-18. <i>Q#19. I probably wouldn't be able to get away for an entire week to take the course and we are limited on travel distance so I may not be able to go to where the course was offered. I may have more success in completing the course if I am away from other distractions and totally focused on it however.</i></p>
<p>2-1. <i>I personally have a hard time with being on-line--I like personal interactions with my instructor. It's also difficult to take courses while working full time!</i></p>
<p>2-2. <i>While I understand the benefits of on-line courses, I absolutely would have preferred to have taken a week-long NCTC course. The instructor for this course was terrific, and I would have loved to have heard her lecture on the topics. In addition, I really enjoy in-person student interaction and think that would have been a valuable addition.</i></p>
<p><i>That said, I understand that many of us wouldn't have been able to make it to an in-person class. For example, I was able to participate in this class from my research site in the Galapagos Islands and another student was signing in from northern Alaska . . . amazing!</i></p>
<p>2-3. <i>Q#14. While overall, the course material did flow logically, and made good transitions, I selected</i></p>

<p><i>"neutral" for a specific reason. There were a number of times, while progressing through the course material sub units that assignments were given. After completing the assignment, and turning it in, and moving on the following sub unit, it appeared that the information presented would have been suited to the completion of the assignment preceding it.</i></p>
<p>Q#17. <i>I cannot say that I am "glad" that I could take this course online. I can say that I am glad that I was able to take this course. I think it could have been equally valuable in a more traditional setting. This was my first online course, and was an interesting experience just because of that.</i></p>
<p>Q#18. <i>While I will not rule out participating in another online course as a result of this experience, I will definitely look closely at the course, and think critically about such a decision. If this course is representative of online courses in general, it requires a phenomenal commitment, organization, and willingness to spend significant amounts of time on it.</i></p>
<p>Q#19. <i>This course could be suited to a face-to-face format, and be equally valuable. I do not think it would be appropriate for a week long intensive period -- there is simply too much content, and the demands would be too high. Because of the extended nature of the course, it is possible to focus on quality of work and evaluation, rather than progressing quickly through a set quantity of information on evaluation. Such intensive trainings in a face-to-face format may be better suited to selected topics from a course such as this -- e.g. spending a period, whether it be a week or couple of days examining data analysis techniques.</i></p>
<p>2-4. Q#19. <i>Face-to-face class would be logistically impossible for me at my location.</i></p>
<p>Q#13. <i>I appreciate the division of the class into A and B - it would have been very time-consuming to converse with the entire class.</i></p>
<p>2-5. <i>I loved the organization of this course. I never felt lost and having it be online I was able to work on it when I had time.</i></p>
<p>2-6. <i>Lack of time away from the office and funding would probably have prevented me from taking this course in a face-to-face format.</i></p>
<p>2-7. Q#19. <i>I live in California, and most of the students were out-of-state...including the instructor! The on-line option was wonderful and made it possible for all of us to take the course. Also, being able to read the course work when we could fit it in our various schedules made it doable.</i></p>
<p>2-8. <i>I would have liked to be able to have face-to-face interaction. This was my first on-line course experience and was surprised at the level of interaction that took place.</i></p>
<p>2-9. <i>Although most concepts were covered adequately, there were a few important concepts that were covered very briefly or limited information was provided.</i></p>
<p>2-10. <i>(No response)</i></p>
<p>2-11. Q#19. <i>This class would be tedious live.</i></p>
<p>2-12. <i>(No response)</i></p>
<p>2-13. <i>Though I am glad I was able to take this course, I would have liked to be able to take it in a face-to-face setting instead of on-line. I would like to have taken the course on campus at UWSP, where I am currently enrolled. My reasons for this are 3-fold: 1) I miss interacting face-to-face with a professor, 2) I miss interacting and getting to know my classmates face-to-face, and 3) I feel I learn better when I have a text to hold in my hands and to refer to later instead of flipping back and forth through web pages and sites. I dislike reading text on computer screens.</i></p>
<p>2-14. <i>Computer problems made this very difficult and I didn't get all I could out of it.</i></p>
<p>2-15. Q#19. <i>I liked the longer time period of a semester course. One week is too short. I would not want to stay away from home or work for an entire week - not convenient.</i></p>
<p>2-16. Q#19. <i>not able to take that kind of time off from work</i></p>
<p>2-17. <i>In reference to Q#19, I feel that this course would have been rushed if it was in a week long period at NCTC. If it was a 2-3 week course, then that would be ok. But cramming all this information in one week is too much. Also, I liked being able to do the assignments at my own speed.</i></p>
<p>2-18. <i>Geographic considerations and schedule would not have permitted me to take this course if it had not been offered online. It was an excellent format.</i></p>
<p>2-19. <i>While I'd much rather take this course face to face, I doubt I could get the funds to travel, so this</i></p>

<i>was a good compromise.</i>
<i>2-20. Q#19 - I would like to take a face-to-face course, however, I cannot travel any distance to do so, nor could I devote a week of vacation or work time. Therefore, I am happy I could take it online even though my learning preference is a classroom setting.</i>
<i>2-21. (No response)</i>
<i>2-22. (No response)</i>
<i>2-23. (No response)</i>

Technology

27. If you responded “With difficulty or Not at all” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course technology:
<i>1-1 thru 1-6. (No responses)</i>
<i>1-7. She wanted us to use a different email address. I didn't write it down and did not take great pains to look it up. I would prefer to just go to the class list and click on her name and be able to send her an email.</i>
<i>1-8. (No response)</i>
<i>1-9. I had a hard time logging into the system on many occasions. I don't really know if it was my internet connection or a problem with your site.</i>
<i>1-10. (No response)</i>
<i>1-11. I didn't get far enough in the course to check my grades</i>
<i>1-12. (No response)</i>
<i>1-13. I had difficulty half way through the course accessing instructor comments from dropbox and reading other students attachments. I kept getting the message (from my home PC - my PC at work was ok) "ERROR An API call exited abnormally." I wrote the helpdesk and got no response. then I called the helpdesk and got instructions to uninstall the new freeware called "openoffice.org 1.1" but didn't have the time to do it and it was too confusing. Even now when I went to open the "Please help us by completing this" I got that same message.</i>
<i>1-14. I used my own email and the instructors own email because it's too confusing to have another email account through this course.</i>
<i>1-15 thru 1-18. (No responses)</i>
<i>2-1. (No response)</i>
<i>2-2. The UWSP e-mail system seemed to have some issues several times throughout the course. I used my personal e-mail to communicate with the instructor, which worked fine.</i>
<i>2-3. Q#22. All in all, navigation was not too bad. Things were organized logically. What made the navigation difficult was having several items to keep track of in several different units simultaneously. Q#23. Access to course content did not receive a "very easily" rating because I have a dial-up connection. While things did load, and I had little problem with that, the time it took them to load was variable -- sometimes it was relatively speedy, and other times 15 minutes or more had to be allowed to download some of the files, pdfs, for instance.</i>
<i>2-4. Q#25. There are too many non-meaningful messages on email. Sifting through them is too cumbersome so I did not use email at all.</i>
<i>2-5. it was tricky once when I put something in the dropbox and then I wanted to update it but I could not so I had to just submit another. not really a big deal though.</i>
<i>2-6 thru 2-13. (No responses)</i>
<i>2-14. My primary problem was using drop box to review comments made by the instructor - I couldn't get the documents to load, it froze the computer etc, etc.</i>
<i>2-15 thru 2-23. (No responses)</i>

Course Content

<p>48. If you responded “Disagree” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:</p>
<p>1-1. (No response).</p>
<p>1-2. The culminating assignment gave me practice in PowerPoint - my first real attempt at it. Other than that, I see it as exactly a culmination - rewording, reorganizing - of all the work I did throughout the course. I see it as one more opportunity for the instructor to grade me, but I don't feel I did anything new - I just rearranged old information.</p>
<p>1-3. I found the discussion board very unfriendly to discussion! I think one of the main problems was that many of the assignments and ideas we were asked to post, were in attachments. This meant that you had to open the attachment, read it and then go back to the discussion board to respond. If you wanted to address several points of the other persons posting, it meant doing this several times. I don't mean to whine, but it was enough of a hassle that it detracted from replying to ideas or assignments.</p>
<p>1-4 thru 1-6. (No responses)</p>
<p>1-7. I did not use the glossary so therefore it was not useful to me. It is not because it would not be useful to someone else.</p>
<p>1-8. There was not much difference in assignments and time spent taking the course as a workshop as opposed to a graduate course.</p> <p>Near the end of the course my job became very busy making it difficult for me to work on my assignments. I wish I had taken the course in the fall when my job would have been less busy allowing me to spend more time on the course.</p>
<p>1-9 thru 1-10. (No responses)</p>
<p>1-11. I had to withdraw from the course</p>
<p>1-12. (No response)</p>
<p>1-13. Q#46 - There were times when some assignments were too close to each other and it got stressful. (Unit 2 due 3/13) Also assignment 5.1.1 part 2 confusing</p>
<p>1-14. Q#45/46. I was always behind on my assignments, and I don't know if is because of my extremely busy work schedule and lack of PC at home, but it seemed like a whole lot of assignments were packed in to a short period of time. I would have preferred to focus on a more specific element or have more time.</p>
<p>1-15. I never used the glossary.</p>
<p>1-16. I felt that some days we had multiple assignments due, some of which took only 1 hour while others took several days. I felt that these assignments should have been spaced better. I also felt that assignments shouldn't be due on Sundays. The weekend provides good time for working on assignments but the pressure to get them done by Sunday is tough and some times difficult to achieve. I would have preferred those assignments to be due on Monday or Tuesday instead.</p>
<p>1-17 thru 1-18. (No responses)</p>
<p>2-1. (No response)</p>
<p>2-2. I would have liked to have received some more resources--perhaps a book or a reading packet as part of the course. It was difficult for me to print out the materials and I would have happily paid up to an additional \$50 for a photocopied packet of the reading materials.</p> <p>Also, the due dates for the assignments was NOT at all clear. The instructor posted them in her short notes to us at the beginning of the week, but I often found myself digging through many notes and still unable to find when the assignments were due. There should be an overall board with assignment due dates OR each content lesson with the assignments should indicate the due date.</p>
<p>2-3. Q#33 Overall, the examples were helpful in understanding course content and application. The major exception to this was in the data analysis section and using excel or other spreadsheet programs to perform data analysis. While information (such as links to online "tutorials") was provided, it was incredibly inadequate. Focusing on excel, which I used, I had very little experience with the program. I went to the tutorial link provided, which was not helpful. Firstly, it was a link to excel '97, and I am</p>

using the 2003 edition. It was out of date. Secondly, the tutorial seemed to assume that the user already had knowledge of the terminology associated with using the program. I did not, so had difficulty in attempting to understand what was being done, what was meant, and then how to apply it. Lyn, the course instructor, provided a brief comment on a discussion board that was more help than the excel tutorial. What I would really like to see is a basic, well diagrammed, well explained "tutorial" within the actual course content that covers the analysis procedures being called for. A simple "this is how to do this particular kind of analysis in excel" would have been most useful. Instead, I devoted several hours in trying to figure out how to get the program to perform the functions I needed it to, and only then was able to move on into actually thinking about what the data analysis meant, which I believe was the intent of the assignment.

Q#36. The assignment due dates were clearly outlined, but on a page that was viewed in the first week of the course. It required constant reference in order to make an attempt to keep track of. I would like to see the assignment due dates not only in the form that they are currently presented, but also within the content pages as each one is assigned.

Q#37. I marked "strongly disagree" on the usefulness of the glossary, because I did not make use of it at all.

Q#45. The amount of work required largely seemed appropriate given the content. Given the provided content, each unit had its applications. I will say that it was a lot of work though!

Q#46. Firstly, I think that the course was too short. I would have liked to see the same content spread out over an additional 2-3 weeks. The amount of time given to complete the assignments wasn't as much of a problem as the spacing, or more specifically, lack of spacing, between assignment due dates. There were several instances of an assignment due on a Friday, followed by two assignments due the following Sunday. Because of my schedule as a graduate student, and other projects that I must work on, I frequently was unable to begin these assignments until either the day before they were due, or in some instances, the due date itself. With the assignments due in such close proximity to one another, I was unable to give each of them the attention to detail that they required. This is unfortunate, as had I been able to spend more time on them, spread out over a greater period, I think that my submissions would have been of a higher quality, and that I could have gotten more out of working on them. As it was, I felt rushed.

2-4. **Q#46.** The workload was definitely manageable, but seemed to have a slow start and then hit a crescendo at about unit 6.

2-5 thru 2-7. (No responses)

2-8. If you weren't familiar with Excel programming, those assignments took a tremendous amount of work and time just to figure out how to get what you needed.

2-9. Most assignments were evenly distributed. A few time-intensive activities were bunched together toward the last few weeks, along with revising and posting a previous assignment, and it really created a big workload. I work full-time and am a homeowner, so this course was in addition to my other responsibilities and time commitments. The last few weeks were difficult for me to keep up.

2-10. (No response)

2-11. **Q#45.** Going back and forth too much. Weeks 3, 5 & 7 are way over busy.

2-12. (No response)

2-13. I did not find discussion board interactions helpful for 3 reasons, 1) I did not have time to read others' submissions, 2) Later in the course, when I did try to read others' work I did not understand the background of their projects because I had not previously viewed their work, 3) When I received feedback from classmates, I felt it was given in order to just "say something" and was not genuine in its constructive criticism.

2-14 thru 2-15. (No responses)

2-16. **Q#43.** My only complaint with the discussions is the lag in when people posted their items. I was already into the next week's assignment and still was being asked to go back and comment on previous week's information. I found it disruptive, although it was great to hear what other people were doing and thought.

2-17. In regards to Q#35, I felt the teacher should establish a grading guide for the discussion board. I felt that up-front I should know that there was a due date for the discussions for each unit. I received an "F" in one unit because I did not post a comment to the discussion board for that unit. However, I told the teacher that I felt that was unfair since that was not told to me previous that there was a due date and since I have submitted discussions to that unit, my grade should be changed. The teacher welcomed my comment and changed my grade.
In regards to Q#46, I felt that having 2 in-depth assignments in one week is a little too hard. I would narrow it down to one in-depth assignment.
2-18. Additional comments: The logic model was helpful, but very intensive. I would consider an additional course focusing on developing a logic model more extensively to follow the Applied Course that you currently offer.
2-19 thru 2-20. (No responses)
2-21. I found the assignments to be very time consuming when working full time. Although, there were no tests to study for so that was good!
2-22. I felt there was not enough time for me to complete the assignments with my busy schedule. Maybe add a week of catch up time at the end for people like me to catch up.
2-23. (No response)

Overall

50. Do you believe that this was an appropriate amount of time to have spent? Why or why not?
1-1. This was an appropriate amount of time to spend on this course - in order to really learn in and in-depth way, one must devote a good amount of time to the course.
1-2. I feel that some weeks were "doable" and others I had way too much going on - but that is the problem when working full-time, and part-time, and trying to have a life, and taking a graduate level course... the instructor was very understanding!
1-3. There seemed to be a lot of assignments, but given that we didn't spend time actually attending a class it seemed fair.
1-4. Yes
1-5. (No response)
1-6. (No response)
1-7. Yes, because I was taking the course on line and so I was working not only on the assignments but also going through the lessons.
1-8. I spent more time than I had anticipated for a workshop. Because the assignments were creating tools relevant to my evaluation plan the time spent now will save me time later.
1-9. yes, I had time to read and re-read everything, and felt confident with the content of my homework when it was time to send it in.
1-10. Very intense, but yes, the time was necessary for all the assignments and discussion
1-11. I had to withdraw because of my workload
1-12. I would have liked to spend more time on the course, but I was unable to given the demands of my job during the time of the course.
1-13. Because there was a lot of material to cover and a lot of thinking needed. PS The spring break was much appreciated!
1-14. I spent a lot of time, but I never had long blocks of time to work on it, so I'm not sure exactly how much time was spent, or if it was appropriate.
1-15. It was definitely more than I anticipated, and I wasn't able to do the work during "work" time (it would have been just way too much time taken away from work).
1-16. Although I spent much more time on this course than I had anticipated when I registered for it, I do believe that I spent an appropriate amount of time in order to learn as much as I did and still achieve a good outcome and good grade. I spent between 150-175 hours I would have preferred to spend less time, because much of my time over the past 3 months was consumed by this course. It was

<i>certainly difficult juggling a full-time job, my family, this course and another UWSP course, "Fundamentals of EE."</i>
<i>1-17. NO. I should have spent much more time. My lack of time is the reason I didn't finish the assignments by the due date.</i>
<i>1-18. It was a lot of work but it all felt useful - I never felt like I was doing 'busy work'. For folks who are also working, and because spring is the busiest time for EE people, it would have been nice to have the course spread out over a longer period of time so I could really think about assignments and complete them in a meaningful way rather than just to get them done. The time allowed was reasonable for a regular student but I think everyone involved in this was also balancing the rest of their lives with it.</i>
<i>2-1. It was hard with a full time job, but the instructor was very flexible and easy to work with!</i>
<i>2-2. I think the amount of time was appropriate. I thought about the course often enough to make it feel like I was actually taking a class, but it never felt like a burden. (Well, actually, that's not quite true-- but it was not through any fault of the class that I had an issue. I was in a country that had a coup d'etat and was not able to access the internet for a couple of weeks, which put me way behind on the class and caused me to scramble substantially toward the end.)</i>
<i>2-3. Given what I have gotten out of the course, I have to say yes. If I had to describe the course in a single word, "relentless" would cover it. It was a phenomenal amount of work, requiring massive amounts of time, but in the end, for me, worth it. If I could have, I would have spent more time on it, but it was simply not possible. Everything seemed to take longer than I thought it would, or could allow. Even this evaluation is a case in point - I think I recall reading that it should only take about 20 minutes, and I am still sitting here over an hour later. That characterizes what the entire course has been like.</i>
<i>2-4. Yes.</i>
<i>2-5. I think I might have spent more than average but I was able to do much at work because it was so relevant to what we were working on at the time.</i>
<i>2-6. Yes, adequate time was needed in my case because I was actually developing evaluation material for an upcoming course. Therefore, I did quite a bit of research in order to enhance my assignments.</i>
<i>2-7. No. My father died 3 weeks into the course. My priorities shifted and I could no longer spend the time needed for course work. I did print out all the information and exercises. I believe that the course is loaded with valuable information which I will read later. I have already used what I learned to improve programs at work.</i>
<i>2-8. It seems about right for a 3 credit course</i>
<i>2-9. Yes. To gain adequate knowledge of the subject matter, this seemed to be an appropriate amount of time.</i>
<i>2-10. No, I would have liked to spend more time, but it is spring and we are extremely busy. I gave the course all the time I could, but I don't think it was enough.</i>
<i>2-11. This course was the most demanding since Wilke, and guess what? It is the same as Wilke's. Big surprise.</i>
<i>2-12. I would have liked to have spent more time, for my personal benefit. But it was enough to do what I needed to.</i>
<i>2-13. With a full-time graduate course load on top of this course, I believe that I was doing well to put in 6 hours per week for this course.</i>
<i>2-14. I think so - it is a complex topic</i>
<i>2-15. Yes, in the sense that I was working more than 40 hours a week in my "real" job.</i>
<i>2-16. It was more time than I anticipated but it was appropriate given the content</i>
<i>2-17. Yes given this is an online course and you are supposed to do the work on your time.</i>
<i>2-18. More than I expected, but time well spent. The short activities were rarely short.</i>
<i>2-19. One accepts that a good class will take 10 - 15 hours per week.</i>
<i>2-20. Yes, considering I was taking the course as a workshop. Ideally, I would have liked to spend more time on it, but this was my compromise with my regular work and schedule.</i>
<i>2-21. It seemed excessive. I was not sure on some assignments how "in depth" I needed to be. I think I spent more time than I needed to, but I didn't know.</i>
<i>2-22. (No response)</i>
<i>2-23. (No response)</i>

51. What did you like the most about the course?
<i>1-1. I loved the applied nature of the course. It truly made me understand things that might have otherwise gone right past me. The design of the course and assignments was very impressive in that respect. To be able to apply what we were learning in each unit to a real program through the assignments was just amazing. I really felt like I "got it". It was terrific. I also enjoyed the interactions on the discussion board with the other students. This was my first online course experience and I worried that I would miss the human contact. But the design of the course with the discussion boards was wonderful - I felt I developed a productive and supportive relationship with my "cyber-classmates" and the instructor. I will really miss them!</i>
<i>1-2. The practical information was great, and I liked being able to do it at my own pace (whether it was 10 straight hours on a Saturday, or an hour each night at midnight!)</i>
<i>1-3. I thought the course was well organized and the instructor (Jan) was very knowledgeable.</i>
<i>1-4. Examples</i>
<i>1-5. (No response)</i>
<i>1-6. (No response)</i>
<i>1-7. Developing the different survey methods.</i>
<i>1-8. The flexibility of being able to log-on and participate at any time.</i>
<i>1-9. the interactions between students, they really helped me understand the information in new ways.</i>
<i>1-10. Interaction with course participants, assignments and helpful comments from Janice</i>
<i>1-11. no comment</i>
<i>1-12. DOING all of the sample forms, like questionnaires, surveys, alternative assessments, etc.</i>
<i>1-13. That I learned by doing. What I didn't grasp at first I have the materials to always refer to and my assignments.</i>
<i>1-14. Very practical and liked the applied nature of the program. I would have hated to do hypothetical assignments when I need to do my own work.</i>
<i>1-15. I really wanted to learn this stuff, and I did!</i>
<i>1-16. The feedback from classmates and professor, as well as the content of the course.</i>
<i>1-17. The course content and organization.</i>
<i>1-18. The fact that I could see practical application for all of it.</i>
<i>2-1. The fact that it can be directly applied to what I'm doing! I loved developing the assignments to my program.</i>
<i>2-2. The feedback from the instructor--thoughtful, specific, and constructively critical.</i>
<i>2-3. While by no means did this course make me an expert, it has provided me with an excellent foundation in program evaluation and a good number of associated considerations.</i>
<i>As a graduate student developing my thesis research proposal, I have to say that I would be lost without this course. It has given me the necessary knowledge and tools to develop my project in a suitable manner. Before this course, I was working with what little I knew, and it was nowhere near enough. Where I do not have the necessary knowledge, I at least have a better idea where to look and what to look for.</i>
<i>Additionally, I find myself examining other research, research articles, projects, etc. much more critically.</i>
<i>After recently having conversations with some of my professional colleagues, what this course has provided became evident. Many of the basic program evaluation methods, terminology, tools, analysis methods, etc. were unknown to my colleagues. In some respects this is unfortunate, for this knowledge is something that my colleagues could make use of, if they had it. At the same time, it shows what this course can provide for practitioners wishing to engage in program evaluation, and how to do it in a better, well-informed way that at the least has potential to stand up to scrutiny.</i>
<i>2-4. I liked the "hands-on" aspect of using my own program for actual evaluations. I also greatly appreciated the extremely thorough grading and comments from the instructor.</i>
<i>2-5. The structure and readings. They were very easy and clear. The assignments were challenging but</i>

<i>fun. I also really liked how relevant the content was.</i>
<i>2-6. Feedback from the instructor and other students was very helpful. Sometimes I tended to "overthink" an assignment and the feedback helped me fine-tune my assignments.</i>
<i>2-7. That it was online.</i>
<i>2-8. I was apprehensive about an on-line course, because you always learn from other students, but there was plenty of opportunity to interact.</i>
<i>2-9. Ability to work at my own pace. Assignments that were relevant to my program and that would be useful for my culminating assignment.</i>
<i>2-10. it's a great overview of evaluation processes and allows us to develop an evaluation we can use this year.</i>
<i>2-11. Early chapters.</i>
<i>2-12. Interaction despite the fact that we were spread across the country. Easy to follow, well organized</i>
<i>2-13. I liked most that I was not expected to attend regular class meetings.</i>
<i>2-14. the resources</i>
<i>2-15. I liked every aspect. This was my first time taking an on-line course. Most of all I liked the direct application of the course assignments to my work as an environmental education specialist for state parks.</i>
<i>2-16. Learning what other folks are doing at their sites and having such a diversity of people in their backgrounds, positions and geographical locations. The instructor was great - very responsive, encouraging, and provided in-depth responses to our work.</i>
<i>2-17. Being able to work on my own time, and speed. Also working alone worked for me.</i>
<i>2-18. Being able to take it on-line, and hearing from others about their EE programs across the country.</i>
<i>2-19. Discovering the complexity of designing evaluations</i>
<i>2-20. Getting feedback from other students and the instructor. Forcing myself to go through the eval concepts presented and formally re-learn them.</i>
<i>2-21. No tests and the flexibility to turn in work on the weekends.</i>
<i>2-22. Lyn was very helpful, understanding, and fair.</i>
<i>2-23. (No response)</i>

52. What aspects of the course could be improved?
<i>1-1. The assignments and amount of work could be more balanced over the number of weeks of the course. Some weeks the assignments did not take much time and other weeks there were numerous assignments due almost all at once. Also, the last unit on analyzing data is a very important one-however it seemed to be assumed that we all had a working knowledge (actually much more than a working knowledge) of Excel or other similar programs. If we did not know how to use that program, we had to cram learning how to use it and learning some degree of statistical analysis all into a brief time! This became insurmountable and I feel that I lost out on learning a very important aspect of program evaluation (i.e. analyzing data) as a result.</i>
<i>1-2. The technology of going from reading Word attachments back to D2L. I consistently had problems that were never resolved...</i>
<i>1-3. As noted above, the discussion board format needed improvement. Maybe asking people to just post comments or assignments without attaching documents.</i>
<i>1-4. Step by step process for using Excel program to create graphs, charts for novices to the program.</i>
<i>1-5. (No response)</i>
<i>1-6. (No response)</i>
<i>1-7. Some of the assignments were too vague and difficult to complete. I didn't really understand how a rubric would help with students you cannot grade. Unit seven needs some work to help clarify how to do the calculations. Many of us were very confused. I still am. I made it though the assignment and somewhat understood but I know I could do a much better job with more explanation.</i>
<i>1-8. Adding more description/explanation in the content sections. I would have liked to have read a bit more in each of the units.</i>

<i>1-9. a few more links to examples of how assignments were to be completed.</i>
<i>1-10. Unit 7 on using statistics was very light--needs more explanation and information on how to interpret and present data.</i>
<i>1-11. no comment</i>
<i>1-12. More feedback from the teacher</i>
<i>1-13. Unit 7 using Excel. It would be helpful to alert students upfront there would be spreadsheet work. It was very difficult.</i>
<i>1-14. I just had a very hard time with the online format, but that could just be me. I also think it felt rushed.</i>
<i>1-15. A couple of the assignments felt like busy work.</i>
<i>1-16. Better structure in timing of assignments</i>
<i>1-17. I would have liked more examples.</i>
<i>1-18. (No response)</i>
<i>2-1. (No response)</i>
<i>2-2. I would like to see more material(s) provided (see earlier comments). Also, some of the week's materials seemed much more in-depth and challenging than the others--for example, the quantitative data analysis took me two straight days and I did not feel that the course material appropriately prepared us to tackle that. I am probably one of the more advanced students with this subject as I am in graduate school currently and use statistics, but I know that many of the other students struggled, too. I would suggest that certain units--such as that one--be broken up into smaller chunks with more hand-holding and perhaps additional articles to read--even a statistical tutorial might be appropriate.</i>
<i>2-3. Having due dates on Sundays took quite a bit of getting used to. As a graduate student, with coursework throughout Monday-Friday, this meant that I was in school seven days a week, without days off. It is true that even if I did not have assignments due on the weekend, I would more than likely still be engaging in coursework, it certainly interfered with even having the option to put it down and get away, even for a day or two.</i>
<i>As mentioned earlier, having the assignment due dates listed with the assignment posting within the course content would have been helpful to me.</i>
<i>Navigation through D2L did have some drawbacks. When accessing weblinks through course content pages, that then appeared within the page, there was no "back" option. One had instead to navigate through the content menu off to the side to get back to the content page one had just been reading.</i>
<i>Additionally, D2L provided a "print" button within some of its screens, but not all of them. I would have liked to see one on the discussion pages, so that I could easily print out discussion responses. Likewise, the grade posting page is lacking a print option as well.</i>
<i>As the units progressed, I found it difficult to keep track of what was going on that I needed to be cognizant of. For instance, there were times that it was necessary to respond within two or three distinct discussion units. Several assignments were graded, handed back, and then we were to revise and post them. While engaging in Unit 6 discussions, there were also things to look back to in unit 5 or 4, or perhaps both. I would have found it most useful to have the "revised assignment" postings within the current week's discussion, even if it was related to something that had been from a week or two before. It would have made it much easier to keep track of what was going on, and what needed responses.</i>
<i>In Unit 6, there are some general resource pages and links posted for alternative assessment. I would have appreciated having a greater variety covering the topics that were listed in the content.</i>
<i>Finally, as noted, I found the data analysis unit very challenging in the specifics of trying to work with excel.</i>
<i>The data analysis unit also seemed to be one of the most valuable, as far as what to do with everything that had been covered up to that point. Additional time spent on that unit, or even a bit more thorough</i>

<i>coverage of data analysis, manipulation, and summary would be welcome.</i>
<i>2-4. The format of the web pages made it unmanageable to download the course content for future reference. It would be nice to have the materials available in pdf format.</i>
<i>2-5. Explaining exactly where the marks were coming from for each assignment.</i>
<i>2-6. It is a bit difficult to keep up with the time schedule when you work a full-time job. Of course, in my case it was more difficult because of medical problems, but the instructor was very good about working with me on this so I could finish the course.</i>
<i>2-7. (No response)</i>
<i>2-8. Maybe a crash course in Excel.</i>
<i>2-9. A little bit more explanation for some of the assignments. Spacing out assignments more evenly based on the amount of time needed to complete them, not just the number of assignments were week.</i>
<i>2-10. Some of the examples did not seem to be really relevant, and some of the assignments were confusing, but that may have been intentional?</i>
<i>2-11. Unit 7 is very hard for non Excel folks.</i>
<i>2-12. I did not like the physical set up of the discussion boards, I liked the discussion, just not squinting at all of the little windows.</i>
<i>2-13. I suggest eliminating the requirement that participants comment on each others' work in the discussion board. I believe it should be optional.</i>
<i>2-14. The analysis section needed more time and focus. Just way to hard to get those three complex assignments and the culminating assignment done at the same time. Maybe we could have done without spring break.</i>
<i>2-15. Can't think of anything. We gave our instructor some feedback on assignments that might be a bit confusing -- I am confident that she will revise the instructions.</i>
<i>2-16. My only issue is the delay in responding to postings on the discussion boards. I was into the next week's subject material and assignments and still was supposed to go back and comment on other people's postings from assignments due several weeks ago. Somehow getting people to post their stuff on time - it seems my group was really late in putting things up. I found it disruptive to my learning to keep going back, but maybe it was a good review - I just felt like a chore.</i>
<i>2-17. The grading system</i>
<i>2-18. Make a printed copy available for sale of the course readings, or put each unit into a single PDF file for easier downloading and printing.</i>
<i>2-19.(No response)</i>
<i>2-20. The last section on analysis and interpretation should be two units or more in-depth. I'd have fewer reflection assignments and include some mixed media (video, audio, real time chat!, etc)</i>
<i>2-21. The quantitative data assessment seemed a bit technical for a lot of people if they had never been exposed to statistics. Maybe explain the level of effort required.</i>
<i>2-22. Amount of time</i>
<i>2-23. (No response)</i>

53. Would you recommend this course to a colleague or friend? If no was your answer, please explain why:
<i>1-1. Yes</i>
<i>1-2. Yes</i>
<i>1-3. Yes</i>
<i>1-4. Yes</i>
<i>1-5. Yes</i>
<i>1-6. Yes</i>
<i>1-7. Yes</i>
<i>1-8. Yes</i>
<i>1-9. Yes</i>
<i>1-10. Yes</i>
<i>1-11. Yes</i>
<i>1-12. Yes</i>

1-13. Yes
1-14. No, My answer would have been maybe, but that was not an option. I would recommend it to someone who is currently trying to develop evaluations on their own, but not if it wasn't an immediate priority for them.
1-15. Yes
1-16. Yes
1-17. Yes
1-18. Yes
2-1. Yes
2-2. Yes, I wanted to select "it depends," because I'd really say it depends on their level of experience with evaluation. I have quite a bit of evaluation experience, but no formal training, so I found the latter part of the course to be helpful. The earlier parts of the course were definitely review to me. As stated earlier, the most helpful part of the course for me was receiving targeted feedback from the instructor.
2-3. I marked yes, but with reservations. The course is excellent, but the sheer time commitment that it requires would make me hesitant to recommend it without disclosing such considerations. For instance, while I might recommend this course to my profession
2-4. Yes
2-5. Yes
2-6. Yes
2-7. Yes
2-8. Yes
2-9. Yes
2-10. No
2-11. No, Content classes are much more enlightening, I teach 8th grade and have no plans to be a professor.
2-12. Yes
2-13. Yes, Overall, this course is great and was NOT a waste of my time. I believe that I have been helped by the course and would recommend it to others interested in the subject of evaluation.
2-14. Yes
2-15. Yes
2-16. Yes
2-17. Yes
2-18. Yes
2-19. Yes
2-20. Yes
2-21. Yes
2-22. No
2-23. Yes

54. Where did you hear about the course?
1-1. Through the NAAEE electronic newsletter.
1-2. A listserv of the American Zoo and Aquarium Association
1-3. NAAEE electronic newsletter
1-4. Email from USFWS trainer
1-5. (No response)
1-6. (No response)
1-7. Through an NCTC email.
1-8. EE News @ NAAEE newsletter
1-9. An email from NCTC.
1-10. I was a student last semester in Fundamentals of EE, and I also heard about it through EETAP
1-11. via e-mail
1-12. Email from Scuttlebutt

<i>1-13. Through the US Forest Service Conservation Education mailing list - also NAAEE</i>
<i>1-14. NAAEE list serve</i>
<i>1-15. Email from Forest Service Conservation Education program.</i>
<i>1-16. Eco-Ed Listserve through the Ecological Society of America</i>
<i>1-17. A colleague</i>
<i>1-18. e-mail/listserve</i>
<i>2-1. NAAEE newsletter</i>
<i>2-2. Through several avenues--the NAAEE e-newsletter, colleagues and friends, UWSP contacts . . .</i>
<i>2-3. From Jennifer Dillard, in NR 750, fall semester, 2004.</i>
<i>2-4. NAAEE newsletter, and AEOE (Calif.)</i>
<i>2-5. NAAEE listserv</i>
<i>2-6. Through our agency (USFWS).</i>
<i>2-7. Our director of education, Jeff Hohensee.</i>
<i>2-8. Email to me.</i>
<i>2-9. E-mail notification</i>
<i>2-10. USFWS</i>
<i>2-11. UWSP Tim Byers and AArkin</i>
<i>2-12. Fish and Wildlife Service e-mail</i>
<i>2-13. I heard about this course through my graduate advisor, Dr. Dennis Yockers.</i>
<i>2-14. forest service</i>
<i>2-15. I believe I received an e-mail from NAAEE</i>
<i>2-16. Nalani McCutcheon - my boss</i>
<i>2-17. Co-worker</i>
<i>2-18. Internet searches.</i>
<i>2-19. Through UWSP - via e-mail</i>
<i>2-20. From an email message. Got your flyer from several lists and colleagues.</i>
<i>2-21. co-worker</i>
<i>2-22. From an email.</i>
<i>2-23. Through EETAP email and at the NAAEE conference.</i>

APPENDIX O

Summer 2005 Student Questionnaire Open-ended Responses

Course Objectives

9. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course objectives:
<i>1 thru 5. (No responses)</i>
<i>6. My "neutral" responses are due to my prior experience with program evaluation - so, this course didn't necessarily result in a change for those questions. But, I must add that this is in large part due to MY participation (or lack thereof) due to time constraints. I'm sure if I had given as much time and energy as I observed others doing, then I would be able to accurately responded that, "yes, I am better able to....."</i>
<i>7 thru 9. (No responses)</i>
<i>10. This may also be because this was the last chapter, and some of it hasn't really been put to much use, but I don't feel like my analysis skills have really improved.</i>
<i>11 thru 18. (No responses)</i>
<i>19. I thought we didn't spend much time on analyzing data, or that there was not enough support on the how-to - especially for statistical analysis</i>

Overall Course Outcomes

12. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the overall course outcomes:
<i>1 thru 3. (No responses)</i>
<i>4. This course was extremely beneficial to me personally and professionally.</i>
<i>5 thru 19. (No responses)</i>

Course Structure

20. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:
<i>1. Q#19 - As I live in a rural area the one-week face-to-face course would likely never be offered to me. It is also likely I would not have been able to take one-week from my regular duties in one chunk. I could fit the online course into my regular duties or finish up afterhours. I also appreciate being able to deliver components for my specific program.</i>
<i>2. The course is perfect as it is! I loved taking it online. I would not want to spend any less time on the theory!! There is plenty of opportunity to apply it to my program.</i>
<i>3. (No response)</i>
<i>4. There are merits to face-to-face courses, such as personal interaction with peers and instructors, but for my purposes right now, this online course was a better and more practical option.</i>
<i>5. My first experience with an online course was ok; but I much prefer face to face lecture/workshop type atmospheres to the medium of a computer.</i>
<i>6. I was very surprised by the amount of work and time commitment this course required. There was some problem with my getting information early on - in fact, I missed the orientation/introduction email(s?) for some reason so was behind from the get-go (no access number, etc.). So, maybe the course requirements were spelled out but I didn't receive this - I don't know. If I had known how much work was involved I'm sure I would have postponed taking this course. This is NOT to say that it was not valuable! The assignments were right on track, the discussion board (what I had time to read/participate) was excellent feedback and collaborative idea generating, but simply more than I</i>

<i>had anticipated. Is it appropriate for learning evaluation? YOU BET! Given different personal circumstances, I'm sure I would have gained tremendously from this course. A one-week version - NO, I disagree that this is even possible to develop competence in evaluation. At-your-own-pace (for working professionals) would be my recommendation.</i>
<i>7. I liked taking the time to think about/digest the information in each unit. One week wouldn't have been sufficient. If I'd done that, I would've been overloaded and not gotten nearly as much use from the info. presented.</i>
<i>8. The theoretical component was essential to the individual application and understand for our own programs, so cutting back on that piece would not be advisable.</i>
<i>9. I would have preferred to take a version of the course that was two weeks shorter.</i>
<i>10. (No response)</i>
<i>11. Q#19 - I do not like to be hurried when I am trying to think thing through and a one-week version in a group setting would not have worked for me.</i>
<i>12. If funding were available, I would have preferred to take this course in person. Taking the course online was very challenging because other aspects of my job demanded a great deal of my time. Taking a course in person allows me to focus solely on the class and put aside other work responsibilities until I return to my office.</i>
<i>13. There is no way I could have the time to develop the tools in a single week. I needed time to process, discuss with colleagues and review outside materials. I also need time to absorb and synthesize the material and consider applications(I am still doing that)</i>
<i>14. I really enjoyed the freedom I had with an online course- schedules are too hectic to arrange even a once-a-week meeting</i>
<i>15. (No response)</i>
<i>16. (No response)</i>
<i>17. Q#19 - I really appreciated the opportunity for direct application of evaluation tools to my specific program. I would not have learned anywhere near as much about these evaluation tools if I had not had to apply them directly to my program. Also, I did not feel that I spent much time on theory with this course - other than completing the pre and post tests. For me that was a good thing - I appreciate the opportunity for practical application of the tools.</i>
<i>18. If anything, I felt the student-to-student interaction was overdone. In most cases, the interactions were chatty and not very substantive and not relevant to my line of work.</i>
<i>19. I much prefer face to face learning approaches. I thought that given the limitations of being online-it was an excellent course.</i>

Technology

27. If you responded “With difficulty or Not at all” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course technology:
<i>1. Q#22 - I never could print through Desire2Learn. I could navigate the frames to print with my browser though.</i>
<i>2 thru 3. (No responses)</i>
<i>4. Took me a few days to become familiar with D2L, but otherwise the system worked well. I must compliment the instructor for her excellent communication with students. She responded promptly to posts on the discussion board and to direct emails. With what I'm sure was a massive volume of emails and posts to read, she kept up remarkably well.</i>
<i>5. I didn't like how when you log out of email it would automatically log you our of the D2L interface. Please change this.</i>
<i>6. As mentioned above, for some reason I did not receive the initial email(s??) regarding my user name and access number until several days after the course began - after I emails Jen and asked about it. This was my only problem with the tech stuff (well, and my learning curve for navigating all of above).</i>
<i>7 thru 14. (No responses)</i>

15. <i>Due to on-going technical problems at my end, I was without internet an email for three weeks throughout the course.</i>
16. <i>(No response)</i>
17. <i>I had a lot of trouble when reading attachments in the discussion forum. After reading any attached Work document, I couldn't go anywhere without shutting down Word first. I expect that required a change of settings at my end, and I recognize that help was available, and I should have taken advantage of that.</i>
18. <i>The framing of the pages was difficult to print sometimes. Also slow to load on weak internet connections.</i>
19. <i>(No response)</i>

Course Content

48. If you responded “Disagree” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:
<i>1 thru 4. (No responses)</i>
<i>5. There was quite a bit of workload for the workshop students, as I was taking part in this class as part of their employment... a bit much when considering other work tasks that take higher priorities.</i>
<i>6. I had hoped for more opportunities for developing more eval tools - data collection. But, to couch this statement - I needed MORE TIME to do assignments. As a working professional, I didn't have enough time to give to the assignments as I had hoped and wanted. Again, maybe I missed some introductory information that provided more details that would have prepared me for the time needed for this course. I know I checked out the course description more than once to obtain more details and I didn't find this information here. Was it posted elsewhere? Regardless, I would have liked more information (like a sample syllabus/course content and assignment listing) prior to signing up - so that I would have left myself enough time to effectively complete this course, or postpone it for some other time.</i>
<i>7. I felt there was sooooo much information. I would like to see this as a 2 semester course to more fully develop my skills. For example, I felt I couldn't spend the time I would've like on data analysis. I simply wasn't ready for that yet. Having a 2nd semester to more fully utilize what we learned in the 1st and building upon it w/ data analysis would have been awesome.</i>
<i>8. The assignment due dates could have been put on the assignments instead of having to cross reference them to the assignment timeline.</i>
<i>9. Q#45 - I had a difficult time keeping up with the work. Part of that was due to the fact that its summer, and I was out of town for more than two weeks with little to no access to a computer. It was overwhelming toward the end. I know that the assignments hold lots of learning value, but at this point I still haven't done the last couple of assignments and still feel I have gotten a lot of value from the course.</i>
<i>10 thru 17. (No responses)</i>
<i>18. Some of the reflection assignments and the back and forth on the discussion boards seemed more like busywork than real substance.</i>
<i>19. (No response)</i>

Overall

50. Do you believe that this was an appropriate amount of time to have spent? Why or why not?
<i>1. I do believe this was an appropriate amount of time to spent, although I did spend more time than I had estimated I would. I think the time was well spent.</i>
<i>2. Yes! I was able to learn a great deal in that amount of time. If it took any longer, I don't think I necessarily would have learned any more.</i>
<i>3. This was the most time I've invested into an on-line course, but I can't see how it could have been any shorter with the amount of lessons, reading, and assignments.</i>
<i>4. (No response)</i>
<i>5. I think at times it was a bit much, especially for workshop students that are likely employed full time and were taking this as part of their work.</i>
<i>6. I didn't spend as much time as was needed - to finish the readings; to view the supplements; or to complete assignments EFFECTIVELY TO MAKE STRONG GAINS IN MY KNOWLEDGE.</i>
<i>7. It was a lot. Thank goodness I wasn't "on duty" during this semester. I think the workload would've put me over the edge.</i>
<i>8. Yes - most assignments took a decent amount of time to complete, but the flexibility of reading the materials instead of being in class on a consistent day was very nice. Overall, I think that the amount of time was totally acceptable considering the number of weeks and amount of credit given.</i>
<i>9. I needed to have spent more during the last couple of units. At times I just wasn't able to do assignments as thoroughly as I would have liked.</i>
<i>10. Yes, I believe the amount of work was appropriate for the type of class.</i>
<i>11. It was a little too much time for me.</i>
<i>12. Some assignments took an appropriate amount of time. One assignment took far too much time because I did not have access to the needed software. I wish I had been told before the course that I would need access to excel and also know how to use the software in order to complete the course work.</i>
<i>13. I would have liked to spend more time, but it was a balancing act (as always)</i>
<i>14. Yes- there seemed to be more work at the end of the course, which unfortunately coincided with more work at the Garden, but the time needed to complete assignments was appropriate</i>
<i>15. Yes, the subject matter was completely out of my frame of reference.</i>
<i>16. Probably but schedules in the summer can be hectic and thus made class a bit hectic also.</i>
<i>17. I found it very difficult to keep up with the workload. However, I am working full time, and have a number of personal obligations. I really can't say how much time is appropriate because I have no bench mark to compare to - it's been a long time since a took a college course</i>
<i>18. Yes. It was a lot of time to take out of work hours, but it was an interesting course and good weekly workload.</i>
<i>19. yes</i>

51. What did you like the most about the course?
<i>1. Getting to really work out how to design tools and getting professional feedback from professor and students.</i>
<i>2. The Data Analysis section. Doing correlations to see what the data can tell us. The instructor was awesome, as well!! The course manager was fantastic, very accommodating. The whole course was a very positive experience for me.</i>
<i>3. The opportunity to meet people from a similar field, and gaining confidence to create an evaluation plan.</i>
<i>4. Being able to move through each unit at my own pace (within the unit's timeframe). It was easier for me to schedule time for course work when I could integrate it with my other obligations.</i>
<i>5. Ease of learning and usefulness of D2L to get and submit assignments.</i>
<i>6. The assignments were good - and instructor feedback excellent.</i>

7. <i>I learned so much, the teacher was phenomenal and ease of use in D2L.</i>
8. <i>Being able to really focus on one of my own programs that needed attention, and now has received it.</i>
9. <i>The content was excellent and the assignments were very well designed.</i>
10. <i>The use of real examples and the ability to develop materials that I will use in my program.</i>
11. <i>Not very much extraneous information to wade through.</i>
12. <i>The content was very helpful. I feel that I really learned alot about the subject.</i>
13. <i>The instructors comments were extremely helpful, They were specific to the individual, they were prompt. I was impressed</i>
14. <i>The freedom to do the work whenever I pleased</i>
15. <i>quick feedback, discussion with other students.</i>
16. <i>Developing material I can actually use in my job.</i>
17. <i>The practical application of the material</i>
18. <i>The culminating assignment which brought it all together, and the custom assignments which focused on our own particular, specific interests.</i>
19. <i>the reading material, resources and examples</i>

52. What aspects of the course could be improved?
1. <i>I felt that with some discussion topics (mostly read and respond) I did not have anything substantive to say but still posted a discussion item to complete course. I then felt like maybe I was wasting folk's time. I did like discussing the tools.</i>
2. <i>I can't think of any! I would not change a thing!</i>
3. <i>The glossary was helpful, but to a limited extent. I would list more of the evaluation terminology in there.</i>
4. <i>At first, I was looking for instructor comment on each unit, aside from the text...a little dialogue between instructor and students about the content. After a unit or two, however, I didn't miss it and realized I could email or post any questions I had.</i>
5. <i>A bit of a reduction in workload for workshop students perhaps.</i>
6. <i>More time - I think the examples were probably handy - but I had a hard time getting to them. I also am not great about reading from a computer, so needed to print everything (thankfully - now I can read and do at my pace and review things later too). The ideas about video/power point etc. are good ways to add different learner styles into the course (good EE application :)</i>
7. <i>As stated above, consider making it a 2 semester course.</i>
8. <i>I was pretty happy...I think that the balance between all students working on the same project and then alternately our own, was a good one.</i>
9. <i>I would have liked more on when to use which evaluation tool.</i>
10. <i>(No response)</i>
11. <i>Maybe some more examples</i>
12. <i>I needed a little more time to complete most assignments. I'm very glad that the final deadline was extended. I would not take another online course that coincided with the end of the fiscal year. it was very difficult to find time to do my course work.</i>
13. <i>Expand the time by a few weeks</i>
14. <i>More guideline on the discussion boards. I feel like some people just responded with meaningless replies just to get credit for the discussion</i>
15. <i>(No response)</i>
16. <i>Can't come up with anything right now.</i>
17. <i>I don't know how this could be improved, but I thought a lot of the discussion comments were posted just for the sake of posting a comment. I also was annoyed by my problems with attachments in the discussion forum.</i>
18. <i>The website. It was very difficult to keep track of which assignments were due when and where they could be found. Sequential numbering (like simply assignment 1,2,3...) might make it clearer than 4.1, 4.2, and then skipping some. I found it very difficult</i>
19. <i>real time chat, more interaction with other students if possible</i>

53. Would you recommend this course to a colleague or friend? If no was your answer, please explain why:
<i>1. Yes</i>
<i>2. Yes</i>
<i>3. No, I would only recommend if they had the time take the course, and the amount of assignments for workshop students were reduced a bit.</i>
<i>4. Yes, but definitely with the caveat that they have plenty of time, computer paper and ink!!</i>
<i>5. Yes</i>
<i>6. Yes</i>
<i>7. Yes</i>
<i>8. Yes</i>
<i>9. Yes</i>
<i>10. Yes</i>
<i>11. Yes</i>
<i>12. Yes</i>
<i>13. Yes</i>
<i>14. Yes</i>
<i>15. Yes</i>
<i>16. Yes</i>
<i>17. Yes</i>
<i>18. Yes</i>
<i>19. Yes</i>

54. Where did you hear about the course?
<i>1. email listserv</i>
<i>2. EMail from NRES</i>
<i>3. Through my colleagues, and I also saw it advertised when I signed up for the Fundamentals of Env. Ed. on-line course.</i>
<i>4. EPA</i>
<i>5. EPA Region 5 basically required each state's Nonpoint Source program to take as a workshop.</i>
<i>6. posted in NAAEE journal/website.</i>
<i>7. I took Fundamentals w/ you folks last summer and you emailed me about this.</i>
<i>8. NAAEE updates</i>
<i>9. Fellow board members of our statewide EE organization.</i>
<i>10. online posting through a listserv</i>
<i>11. EPA wanted a 319 person to take it from our section.</i>
<i>12. an announcement was emailed to me.</i>
<i>13. NAAEE</i>
<i>14. My boss signed me up for it before I even started at the position</i>
<i>15. FWS email</i>
<i>16. some email correspondent but do not remember where it original came from</i>
<i>17. Through contact with the UWFWS training center in West Va.</i>
<i>18. Email through work.</i>
<i>19. NCTC - USFWS</i>

APPENDIX P

Fall 2005 Student Questionnaire Open-ended Responses

Course Objectives

<p>9. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course objectives:</p>
<p>1-1. Regarding Q.7: I spent a lot of time doing this in my Masters program in Education. Regarding Q.8: Regarding qualitative analysis- I "strongly agree." Regarding quantitative analysis - I "disagree" because my Masters program in Wildlife Science and a couple years of statistics already did the trick. :) This course didn't further my knowledge (not because it didn't try, but because my knowledge was well beyond the content presented her re: quantitative analysis.</p>
<p>1-2 thru 1-3. (No responses)</p>
<p>1-4. As a first look at most of this material, I wish I had a little more background before I started this course. It meets all of its objectives.</p>
<p>1-5 thru 1-12. (No responses)</p>
<p>2-1. Unfortunately, my workload has shifted and increased with a new supervisor mid-quarter, and my ability to complete this course was cut short. So I didn't get to Unit 7 which covers these issues, no doubt admirably. <i>Mia culpa.</i> It's not the instruction.</p>
<p>2-2 thru 2-3 (No responses)</p>
<p>2-4. Several items were things I could already do prior to the course; so my answers do not reflect an inability to carry out the tasks--just that I was able to do so prior to the course.</p>
<p>2-5. (No response)</p>
<p>2-6. I think a little more time and easier explanation of the logic models would be beneficial. They seemed to be an assignment that confused many of us.</p>
<p>2-7 thru 2-16. (No responses)</p>
<p>2-17. The course objectives were very adequate, in my case I couldn't devote the required time to study more in depth. I will use the time until December 16th to download all the information I may, and keep it for the future.</p>
<p>2-18 thru 2-21. (No responses)</p>
<p>2-22. The course content was excellent and will continue to serve me well. The only reason I didn't answer "strongly agree" to all content questions is because the amount of valuable and useful information and learning was so overwhelming over time, that I can't say I have retained much yet about the specifics of evaluation tool development or data analysis. I was so busy organizing, understanding, and exploring the earlier sections that I was never able to complete any tool development, data analysis plan, or data analysis.</p> <p>Having said that however, I am not complaining and I would much rather have the class content cover the whole evaluation picture than leave out these vital pieces. In order to be able to understand the organization and structure of evaluation planning, I did have to see the whole outline - I just ran out of time to study a lot of it enough to achieve the idealized outcome. Perhaps this should be a two-semester course.</p> <p>In any case, I found content quality to be top-notch, and even if I haven't yet really learned or retained all lessons, I am excited that I have been "set on the trail" and have been provided with great direction and foundation. I WILL be able to answer questions 5-9 with "strong agreement" in future, because I've been given the tools for a great foundation from this class. Even though I did not feel able to complete the course material because of overwhelming quantity, at the same time, I wouldn't want to give up any of it and am glad I have the notes!</p> <p>Ah, I see that this section is actually about course "objectives" and not "content".....but really the answers boil down the same way: objectives were met, and even though I think they may be overly ambitious for a one-semester (actually a "quarter" length, it seems), I wouldn't want to miss any of the content.</p>
<p>2-23. (No response)</p>

Overall Course Outcomes

12. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the overall course outcomes:
<i>1-1 thru 1-3. (No responses)</i>
<i>1-4. The course was on the mark with its outcomes and it provided valuable tools for me to use in a real-world evaluation of my program.</i>
<i>1-5 thru 1-12. (No responses)</i>
<i>2-1 thru 2-21. (No responses)</i>
<i>2-22. Please see my answer above; despite the fact that I found the quantity to be too much for me to adequately deal with in one semester, I loved it and would not want to lose a page or a moment. Yes, I have strongly increased my skills and knowledge, even if I could not achieve or assemble an "A" grade portfolio of assignments.</i>
<i>2-23. (No response)</i>

Course Structure

20. If you responded “Disagree” to any of the above questions please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:
<i>1-1. Q15: I feel like interaction w/ Janice was minimal. At the beg. of the course she interacted much more in the online discussions with Group A (and I was in Group B). A couple times she responded with a question or constructive criticism in the discussion board, then when I wrote back providing responses she didn't reply. Janice seemed to be super busy in our own academic life (she told us she was teaching two other stats. courses) to have the time to read all the online discussion plus read our assignments. She did provide good feedback on our assignments, although there was a significant delay on a few of them.</i>
<i>Q.18: I like the course being online, but the format is not "user-friendly." The humongous amount of time we need to be online to read each other's discussion points was distressing to me, especially because I'm accessing the course online at home through dial-up (this is not a work-sponsored course.) I HIGHLY recommend looking into making the Lesson Units downloadable in PDF format so we can choose whether to read them on our computers (but no online) or print them. I'm currently taking another online course (HTML programming) that uses the "Blackboard" system (http://cvc.blackboard.com - check it out) and this provides the units in easy to download handy PDF files. The discussion board - I'm not sure how to resolve that.</i>
<i>Q. 19: The course definitely needs to be longer than one week. In fact, I think the online course should be extended by ~2 weeks because bunching up Unit 7 with our Final Project is way too much work at once!</i>
<i>1-2. Q. 16. I think it was just do to student dynamics and work schedule, but I didn't feel very connected to fellow students.</i>
<i>1-3. For Q 15, I thought the instructor interaction was very good at the beginning and slacked off later on. It seemed we were waiting for next steps towards end of November and then got word we needed to complete 3 weeks of work in 2 weeks. But overall the interaction was adequate for me.</i>
<i>Q20 It would be too much in too short a time frame to really understand and develop the instruments.</i>
<i>1-4. For #19... I don't think I would have gotten quite so much out of a one-week course. This course provided my first foray into program evaluation and I appreciated all of the background and theory! Though, I think a one-week course would be a great refresher for someone who has been through this, or maybe as an "advanced" course for those of us who have taken this on-line course.</i>

<i>1-5. I liked the depth and time for reflection in this course, and ease of participating from any computer!</i>
<i>1-6. I took a 3-day modified version of this course last year and did not learn any where near the amount that I learned with this course. We were able to go in-depth in the theories and explanations behind the methods and actually DO some of the things we learned about. GREAT COURSE!</i>
<i>1-7 thru 1-8. (No responses)</i>
<i>1- 9. I would not have been able to travel anywhere to take this course. I think that the theory and direct application of evaluation tools and the one on one interaction with the teacher was very important and couldn't be duplicated in one week</i>
<i>1-10. (No response)</i>
<i>1-11. I spent a lot of time on this course, at a very busy time for me work wise. I had not considered that and downtimes to our server (and having access only to dial-up at home) would create such long times when I wouldn't be able to submit information. I am more of an experiential learner, so this was not a real satisfying experience, especially since I feel I would have asked more questions if I could have had more personal contact with the instructor. I do feel I learned a lot, but I don't feel I was at my best as either a student or discussion partner.</i>
<i>1-12. Q #19 I disagree because I like getting a little bit of the theory as well as the practice. I need the ability to apply the theory to the programs that I am currently coordinating. I would be disappointed with something that didn't give me the opportunity to get feedback on something that I'm working on.</i>
<i>2-1. Re Q.15 - Due to the pressure from my transitioning position and new boss noted above, I did not participate in the discussion groups. I regret this lack, as I'm sure I would have increased benefits from the class. I just had no time to devote to this additional discussion aspect, while struggling to keep up with the assignments. I also disagree with Q.19 that less direct application would be helpful but you must recognize that this survey question contradicts the rule of keeping survey questions simply focused on one issue. So, to clarify, a one week course in person would have given me the time to focus more clearly AND the value would still be to apply directly to my own specific program.</i>
<i>2-2. The only reason I marked disagree is because I felt like the "teaching" was from brief outlines, then examples were provided to assist with structuring our assignments. Often, it was not until after I turned in an assignment based on examples, did I find that I was missing something. This is a two way street of communication of course. I just found that towards the end of the course, I was handing in assignments while wondering and asking if this is what the teacher actually wanted from me. I did not trust that referring to the examples was enough and did not feel confident with my assignments due to lack of teacher/student interaction as a result of online communication and distance.</i>
<i>2-3. Instructor interaction was limited. Instructions were lacking in assignments. Grading results were very slow which resulted in lack of timely feedback on assignments that built upon one another- led to confusion in assignments which could of been avoided.</i>
<i>2-4. # 16--too much interaction was required (see comments on #43) #18--Because of my work schedule and extensive travel away from computer access, it was very difficult for me to keep up with the class schedule. The course didn't require more time than I expected; but because assignments were due every week and there were weeks when I didn't have internet access, it was impossible for me to stay on schedule. More flexibility would be good, but I realize that makes it difficult for the instructor to grade those who are taking the course for credit. #19--Poorly worded question! Yes, I would prefer taking a one-week, modified version of the course in a face-to-face format. I don't see that the course content would need to change significantly to do so.</i>
<i>2-5 thru 2-6. (No responses)</i>
<i>2-7. I did enjoy the online aspect of this class but also missed the face-to-face interactions. I think that just comes with on-line learning and my being a vocal and social person. At times I did find it difficult to understand things but with some time and patience, I figured it out. The examples provided for each aspect were extremely helpful.</i>
<i>2-8. it was more important to me to apply the tools to my program than to look at how they apply to other programs.</i>
<i>2-9. Personally I am beginning to grow weary of online interactions. It is a wonderful opportunity for the far-flung EE folk, however.</i>
<i>2-10. #17 & #18 - Taking a course on-line is definitely less expensive than spending a week at NCTC</i>

<i>and travel. However, I had NO idea how much work this course entailed. Trying to do my job and take this course at the same time was nerve wracking to say the least. I would much rather take a short block of time and immerse myself in a course.</i>
<i>2-11. While I needed to take this class on-line - I would have felt more confident about my assignments if I had more opportunity to interact directly with the professor - before turning in assignments.</i>
<i>2-12. I checked "disagree" for sufficient interaction among the instructor and students because I became one of those students who didn't interact much. (No fault of the instructor or other students.) I am uneasy about interacting via e-mail and would much rather speak face-to-face or telephone people. This was my first on-line course. I appreciate it for its efficiency (I could do this at work and didn't have to drive to Steven's Point to sit in a classroom), but the on-line portion-submitting an e-mail question and waiting a day or two for an answer, was not useful to me. Perhaps someday, on-line courses can meet via video conferencing at prescribed class times and old-fashioned people like me who like to speak face-to-face can get more out of the class.</i>
<i>2-13. I appreciated spending time on direct application of evaluation tools to my specific program and fitting in the course to a very busy schedule. I could not have taken a week to devote to the course.</i>
<i>2-14 thru 2-18. (No responses)</i>
<i>2-19. Prefer the online course, that's why I signed up for it.</i>
<i>2-20. In taking the course as a workshop, the protracted nature and time requirements were excessive to the extent of almost making it impossible to continue with the course. The requests to modify and resubmit were impossible for me to carry out while continuing my regular work load. The need to try to figure out a new computer process added to the frustration and time requirements. I did not find the computer interaction with others who were taking the course helpful.</i>
<i>2-21. (No response)</i>
<i>2-22. I struggled with course structure issues, but not because the basic flow was not logical and appropriate - it did come to make sense to me. I believe that my confusion may have been mostly a result of three things: (1) I believe that I may have been one of the few folks in the class who was inventing and developing an outreach program "out of whole cloth" simultaneously with the development of the evaluation plan. Not only that, but I soon backed up even farther when I felt I had to give more attention just to developing the general awareness and listing of priority office outreach objectives (i.e., a stage prior to even developing a program).</i> <i>This was a great opportunity for me, and certainly came to drive home the significance of formative evaluation. I have never had extensive training in program development (i.e., creating, planning, and developing a discreet, complete outreach program.) This meant that the majority of the course was taken up for me with re-visiting program objectives themselves....it was great to be able to find the logic and to learn to go back and forth "stand up and down among evaluation considerations and program considerations, to plan the program by planning the evaluation. Great stuff. I felt left in the dust, however, as the rest of the class seemed to have much more refined program objectives and was able to quickly move through other aspects of evaluation planning. In particular, I was so overwhelmed with enjoying, indeed relishing, all of the new concepts and content I was being exposed to and the new connections I was making, that I actually did not become fully aware of what I was doing (i.e., developing a program at the same time as the evaluation plan) for several weeks - so confusion set in.</i> <i>I missed some very obvious things for a long time: for example, I somehow did not recognize that the "logic model" was about Program elements and the "evaluation matrix" was about evaluation elements....that is, I had to draw flow chart after flow chart for myself until finally the relationships and distinctions between program planning/development and evaluation clicked.</i> <i>I became absolutely enthralled by the process itself (of program planning, of evaluation planning, of their relationships, etc.). I "strongly disagree," therefore, that class would have been more preferable as one-week workshop. Actually, it may have been, hard to say, but I don't think there would have been nearly enough time that way for all the content (not that there was this way....) or for making some of these connections and building to these "ah hah" moments. Working all that out on my own has probably contributed quite a bit to my understanding (not that I don't have a lot of confusion yet to</i>

<p><i>dispel). I still might recommend though that it might be helpful for someone "lost in the trees" like myself, if a stronger awareness was built into the course up front about the distinctions between program and evaluation planning, and that students who are only going to begin program development simultaneously with/in this course work might need extra help or awareness of this. Please let me know if that does not make sense.</i></p> <p><i>(2) That brings me to second reason that I was probably confused by course flow and structure: just, as indicated earlier, overwhelmed by quantity of materials and concepts and not enough time to make sense of it all.</i></p> <p><i>(3) The text lay-out and computer interface and lay-out were difficult for my brain, my eye, my own particular cognitive learning process to make sense of. This was the item that triggered real frustration for me because I simply could not "access" the intended or expected structure of some things, particularly those having to do with what coursework was required and how it related to previous, etc. I'll elaborate below in course content feedback because I'm not sure where this fits in.</i></p>
<p><i>2-23. (No response)</i></p>

Technology

<p>27. If you responded “With difficulty or Not at all” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course technology:</p>
<p><i>1-1. Q. 23: See above for my comments regarding the "online" aspect of this course and accessing course content.</i></p>
<p><i>Q. 26: The Dropbox was difficult to use with dial-up.</i></p>
<p><i>Q. 25: I did not use the UWSP e-mail address, I used my own personal one (so I wouldn't have to be online while writing or reading e-mail).</i></p>
<p><i>1-2 thru 1-3. (No responses)</i></p>
<p><i>1-4. Though, I would have liked the opportunity to "un-upload" a file to the dropbox. This system is very user-friendly. The compile-to-print feature is very useful except that it doesn't keep a consistent font size in Mozilla Firefox.</i></p>
<p><i>1-5. I didn't know if the emails were received as I didn't get responses. The discussion board was better, but not suitable for some questions.</i></p>
<p><i>1-6 thru 1-7. (No responses)</i></p>
<p><i>1-8. Q 26. Sometimes it would not load</i></p>
<p><i>1-9. I haven't encountered too many difficulties until now. My powerpoint is below the limit of 3000KB, about 1150 KB but I cannot submit it to the dropbox. I have tried four times and will keep trying. It may be that I am at home and have dial-up and if I don't succeed here, I will go to work where I have broadband.</i></p>
<p><i>1-10. The word documents constantly froze up when trying to close them. I was always restarting my computer. The digital certificate process was very frustrating too - can't this be fixed?</i></p>
<p><i>1-11. This is my fault, but it took me a little while to learn the navigation, and on my end, to remember to give my files names that I could easily call up and drop. I think this is just because I was new to this type of learning.</i></p>
<p><i>1-12. (No response)</i></p>
<p><i>2-1. Never did find just one place to click a response to my instructor. It would be helpful to have that clearly represented. Maybe it was and I just didn't find it.</i></p>
<p><i>2-2 thru 2-3. (No responses)</i></p>
<p><i>2-4. Took a while to get used to it, and it seemed clumsy to have to go back and forth between "discussion", "drop-box" and other categories</i></p>
<p><i>2-5 thru 2-7. (No responses)</i></p>
<p><i>2-8. Where I had some difficulty was partially learning the system and where to look/how to use</i></p>

<i>portions. Also in the first half my main computer kept kicking me out for unknown reasons.</i>
<i>2-9. Still using a dial-up connection, it's all still very slow. . . but learning patience is good. I can imagine that this course would be very difficult to deal with and overwhelmingly time consuming for those with little experience using Excel spreadsheets, Word tables, etc.</i>
<i>Regarding the Advanced Technology questions below, I cannot entirely decide whether these options would be good or not. If they operate quickly and without a hitch, they would be valuable. If they waste my time while waiting to make it work, they are not worth the trouble.</i>
<i>2-10. For the first couple days, it was confusing, but after I figured it out, it was very user friendly. I did have a few glitches w/ the email and usually used my work email to contact the teacher.</i>
<i>2-11. (No response)</i>
<i>2-12. There were a couple times I could not log on due to high Internet traffic or something. I could not log on at home at all, so I could only do class work during my regular 40-hour/week work time. Twice I submitted files to the dropbox and the instructor apparently didn't get them and I had to re-submit.</i>
<i>2-13 thru 2-17. (No responses)</i>
<i>2-18. A pop up menu for Microsoft 2000? or something to that effect would pop up when I tried to email the instructor. Eventually it would work.</i>
<i>2-19. (No response)</i>
<i>2-20. The email system was not as easy to use as GroupWise, which is the system I use constantly. It also was inconvenient to have to log into another system to check email rather than being able to simply do all email communication through my regular (GroupWise) system.</i>
<i>2-21. (No response)</i>
<i>2-22. Please take all of these lengthy comments I'm submitting as what they are - just an attempt at better understanding my own learning style and what works and what doesn't and why. It's an exploration only, in hopes that that there will be some nuggets of helpful info buried in here.</i>
<i>Ok, technology: some big problems here. Too many different kinds of interfaces and ways to access material, and too many that didn't work. It was confusing and incredibly time-consuming to have to figure out first how to open and print and/or save content, and to navigate or understand dropbox and discussion board for instance. Part of problem for me is that I am subject to visual overload and confusion when there are too many different window, fonts, symbols, and navigation styles. This issue actually overlaps between technology and content lay-out style. Let's see if I can put my finger on some particulars:</i>
<i>- feedback comments were sometimes only accessible on the dropbox itself, and other times on that grade window. Neither one was clear, and the poor instructor was obviously seeing different instructions and results herself.</i>
<i>- many of the "windows" are confusing. For example:</i>
<i>- Dropbox lay-out has those distracting and inexplicable yellow/green "GreenBay Packers" "G's" down the left side and error message permanently affixed to the banner or top or whatever. I kept forgetting the history feature and couldn't figure out what files I'd attached and what I hadn't.</i>
<i>-The Discussion interface was terribly confusing for me, again, in more of a very fundamental eye to brain way. When you hit discussion choice on bar above, discussion window opens alone and is spread across face. That is one "look" that it has. Select one of the dozens of "blue lines" and you get a window divided into three, with the discussion "outline" now squished along left side and in black now, and with some other changes: it's technically the same, and my brain needs to recognize that that squished window has the same info on it, but it's not the same....it looks so different so now I have two very different "mental recognitions" or whatever for the discussion outline. The discussion outline (still talking about both the far left column in the split (or chapter section, or whatever) view and the outline you get on the discussion "homepage (?)").....ok, the discussion outline was also confusing because sometimes the headings are for "revised" assignments, other times don't say revised. Discussion titles were sort of assignment-based but also sort of unit based. I was confused about the relationship</i>

between posting of revised assignments and comments to classmates. That probably seems simple, but "revised" implied another step, or "fold-back" in time, a chronological overlap of requirements that would have been easily understandable in a simple lay-out, but for one with so many different "windows" or "access points" (for the course overall, with all the different fonts and some on computer, some printed - of course I had to print what I could, etc. etc.)....it just added to the confusion for me apparently. What drove me craziest about the discussion outline on left column of tri-split window was that when you select one of the units in that left column that you have to scroll down to (i.e., Unit 2 and higher), yes, the discussion opens in upper right window, but the outline view itself in left column immediately changes or "jumps." My eye HATED that! Again, I know it probably seems so silly of me to have a problem with that or be confused by it, but even when I finally figured out what it was doing ("jumpin" back up to the top of the outline where Welcome and Unit one are), it still momentarily short-circuited my brain when it did it. When you select a choice (in this case, a heading like "My Smart Objectives: Group A"), your eye wants to go to ONE window, preferably a view of an expansion of your selection; yes, that happens because it opens in upper right, but the left column outline you've clicked on also "jumps." So, you get two simultaneous window actions or movements on the screen and that is one too many, even if the left column move made any practical sense, which it does not.

-I liked the course content "home" page with the whole outline of the course by units, with Unit number and title in simple black and each unit section title in the same font but in blue. That sort of simple lay-out works best for my kinda brain I guess.

Inside the content (and this comment is not properly placed under the "technology" heading, but relates to my fundamental "visual" understanding of the content through the lay-out....I'm sorry I'm not describing this to well: this is actually the first time I've really explored some of these things personally. I'm probably not using correct vocabulary. When I talk about "visual" understanding or eye/brain or whatever, I'm trying to pinpoint exactly what is happening in my brain when I look at the screen or page, or navigate either, and what is happening in that "basic" view or way to impede my ability to understand the content.)....Ok, back to Content:

I've already noted, I think, my big frustration with the variety (and in some cases, non-functionality) of ways that the imbedded blue hyperlinked references open and what next steps one has to do to try and figure out how to not only open them, but then open them in a readable AND print-able manner. Not always possible in the end, and confusing in the beginning because such a variety of methods. I understand that some variety is necessary because of the nature of the embedded "thing" - either a pdf, a Word document, or a link that opens a webpage, etc., etc.. But still, seemed ungainly, confusing and didn't always work. Very time consuming.

The other thing about Content that tripped me up had to do with the visual lay-out and titling of assignments and examples. For some reason those extra clip-art symbols, e.g., "dropbox" (the envelope), short activity (sideways orange scissors), submit to discussion forum, in-depth (vertical blue scissors) example (hand that says "apply"), etc., added to my confusion. The idea makes sense, to use a quickie pictorial symbol system to help the student see at a glance certain characteristics of the assignment. I'm not honestly sure what my problem is other than maybe the additive result of so many methods (clip art, clip art labels, text, and especially the table of Assignments with all the blue row dividers and 4 columns) just swam together into a meaningless sea. I honestly never registered the "reflection" and "read/respond" distinctions and never once consciously registered those two symbols (light bulb and circles with r's in them) until today when I read Course Content questions 38-41 below. Oh I read about them in the assignments section of intro, but somehow my brain quickly and permanently translated that information into confusion when it came time to apply it (or see the symbols).

I wish I understand the source of my problem better, but I do know it's there. Perhaps one other thing is a fundamental problem of clip-art: it isn't designed specifically for its unique function, although the correlations for most of these particular ones should be clear enough. I think it's just the amount and variety of "access" points (in the broadest sense of term....the symbols, the choice of titles, some titles short-hand versions of others, the lay-out, the fonts, the windows, etc. etc.) into the information that

overwhelmed me.

I think I must have a strong streak of whatever learning style it is that responds best to just straight forward, consistent text. I can read the content pages with their black text bodies, bold blue headings, and light blue links just fine. Then I get to an assignment, let's say Assignment 3 My Questionnaire in Unit 5.2. I find that I first try and avoid the symbols on the left now (the scissors, etc.) AND their labels, and go immediately to reading the body of the black text downward, which happens easily and the learning experience is "pleasant" and "familiar;" and even though the flow/organization of the reading may not make immediate sense to me, I do not feel frustrated or put-off because I know HOW to make sense of it. I would find it quicker to make sense, perhaps, if the text (i.e., the half-page of text describing the assignment) and its order and lay-out was in a very distinct format that set "assignment description," "end product to be turned in," "where to submit," and "part 2" information or "chronology" into slightly more clear distinctions. Also, it would be ideal to have each Assignment throughout course materials follow a similar format (i.e., background, product(s) to be completed, where and when submitted, follow-up assignments, etc.). In this example, when I start to study what is required and to make sure I'm not missing anything, I see new things when I re-read, or rather, I have to re-read several times to make sure don't miss anything. For example, I would move the readability checking (which is really part of the "product") to under "Submit the following..." either before or after list of 4 items. Otherwise the black (and a little blue) text is very clear to me. As soon as I start trying to figure out due dates though, and match this up with an item on the "Assignments" table from intro and with the discussion board, or make the mistake of looking at the symbols, I become confused. Weird. That's why I keep thinking this is a "visual input" problem for me. That and of course I am obviously at the far end of the distractibility scale!

2-23. (No response)

Course Content

48. If you responded “Disagree” to any of the above questions, please note the question(s) and explain why. You may also use this space to make additional comments or suggestions about the course content:

1-1. Q: 33: Some of the examples need to be updated so they are actually assignments completed under the same guidelines as the current ones. For instance, the example for the Final Project is 19 pages plus. When I asked Janice about that, she said that we needed to keep ours to 10. I'd like to see an example of a 10-page project in place for the next time this is taught.

Q. 45 and 46: This class involved a TON of work. The combination of reading the lessons, doing our own homework, reading and responding to the online discussions resulted in well beyond the 10 hours I thought I would be putting into this class weekly. I think that keeping up with the online discussions is what put the hours over the edge. I think the discussion was very valuable and important, and worth doing, but very time consuming. I highly recommend that this course be extended from 10 weeks to 11 or even 12 weeks, but cover the same content. I noticed that about half-way through several people in my discussion group (B) had disappeared - so I'm assuming several people dropped this course. I think that people who were allowed by their Employers to work on this during work (and be paid for it!) had a strong advantage over those of us taking the class on our own time.

1-2 thru 1-3. (No responses)

1-4. Back to Q# 28... I think it would have been nice for students to chat with the teacher occasionally. One of the great features of this on-line course is that it is structured by the user so that it fits with our time.

I liked the variety of assignments because they helped stress the importance of things gone over in the course.

1-5. Dates for the revised assignments to be posted would help keep track. Some weeks, esp. near the end were heavy; would help to have the extra time for culminating assn and wrap up. I would have liked more feedback on Unit 6.

<i>1-6 thru 1-9. (No responses)</i>
<i>1-10. The amount of work for the course in conjunction with the amount of time is unrealistic for people with real lives, families and jobs. This is a factor that institutions with these kinds of courses need to factor in. I will be hesitant to recommend this course to people with responsibilities if the same amount of work is required every week. Unfortunate because it is well organized and needed. Please review this carefully. You lost a lot of folks at the beginning but made some money!</i>
<i>1-11. Again, having to be gone for blocks of time and having to deal with computer server problems meant that it was really easy to fall behind and difficult to catch up. I thin that one or two videoconferences or conference calls where we could have had specific questions answered would have been very helpful for me.</i>
<i>1-12. Q#33. I wasn't very happy with the examples provided in several of the sections. I didn't feel like there were good examples of observation tools. I also was disappointed by the lack of examples in the analyzing data section. I definitely learn by seeing examples and I had a hard time completing the assignments when I wasn't satisfied with the depth of the examples.</i>
<i>Q#35. I would have like to see scoring by a rubric. I found the comments provided very helpful, but I wanted to know exactly what I was missing points for.</i>
<i>2-1. Q.42 - As noted above, due to a new boss and shifting job, I didn't have time to devote to discussion and still get in the assignments. Q.45 & 46 - If I wasn't trying to do this along with a more-than-full time job, it might have been appropriate. The content was certainly valuable and I was delighted with the new information I did receive. But the time required was too much for my situation, trying to complete this course as part of my job, or even in addition to my job.</i>
<i>2-2. I am not sure about the advanced technology, left blank. As stated above, I was not always sure what the teacher wanted from assignments. They were described, but not to the depth that I needed. As some other students have discussed, several of us did not feel qualified/experienced enough to comment on other's work. Therefore, some comments were fairly generic. Only during the last unit did I feel that we were not given enough time to hand in assignments. We were asked to learn a new excel technique. Although some students may know how to do this already, it can be very intimidating and time consuming to learn new. Meanwhile, we have two other assignments that week, past discussions to keep up on, and assignments to revise and post. I noticed several students posted assignments late and can only empathize that some of us our full time students, full time workers, and full time family member</i>
<i>2-3. (No response)</i>
<i>2-4. #37--In most cases, the glossary simply re-stated what was in the text, which was not really very helpful. #43--The discussion board served little useful purpose in this course. The vast majority of comments were simply compliments. While it's nice to give and receive positive feedback, I didn't feel that it furthered my learning. I also felt that receiving a score for giving someone a compliment on their posting was just plain silly. If a "Discussion" section is to be used for a course, my suggestion would be for the instructor to post a "Question of the Week" or something similar for discussion, so that the discussion serves a clear purpose and is directed. #46--I couldn't comment accurately on this question because of the problems I experienced in keeping up with the course due to traveling and other problems. I suspect that if I wouldn't have had extenuating circumstances during the course period of time, the amount of time given to complete assignments was appropriate.</i>
<i>2-5. Assignments needed better explanations and grading rubrics to be more fair.</i>
<i>2-6 thru 2-7. (No responses)</i>
<i>2-8. The amount of work, especially discussion board, seemed to be a lot more than I anticipated. In part, this was because much of the time I was on dialup and everything took much longer. Some of the attachments wouldn't open either. Another comment I have is that some of the assignments weren't clear on getting the attachments. I found this with Unit 7 on finding the PLT items listed at the bottom of the assignment discussion. Up to that point the data to use was always at the top of the assignment description.</i>

<i>2-9. The workload actually seemed quite intense. Having to do revisions of most of the assignments, without really being aware of it in advance, was difficult to manage, though it certainly helped solidify my understanding of the material. In addition, instructions and additional steps for the assignments were often scattered in two or three places on the website (homepage news section, discussion board question & comment section), which I found frustrating.</i>
<i>2-10. For a university class, the amount of work and timeline was definitely appropriate. For a professional development course while trying to keep up with your job, it was too much.</i>
<i>2-11. I would have liked more examples and the opportunity to work through models before applying the content to my own program. The feedback Dr. Fleming provided was GREAT - but it came after I submitted assignments. It would have been nice to clarify my thinking a bit more with smaller assignments before tackling the big drop box ones.</i>
<i>2-12 thru 2-16. (No responses)</i>
<i>2-17. I have the same comments I've made before. It took more time than I've expected, plus personal activities which required traveling which I hadn't considered.</i>
<i>2-18 thru 2-23. (No responses)</i>

Overall

50. Do you believe that this was an appropriate amount of time to have spent? Why or why not?
<i>1-1. See my commentary above. I probably spent around at least 15 hours/week if not more (much more the last few weeks), and still felt like I was far behind on the discussions.</i>
<i>1-2. Yes. I had time here at work to dedicate to the class work.</i>
<i>1-3. Yes as long as it was spread out over a course of weeks. If I had taken it for graduate credit it would have required a substantial amount more.</i>
<i>1-4. Yes, I think it was an appropriate amount of time for a college course and to really prepare the long assignments.</i>
<i>1-5. Yes, but some weeks, especially near the end, were pretty heavy. Suggest fewer assignments in Unit 7 so we can respond to earlier posted assignments, work on final project</i>
<i>1-6. It took more time than I thought, but it was worth it. I didn't realize that there would be so many in-depth assignments.</i>
<i>1-7. Because of I have enough time to do the assignments, discuss with classmates on their assignments</i>
<i>1-8. I feel that the amount of time I spent was appropriate.any more would have taken away fro my other studies.</i>
<i>1-9. I would have liked to spend more but it was hard to find the time</i>
<i>1-10. Was helpful for work purposes but was extremely stressful at times when too many priorities hit at the same time</i>
<i>1-11. I'm pretty sure I spent at least 60 and perhaps more.</i>
<i>1-12. I think that as someone who has a more than full time job in the EE field, this was a little more than I had time to truly understand well.</i>
<i>2-1. It was more time than I had to give, due to increased pressure at work from changing boss and more pressure on new tasks.</i>
<i>2-2. Please see comments above.</i>
<i>2-3. No- If given better instruction from instructor-more time could of been saved. Less confusion if assignment format was outlined.</i>
<i>2-4. Yes, appropriate. Had I been able to spend a little time every day on the course, I wouldn't have had any problem keeping up.</i>
<i>2-5. The amount of time was a bit high. Too many discussions.</i>
<i>2-6. Yes, as a workshop participant I would not have wanted to spend a huge amount of time on the course however, the learning provided was very useful and spending less than 40 hours would not have given me that experience.</i>

2-7. <i>Yes and no. In some regard, because it was an on-line class, I do feel this was appropriate. I had to read the content and then do assignments. But on the other hand, it was difficult to complete 2-3 assignments a week on such a consistent basis. I do like how we were forced to do so much work in such a short amount of time because it does show how much effort goes into evaluation. However, I found myself very stressed out at times because of this time commitment. I don't know that I would recommend anything different, though, because when all is said and done, I am very proud of my accomplishments and the evaluation tools I created as a result.</i>
2-8. <i>On average I spent at least 15 to 20 hours easily. In part this was due to being on dialup so trying to participate in discussion boards, and opening multiple documents took a LONG TIME.</i>
2-9. <i>I spent well over 80 hours; probably more like 110 to 120. It did seem a bit much. Perhaps the material could be spread out over a 12-week course?</i>
2-10. <i>For me, as a professional trying to keep up with my job and other responsibilities, it was too much.</i>
2-11. <i>I was not prepared to spend this amount of time - but it is appropriate considering the content.</i>
2-12. <i>Yes. If my regular workload hadn't been so demanding (e.g. I had to attend the NAAEE conference in the middle of the class), I would have like to have taken the course for grad credit.</i>
2-13. <i>Yes. Learning requires doing. If I could have spent more time I would have learned more.</i>
2-14. <i>No - I should have spent more but due to activities I couldn't control, I didn't have the time. I would have liked to have spent more time on my products.</i>
2-15. <i>yes</i>
2-16. <i>(No response)</i>
2-17. <i>It was inappropriate for me. It was a new area of study for me, English is my II language (I needed to read over more than once and the use of technology also took greater time than expected.</i>
2-18. <i>(No response)</i>
2-19. <i>It was what I had.</i>
2-20. <i>It may have been for a course, but it was excessive for a workshop.</i>
2-21. <i>Seemed reasonable for what we learned</i>
2-22. <i>The hours I spent on the course were excessive, but that is not a complaint. This resulted primarily from my aforementioned need to also develop the outreach program itself; some unfortunate distractions and issues in my office and life away from class that interfered with more efficient scheduling; a strong, fundamental attraction I have to exploring processes; and, especially, I absolutely loved the class and found it to be very meaty and with endless aspects to be explored. Oh, and should have mentioned above that this was my first distance learning experience and obviously had associated "learning curve."</i>
2-23. <i>Since I took it as a non credit workshop, I expected less hours</i>

51. What did you like the most about the course?
1-1. <i>The systematic approach to evaluation. The lessons building from big picture to specifics. The hands-in practice/homework of creating a logic model, eval. plan, questionnaire, etc. Interaction w/ the students.</i>
1-2. <i>The different assignments that highlighted different ways to set up evaluation.</i>
1-3. <i>The interaction and feed back from other participants.</i>
1-4. <i>I loved the flexibility of this course to do assignments as I had time and I loved the supportive network of students from around the US.</i>
1-5. <i>applying it to my own work - I can really use these tools!</i>
1-6. <i>Learning new methods of evaluation. Meeting new people online.</i>
1-7. <i>Unit 5,6, and 7</i>
1-8. <i>The steps of analyzing my program son thoroughly</i>
1-9. <i>"meeting" the other students and interacting with them</i>
1-10. <i>The ability to try out a tool, get feedback from the instructor and then other students plus comparing their work to mine</i>
1-11. <i>It is available to anyone, anywhere and is not something I could have found locally.</i>
1-12. <i>I most liked developing evaluation tools and getting feedback on those tools.</i>

2-1. Great variety of resources to refer back to later when I need to access them in a quieter, more focused way. I can use these resources to assist other staff, too. This course will be very helpful to my work, even though I couldn't finish the last 2 units.
2-2. I liked that we stuck with one program to learn to assess thoroughly.
2-3. Student interactions
2-4. Learning a disciplined approach toward evaluating specific components of a program.
2-5. Getting specific feedback on my evaluation tools from the instructor.
2-6. Being able to devise usable and relevant evaluation tools. Getting a better understanding of the "nitty gritty" of good evaluation.
2-7. The fact that I created useful tools that I can use for my program. By using specific projects, it made the process a lot easier to understand and apply to my life circumstances. I also really liked the feedback I would get from the instructor. I found it extremely useful with improving my evaluation tools to better fit my program.
2-8. I was able to create some evaluation tools and compare with others in the field.
2-9. Lots of extremely pertinent information that I will certainly apply.
2-10. All of the information was worthwhile and educational. Coming to the class with no official training in evaluation, it was almost overwhelming. The instructor and back-up tech crew were excellent.
2-11. It really stretched me. It's been a long time since I've done this type of course work. My program will benefit immensely from the evaluation plan I developed in this course. Professionally, this has given me a new set of tools to take with me to other projects. I need a follow up course - evaluation part II - because I still feel like I didn't quite grasp the concepts as well as I would like.
2-12. I liked the real-life application of the material to my EE program. I was interested mostly in the logic model assignment because that was a big-picture reflection of my program. I also enjoyed the quantitative analysis exercise because I haven't done that type of eval before and learned some new things about MS Excel.
2-13. It was very applicable to my project and taught me what I have wanted to know.
2-14. Not sure
2-15. on-line and the instructor!
2-16. (No response)
2-17. To discover the importance of evaluation and designing a Line of Logic. I believe it will help organize and conduct my E.E. Project more efficiently.
2-18. (No response)
2-19. At my pace to some degree and after work hours so I could do both.
2-20. It was focused on evaluating environmental education elements.
2-21. Course subject matter was extremely relevant to my job
2-22. Meaty content, "completeness" of content and process (i.e., went through evaluation planning from "beginning" to "end," as well as engaged me in program planning itself.
2-23. Practical application of theory and techniques

52. What aspects of the course could be improved?
1-1. See all the above comments regarding the "online" aspect of this course. Another thing I'd like to see incorporated is a way to capture all of the discussion postings and attachments into a folder with PDF in it so all the students could receive this "complete gift package" at the end of the semester. The other students' assignments are great examples and tools to work from! More interaction w/ instructor.
1-2. (No response)
1-3. Provide a page with bullet points on how to navigate and communicate that can be used as a reference guide. It would be nice to have more than just printed text. A PowerPoint would help. It would have been very helpful if we could have had a few conference calls to ask questions within a

<i>whole group or for the instructor to model some of the data collection tools.</i>
<i>At times feedback was slow and then we had to do a quick turn around.</i>
<i>1-4. I really can't think of anything. The technology is well-developed and easy to use, the professor is fantastic and flexible, the admin help is prompt.</i>
<i>1-5. Stats part was hard for me, plus I don't know Excel. The Excel help sheet was great, but didn't go far enough.</i>
<i>1-6. My time management, but that's my problem!</i>
<i>1-7. (No response)</i>
<i>1-8. Could have more help with the analyzing data section (graphing)..more examples. Should include more on making Delphi surveys.</i>
<i>1-9. I am not sure in what way it could be improved</i>
<i>1-10. Too much of an expectation in too short a period or time. I understand the importance of rigor but this was unrealistic. I saw a lot of people drop out early and waste their money.</i>
<i>1-11. Again, some way for questions to be answered after the first 2 weeks and again, just prior to the last assignment.</i>
<i>1-12. I think the grading and the examples could be improved. I think the same content over a longer period of time would be nice to. I wanted to have time to explore things a little bit more... I was very limited by my demanding work schedule.</i>
<i>2-1. Make it easier to print and download the materials. Give those who have taken the course access to the materials online after the course with a code or some other way. Perhaps set up a network of classmates, although that probably would have happened if I could have made time for the discussion groups.</i>
<i>2-2. Expectations of assignment content seemed to be specific in the teacher's mind, but not to me.</i>
<i>2-3. Less theory, better instruction- more timely grading results and help in completing assignments. More guidance needed.</i>
<i>2-4. Eliminate or change the use of the Discussion area (see previous comments); allow more flexibility in due dates for assignments, particularly for those not taking the course for credit (i.e., rather than having one or two assignments due each week, have a group of them due every 2 to 3 weeks. I realize this makes it more difficult for the instructor; but if I'd had this flexibility, I wouldn't have had so many assignments turned in late. If you look at when my assignments were turned in, it tended to be in groups, because those were weeks that I had internet access and could sit down for several hours and get caught up.</i>
<i>2-5. Comments to follow in a separate email.</i>
<i>2-6. I really liked the course a lot. Perhaps an easier way to teach the logic model would be good.</i>
<i>2-7. I really am not sure. I had a difficult time adjusting to online learning but I don't think there's anything the course could change to improve that learning curve.</i>
<i>2-8. Mainly ensuring the computers function properly. Provide an example with the first form assignment similar to what the instructor expects. This is mainly for the procedures portion, which the examples in the unit discussions did not include. Or clarify in the instructions that the procedures information can/should be a separate page from the actual form.</i>
<i>2-9. I take online courses not only because of my distance to a university, but also because I need to plan and manage my time well in advance. Making all the assignments (and revisions, and extra steps, etc.) clear ahead of time, with due dates, would accommodate that.</i>
<i>2-10. Either fewer (or shorter) assignments or a longer time frame for non-university students. Perhaps setting the course up with a set time frame, but not assignment deadlines (more like a HS correspondence course - "here's the work, you've got 1 year to complete it.")</i>
<i>2-11. The assignments were challenging - largely because the content of the course was limited to just the printed word and was sketchy. The assignments seemed to assume that perhaps participants know more about evaluation than perhaps they actually do. I would have liked more content with smaller assignments that build up to the larger ones.</i>
<i>2-12. The interaction between students and between instructor and students (real-time chat/video-conference would be something to think about in the future)</i>
<i>2-13. I am not yet used to communicating with people I have no relationship with over the computer. The requirement to comment on each other's work</i>

2-14. <i>Not sure, this was my first on-line course.</i>
2-15. <i>More examples</i>
2-16. <i>(No response)</i>
2-17. <i>I couldn't tell.</i>
2-18. <i>(No response)</i>
2-19. <i>????</i>
2-20. <i>Ease of access to all information; time requirement for workshop.</i>
2-21. <i>Would it be possible to offer a work at your on pace version of this course?</i>
2-22. <i>Additional clarity in the assignment table and elsewhere, especially with regarding overlapping steps of assignment X revisions and assignment Y's undertaking. Reduce size and prominence of clip-art symbols so don't compete equally with the body of text. Up-front, direct acknowledgement/discussion/assistance with awareness about the "extra" work and time involved (and extra rewards in learning from this direct application of formative evaluation skills!) if one is developing a program from whole cloth. Stop the Discussion Board left-hand column from "jumping" when you make a selection, and use identical text color, etc., of the first, spread-page discussion contents. Other formatting suggestions as above.</i>
2-23. <i>(No response)</i>

53. Would you recommend this course to a colleague or friend? If no was your answer, please explain why:
1-1. <i>Yes - I've just been telling people to clear their schedules in order to take the course (no fun on weekends either!!)</i>
1-2. <i>Yes</i>
1-3. <i>Yes</i>
1-4. <i>Yes</i>
1-5. <i>Yes</i>
1-6. <i>Yes</i>
1-7. <i>Yes</i>
1-8. <i>Yes</i>
1-9. <i>Yes</i>
1-10. <i>No - Not until the course is revamped and brought into the reality of people's schedules - this work was done at night on my own time and not as part of work.</i>
1-11. <i>Yes</i>
1-12. <i>Yes</i>
2-1. <i>Yes</i>
2-2. <i>(No response)</i>
2-3. <i>No - Not unless different instructor was used or improvements were made. The course was not enjoyable-more time-consuming then needed. Not enough explanations of assignments-time spent trying to mind read.</i>
2-4. <i>Ye s- #53--but only if he/she had the time and consistent internet access throughout the course period</i>
2-5. <i>Yes</i>
2-6. <i>Yes</i>
2-7. <i>Yes</i>
2-8. <i>Yes</i>
2-9. <i>Yes</i>
2-10. <i>No - My answer really is "It depends." If one is a university student, yes it is a good class as it stands. For someone looking for professional development, I'd suggest another course format or let them know that this class takes ALOT of time to do well.</i>
2-11. <i>Yes</i>
2-12. <i>Yes - Evaluation is often a neglected, but necessary big-picture exercise. We work too closely in our programs to question if there are ways to improve them.</i>
2-13. <i>Yes</i>

2-14. Yes
2-15. Yes
2-16. (No response)
2-17. Yes
2-18 (No response)
2-19. Yes
2-20. No - Time requirement and lack of face-to-face discussion.
2-21. Yes
2-22. No - (No response)
2-23. Yes

54. Where did you hear about the course?
1-1. Online listservs
1-2. Email
1-3. EETAP
1-4. Through the EPA, my boss, and EE-News biweekly e-newsletter.
1-5. aza listserv
1-6. NAAEE email newsletter
1-7. My adviser and the Instructor of EE research course
1-8. online-researching environmental literacy
1-9. From the WWF
1-10. Internet discussion list
1-11. US Forest Service, State and Private, NE
1-12. My supervisor told me about the course when I expressed interest in evaluation.
1-13. E-mail notification
2-1. From Project WET and from colleagues around the country.
2-2. American Zoo and Aquarium Association
2-3. Through my job
2-4. Originally heard about it at a U.S. Forest Service meeting for state conservation education coordinators
2-5. Advisor
2-6. AZA Listserve
2-7. I heard about it through Project Learning Tree through work at the Department of Natural Resources.
2-8. Through the EE network
2-9. e-mail notice
2-10. Regional Office and NCTC emails.
2-11. I took Fundamentals of EE with Dr. Wilke in 2003. I get postcards from UWSP with new course offerings.
2-12. Through the US Forest Service. (My thanks to them for the scholarship!)
2-13. I think it was an email, maybe.
2-14. email
2-15. AZA Listserve
2-16. (No response)
2-17. As member of NAAEE.
2-18. (No response)
2-19. An email from a colleague.
2-20. Information was passed along by a co-worker
2-21. E-mail
2-22. Colleague Cathy Rezabeck
2-23. On my state association's listserv

APPENDIX Q

Comprehensive List of Future AEEPE Revisions

Comprehensive List of Future AEEPE Revisions

(This list was created for the first time during the Tucson Revision Meeting, January 16-20, 2006. It has since been used to guide revisions for the summer 2006 and fall 2006 course offerings)

Assignments and Assignment Sheets:

- Finalize the assignments for each unit – there are still too many.
- Assignment sheets – There should be 2 assignment sheets:
 - a) Workshop and Undergraduate Assignments
 - b) Graduate Assignments

Introductions for Each Unit:

- Redo the introductions for each unit so there is cohesion from unit to unit.

Unit 1:

Unit 1.2: Other EE Programs

- Cut this assignment for the summer
- Revisit for the fall - Possibly change to a read and respond assignment. Students would read the program descriptions posted for the My EE Program assignment and identify 2 that have evaluation needs that are like theirs because of XYZ and 2 that have evaluation needs that are different because of ABC.

Unit 1.3: Getting Familiar with the Guidelines

- Keep the same for summer
- Revisit for fall - Include in course because of the certification movement and core competencies. Very little discussion for this assignment.

Bring all Unit 1 assignments into alignment with EE competencies if possible.

Unit 2:

(General Comment: Revisit this unit and make final changes after summer 2006.)

Unit 2.2 Logic Model

- Revisit for fall - Before the logic model assignment include an assignment that would have them identify/write what they want their program to accomplish, divided by skills, short, medium and long term outcomes, etc. More focus on the difference between objectives and outcomes. Maybe revise the objectives assignment to include little p and BIG P objectives.

Unit 3:

(General Comment: Make changes to this unit based on recommendations from Tucson meeting.)

Reword introduction to include references to logic model and evaluation plan.

Unit 3.1: Expand your vision

- Revisit this and possibly make changes for summer - Use questions or prompts that will challenge them to think critically and respond to a situation/prompt. Change the assignment – but keep something.

Unit 4:

Unit 4.1: Active Listening

- Change for fall - Have students conduct a short interview using interview specific questions and prompts.

Unit 5:

- Rework the “Sampling” text.
- Consider revising or deleting the internal validity assignment to one on sampling.

Unit 6:

(General Comment: Make changes to this unit based on recommendations from Tucson meeting.)

- Add more info on portfolios
- Change C-mapping and use class examples

Unit 7:

(General Comment: Make changes to this unit based on recommendations from Tucson meeting. Many changes needed.)

- CYCA – is an executive summary (make this change in the course).
- References on where to go for a more in-depth discussion on qualitative methods.
- Revisit for fall - Go back to stakeholder and evaluation plan assignments. Choose 2 stakeholders and tie together with evaluation plan to create 2 plans, outlines, etc or complete a checklist (or rubric for Georgia) of what the reports would look like and why.

- Include a real example of qualitative analysis (e.g., domain analysis).

Culminating Assignment:

Look more closely at the culminating assignment for workshop students.

Alignment with NAAEE Guidelines:

- Incorporate core competencies into the course assignments.

Grading:

- Develop a grading scheme for all assignments so the grading is consistent across instructors.

Scavenger Hunt:

- Include pager info, class list resources, and how to email from classlist into scavenger hunt, tips page, and/or technical help section.
- Pager may cause problems in some systems because of flash media. Early recognition could be beneficial.

Technical help:

- Review questions and comments from spring sections and incorporate problems/solutions into technical help messages, tips page, or scavenger hunt.

Links:

- For each course offering we need to check links in content pages. If PDF is available online it's available to the public, if it is not available we need to remove it from the course. Keep links instead of PDF docs for easier checking.
- New links needed - Recreation Boating and Fishing Web site's "The Right Tools for the Job..." and surveying adult vs. children.

PDFs:

- Keep a file of pdfs that we load to the Cyber Café – this is where we should put the *Children as Respondents* article – this article is not a regular part of the course text but something I've come across and want to share.

Gallery:

- Include as a requirement – not optional. Needs to be changed on all tools. See Unit 3 for Fall 2006 – make others similar.

Language Rules:

Need a list of grammatical rules for course:

- Two spaces between sentences.
- In a series of 2 or more items no comma before the and (e.g. one, two, three and four).
- All dropbox and discussion assignment titles in the text should be in italicized.
- Reference section - make sure the journal names or book titles are in italics.

APPENDIX R

Microsoft Excel Data Analysis Help Sheets Created By Janice Easton

PLT Data Analysis Help

You can run statistical analyses and create tables and graphs using Excel. Unfortunately I've never found the Help option to be of any real help to a non-Excel user. This tip sheet will show you how to conduct the minimum calculations and graphs needed to complete assignment 7.2 PLT Survey Data.

The first thing you'll need to do is make sure you have the Analysis ToolPak installed.

1) Open Excel. *This help sheet was developed using Excel 2003. Keep in mind that if you are using a different version of Excel some of the procedures may be different. If this is the case please let your instructor know.*

2) In Excel, go to the Tools drop down menu and look for the Data Analysis. If it's there then you have the Analysis ToolPak and are ready to proceed.

2) If you do not see the Data Analysis option in the drop down menu - Go to Tools > Add-Ins > check Analysis ToolPak > OK

A. Sorting – enables you to manipulate the data set while keeping individual records in tact. Use sort when calculating descriptive statistics by hand or to spot check your data for errors. For example, you may want a cursory look at the data to determine how many middle school teachers are in the data set. Recall from the code book that under the column occupation, 1= elementary and 2= middle school teacher. Note that if a 3 was found in the data set then an input error occurred during data entry.

1) Go to Data > Sort > Sort by (select the column you want Excel to sort) > OK

The screenshot shows the Microsoft Excel 2003 interface with a data table and the Sort dialog box open. The data table has columns for 'occupation' and 'years'. The Sort dialog box is open, showing 'occupation' selected for sorting in descending order. Annotations explain the steps: 'Select either ascending or descending order' points to the sort order options, 'Excel sorted the data by occupation.' points to the sorted data, and 'Select "Header row" if you have column labels in the first row' points to the 'Header row' checkbox in the dialog.

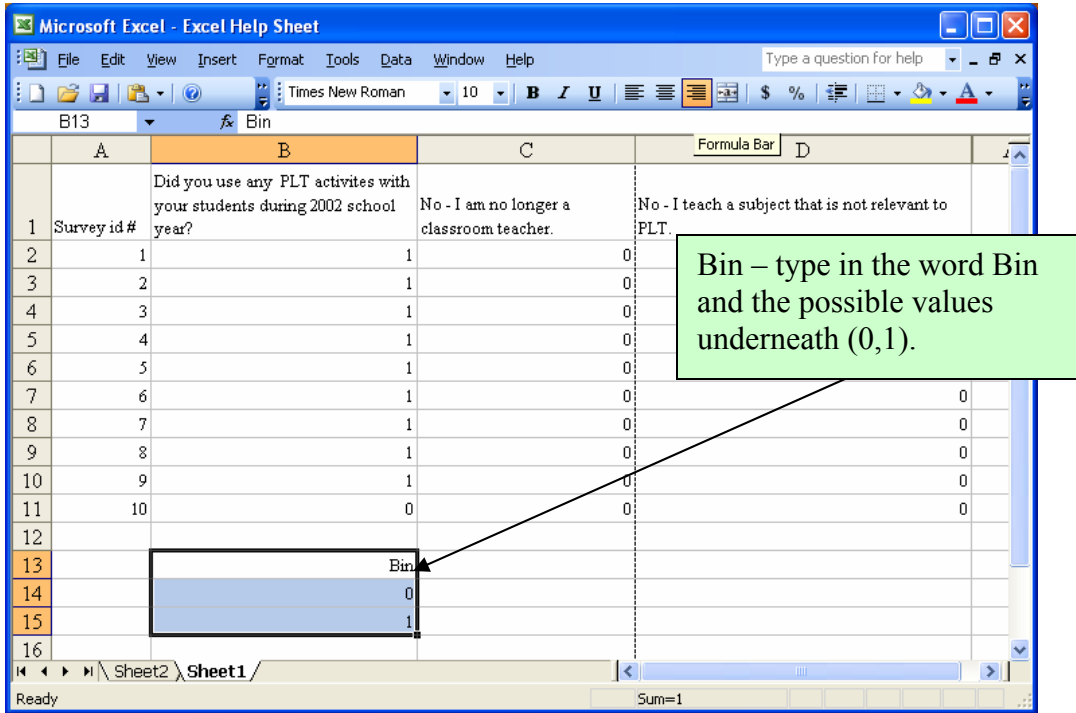
	T	U	V	W	X	Y	Z	AA	AB
	PLT used in subject areas - math	PLT used in subject areas - social studies	PLT used in subject areas - arts	physical ed	gender	yourself	occupation	been teaching?	
1							1	6	
2	1	0	1	0	2	5	1	5	
3	0					5	1	4	
4	0					5	1	5	
5						5	1	10	
6						5	1	11	
7						4	2	4	
8						5	2	7	
9						5	2	5	
10						3	2	2	

Sort dialog box options:

- Sort by: occupation
- Ascending (selected), Descending
- Then by: (empty)
- Ascending, Descending (selected)
- Then by: (empty)
- Ascending, Descending (selected)
- My data range has: Header row (selected), No header row

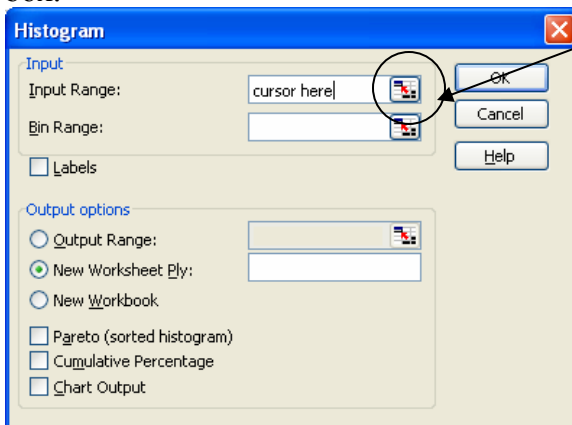
B. Frequency – calculates how often values occur within a range of values. For example, consider the question, “Did you use PLT activities with your students during the 2002 school year?” Without sorting and counting by hand we want Excel to determine how many people used PLT (1=yes) and how many people did not use PL (0=no) in the 2002 school year.

1) Create a Bin at the bottom of the column you want Excel to use in its calculations. Your Bin should contain all the possible values that Excel will encounter in the analysis. In this example, the values are 0 and 1.



2) Go to Tools > Data Analysis > Histogram > OK

3) Place your cursor in the Input Range box then select the icon to the right of the box.



The following box will appear:



4) Highlight the values in the column you want Excel to use in its calculation. The row and column of the highlighted values will appear in the Input Range box.

\$B\$2:\$B\$11 tells Excel to use the numbers in column B row 2 through column B row 11 to calculate the frequency

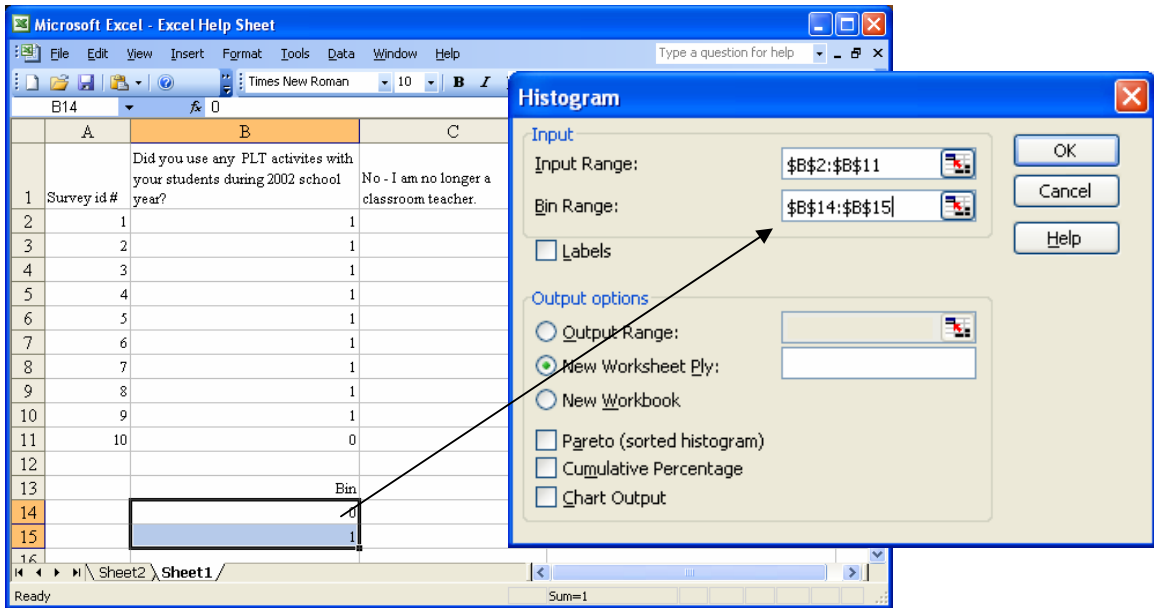
Select 'New Worksheet Ply:'

	A	B	C
1	Survey id #	Did you use any PLT activites with your students during 2002 school year?	No - I am no longer a classroom tea
2	1	1	No - I teach a subject that is not relevant to
3	2	1	
4	3	1	
5	4	1	
6	5	1	
7	6	1	
8	7	1	
9	8	1	
10	9	1	
11	10	0	
12			
13			Bin
14			0
15			1

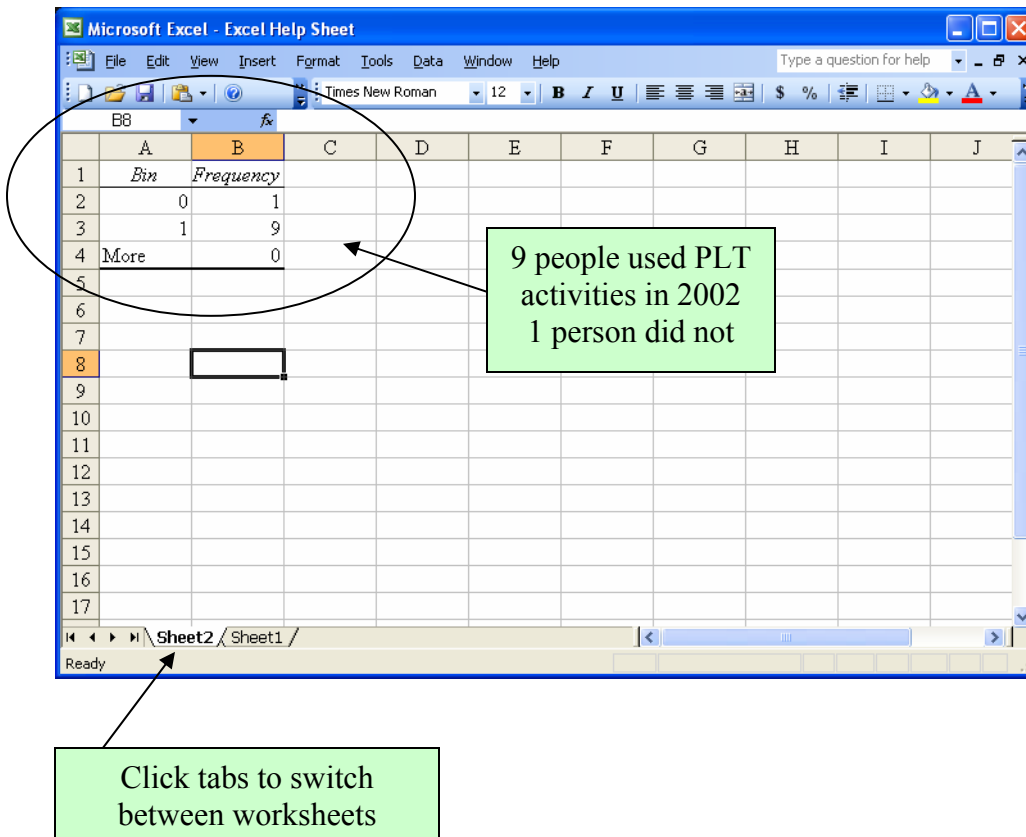
Once the correct highlighted area appears in the Input Range box select the icon to the right of the box to expand the active window.



5) Move your cursor to the Bin Range box and select the icon to the right of the box. Highlight the possible values (0,1) from the bin you created in step 1. When the correct highlighted area appears in the Bin Range: box select OK.

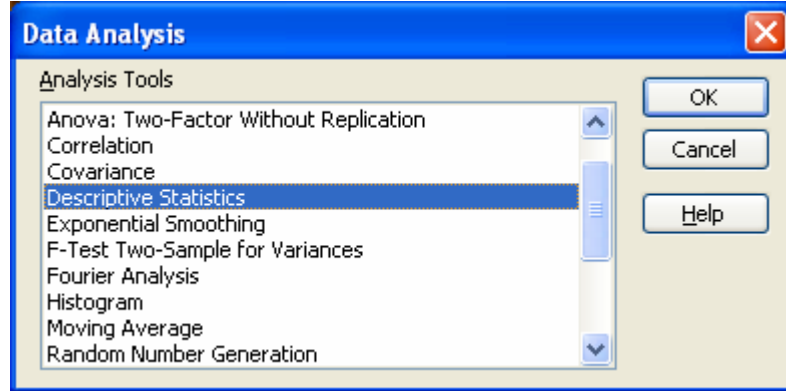


6) The frequency table will appear in a separate worksheet > Sheet 2

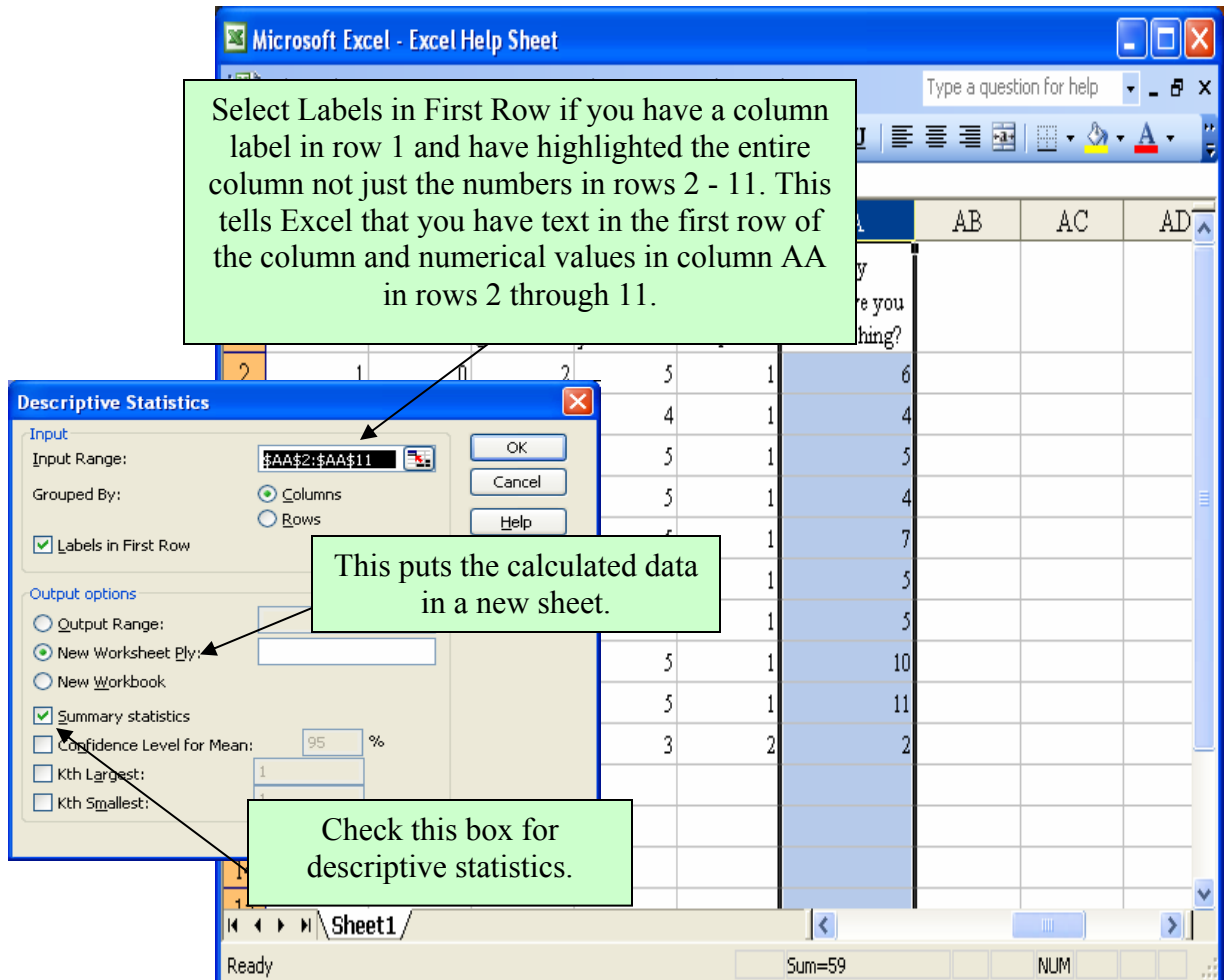


C. Descriptive statistics – calculate the mean, median, mode of a set of data.

1). If you want Excel to calculate the descriptive statistics for the question, “How many years have you been teaching?” select Tools > Data Analysis > Descriptive Statistics >OK.



2) In the Descriptive Statistics window place your cursor in the Input Range box then select the icon to the right of the box. Highlight the column you want Excel to calculate. (Refer to steps 3 and 4 in the frequency example.)



Select Labels in First Row if you have a column label in row 1 and have highlighted the entire column not just the numbers in rows 2 - 11. This tells Excel that you have text in the first row of the column and numerical values in column AA in rows 2 through 11.

This puts the calculated data in a new sheet.

Check this box for descriptive statistics.

3) The descriptive statistics will appear in a new worksheet > Sheet 2.

The screenshot shows the Microsoft Excel interface with a new worksheet named 'Sheet2' selected. The data is as follows:

	A	B	C	D	E	F	G
1	<i>How many years have you been teaching?</i>						
2							
3	Mean	5.9					
4	Standard Error	0.874960317					
5	Median	5					
6	Mode	5					
7	Standard Deviation	2.766867463					
8	Sample Variance	7.655555556					
9	Kurtosis	0.203749751					
10	Skewness	0.837192461					
11	Range	9					
12	Minimum	2					
13	Maximum	11					
14	Sum	59					
15	Count	10					

The descriptive statistics show that for the 10 people in the analysis, the number of years teaching ranged from 2 to 11 years. The average number of years teaching is 6. The median and the mode are 5.

Click tab on bottom left to show Sheet 2

D. Correlation – The Pearson correlation coefficient is a measure of the degree of linear relationship between two variables. For example, you may want to find out the strength of the relationship between the number of years teaching and the number of PLT activities used.

Correlation coefficients range from -1.0 (a perfect negative correlation) to +1.0 (a perfect positive correlation). A value of 0.0 indicates no relationship. The sign of the correlation coefficient (+, -) defines the direction of the relationship, either positive or negative. A positive correlation coefficient means that as the value of one variable increases, the value of the other variable increases or as one decreases the other decreases. A negative correlation coefficient indicates that as one variable increases, the other decreases, and vice-versa.

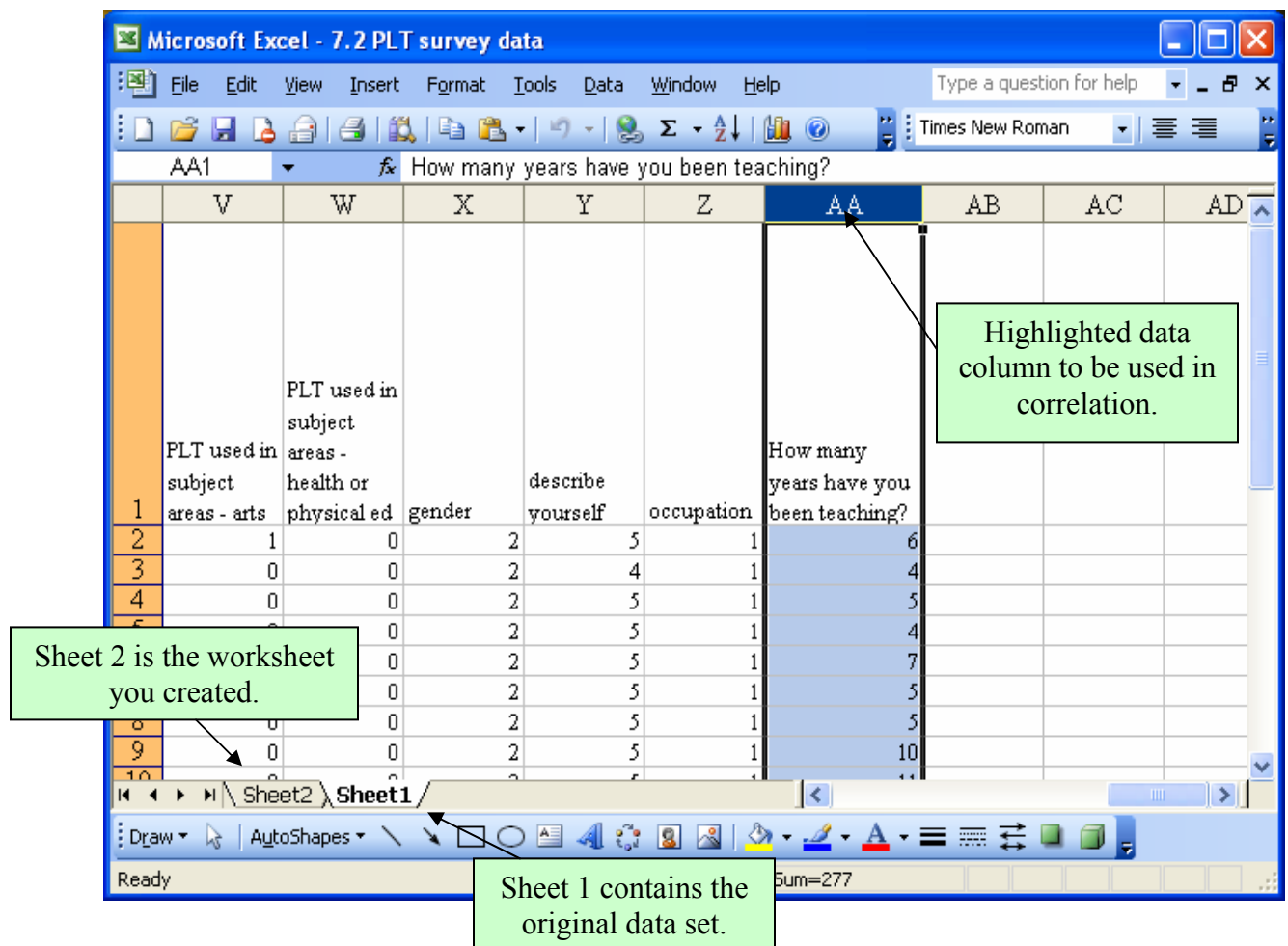
In order for Excel to calculate the correlation between two sets of variables the columns need to be next to each other. I've found it easier to copy the columns of interest to a new worksheet.

1) Start by adding a new worksheet.

Go to Insert >Worksheet and a blank worksheet (Sheet 2) is created.

2) Then copy the columns you would like to correlate to the new worksheet.

Go to Sheet 1 where your data is located and highlight column AA – 'How many years have you been teaching?' You can highlight the entire column by placing your cursor on the letter(s) at the top of the column and left click. The column will be shaded blue and a down arrow will appear in the column header.

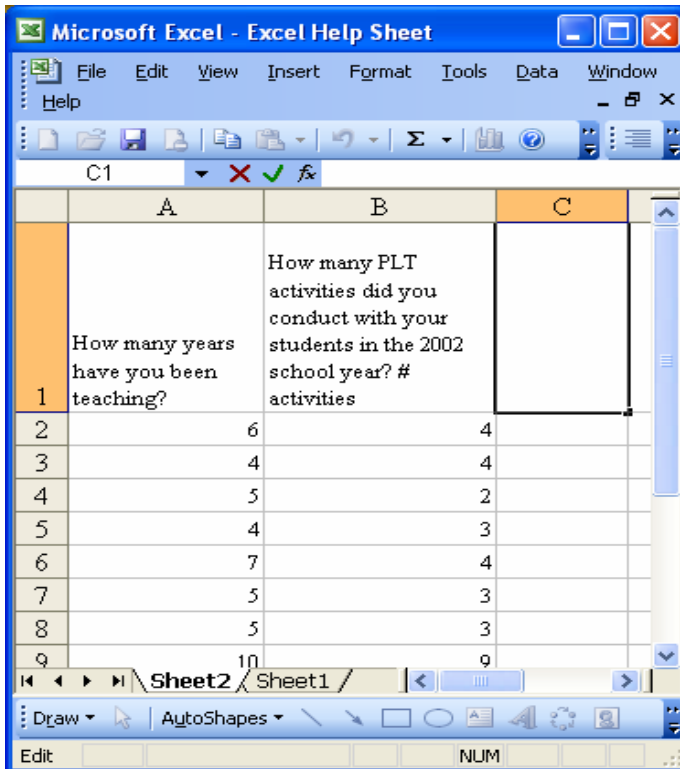


3) Once the data column is highlighted go to: Edit > Copy [Flashing, dotted lines will outline the column to be copied]

4) Go to Sheet 2 and highlight column A by placing the cursor on the column letter and clicking the left mouse button. Go to: Edit > Paste, the column you copied should appear in the column you just selected.

Repeat with the other column labeled “How many PLT activities did you conduct with your students in the 2002 school year?”

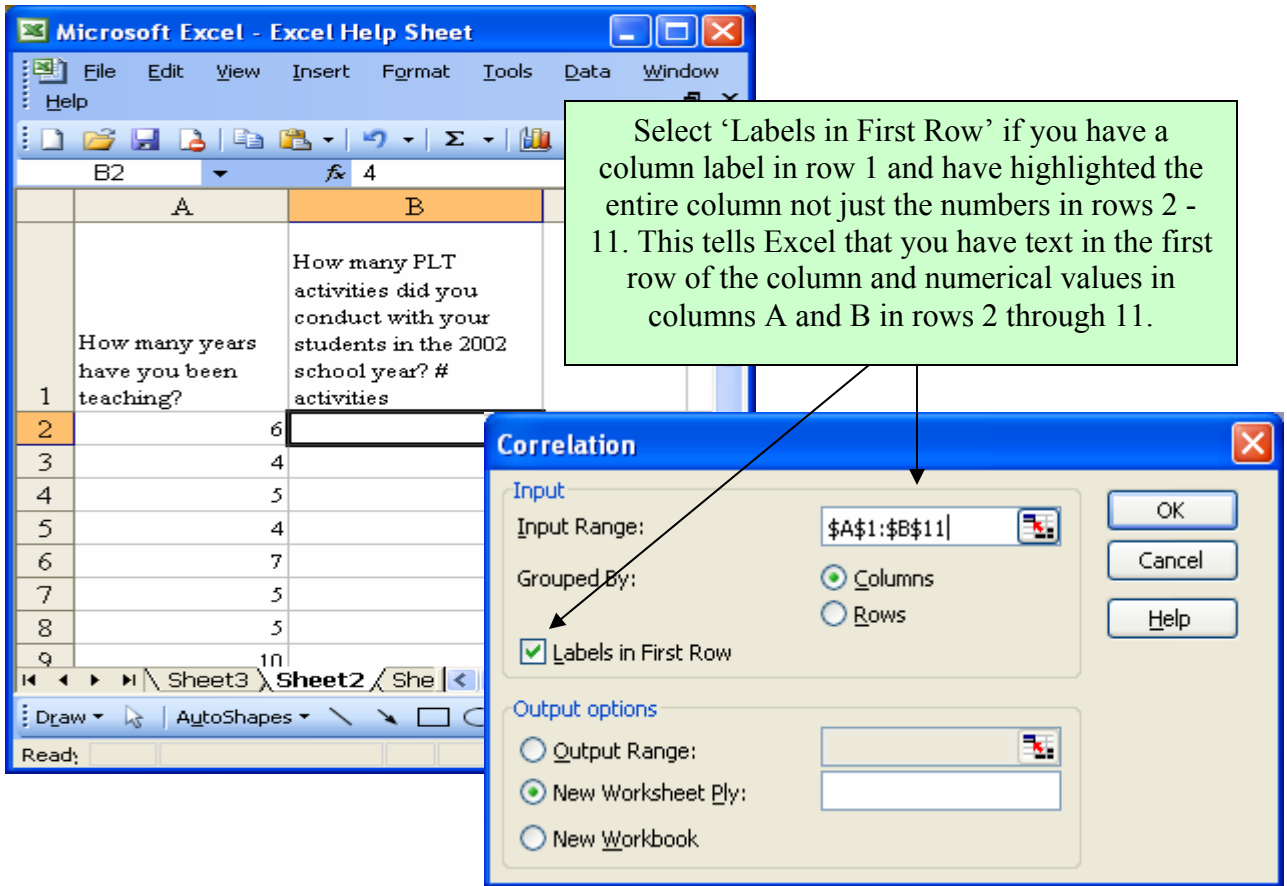
Note that the *independent variable* (number years teaching) is placed in the first column while the *dependent variable* (number activities conducted in 2002) is placed in the second column.



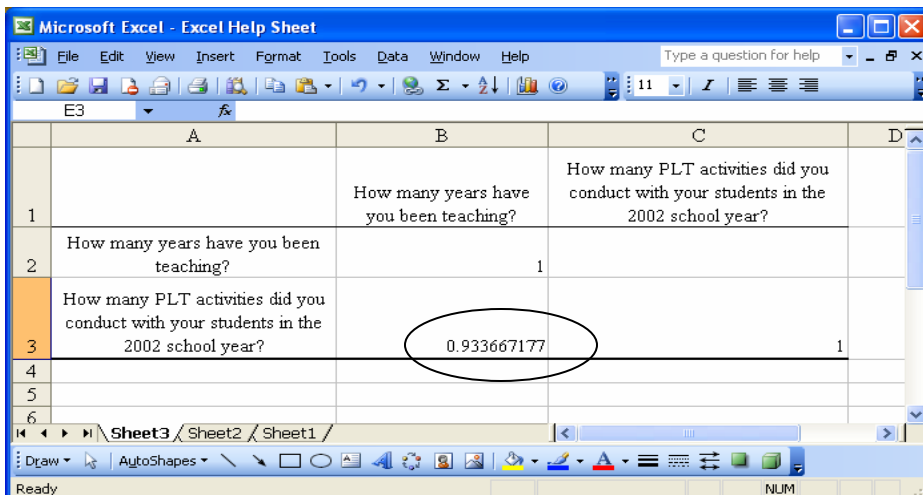
The screenshot shows a Microsoft Excel window titled "Excel Help Sheet". The spreadsheet has three columns labeled A, B, and C. Column A contains the text "How many years have you been teaching?". Column B contains the text "How many PLT activities did you conduct with your students in the 2002 school year? # activities". Column C is empty. The data rows are as follows:

	A	B	C
1	How many years have you been teaching?	How many PLT activities did you conduct with your students in the 2002 school year? # activities	
2	6	4	
3	4	4	
4	5	2	
5	4	3	
6	7	4	
7	5	3	
8	5	3	
9	10	9	

5) While in Sheet 2, select Tools > Data Analysis > Correlation > OK. Highlight the columns that you want to correlate. If you highlight the labels in row 1 be sure to check the box Labels in First Row.

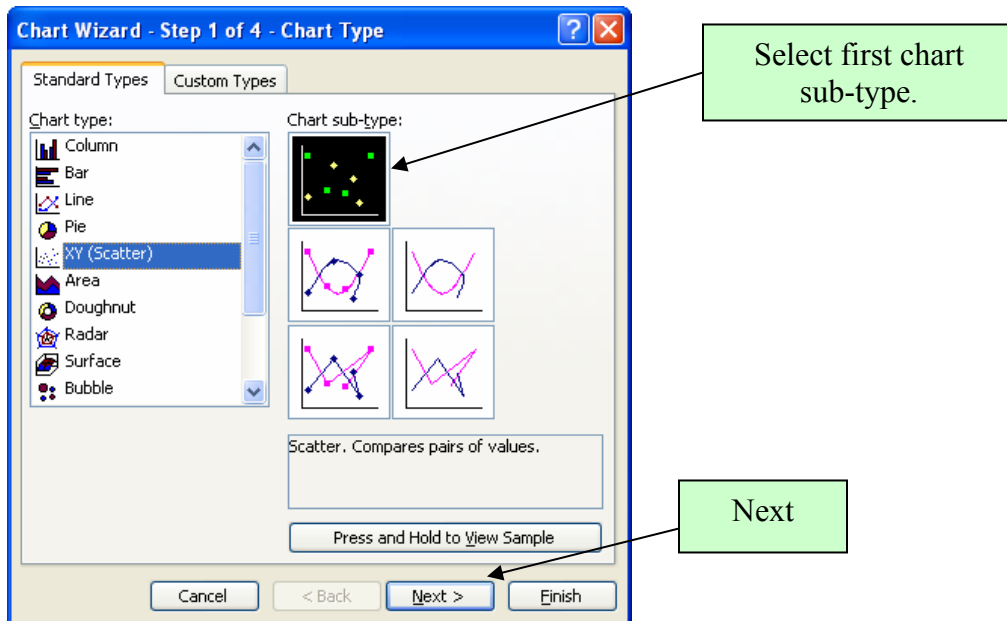


6) Select OK and the correlation between these two variables will appear in a new worksheet – Sheet 3. The findings show that there is a strong, positive correlation between the number of years teaching and the number activities conducted in the 2002 school year. This can be interpreted as the longer a person has been teaching the more PLT activities they are likely to conduct. An interpretation of this analysis could be that training efforts should be concentrated on more experienced teachers.



E. Scatter plots - Scatter plots provide a pictorial representation of the relationship while the correlation coefficient provides a numeric indication of the strength of the relationship between variables.

1) Select Insert > Chart > XY (Scatter) > select the first Chart sub-type > Next.



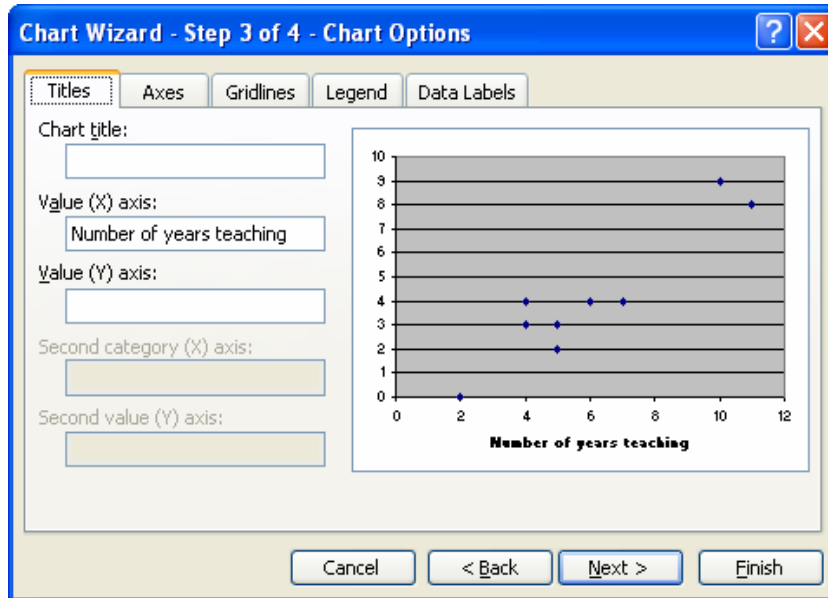
2) In Step 2 of 4 in the Chart Wizard, place your cursor in the Data Range box. Highlight the numeric values in columns A and B you want Excel to use in the scatter plot. Sheet2!\$A\$2:\$B\$11 will appear in the Data Range box, this tells Excel to use the values in columns A and B in rows 2 through 11 in the scatter plot.

The image shows the 'Source Data' dialog box in Microsoft Excel. The 'Data Range' tab is selected, and a preview of a scatter plot is shown in the upper portion of the window. The data range is set to '=Sheet2!\$A\$2:\$B\$11'. The 'Series in' section has 'Columns' selected. Callouts provide additional context:

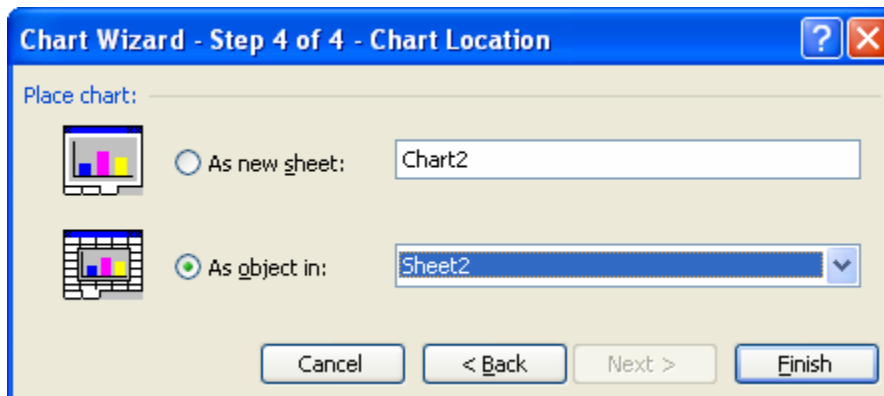
- A preview of the scatter plot will appear in the upper portion of the window.
- Shows the columns and rows where the numeric values are located in the data sheet.
- Tells Excel that the variables (e.g., number of years teaching) are in columns.

X-axis Value	Y-axis Value
2	0
4	3
4	4
5	3
5	2
6	4
7	4
10	9
11	8

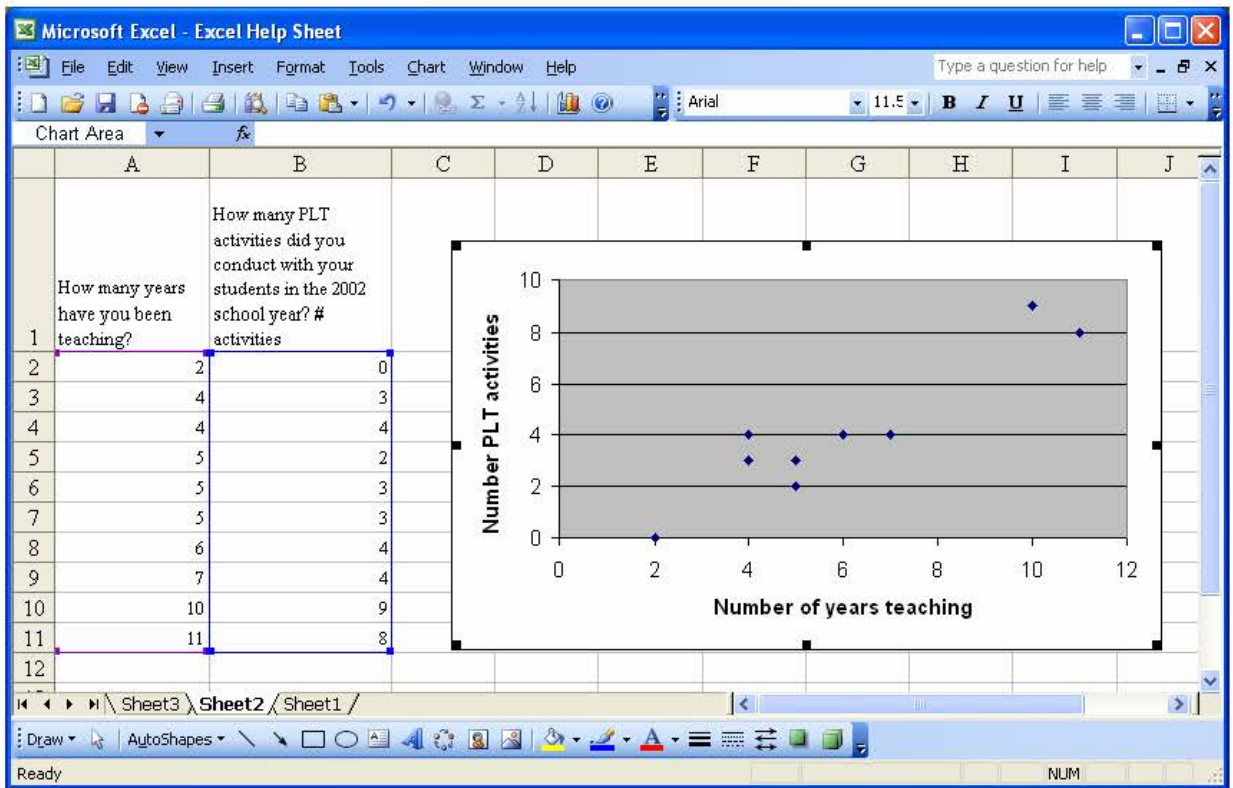
3) Select Next for Chart Wizard Step 3 of 4 to appear. Select the Titles tab and enter labels in the Value (X) axis: and Value (Y) axis: boxes. Excel will include the labels in the finished scatter plot.



4) Select Next and Chart Wizard Step 4 of 4 appears. In this step Excel gives you the option of placing the scatter plot in a new worksheet or placing it within the current worksheet – Sheet 2. Select As object in > Finish.



5) The scatter plot appears in Sheet 2.



APPENDIX S

Fall 2004, Spring 2005, Summer 2005 and Fall 2005
Mean Scores Comparison

Item	Fall 2004 (N=19)	Spring 2005 (N=41)	Summer 2005 (N=19)	Fall 2005 (N=36)
Course Objectives				
Listed below are the course objectives. Please respond to each statement regarding what you learned from the course.				
1. As a result of taking this course, I am better able to state the purposes, benefits, and importance of educational evaluation.	4.58	4.41	4.35	4.42
2. As a result of taking this course, I am better able to distinguish between front-end, formative, and summative evaluations.	4.42	4.39	4.15	4.58
3. As a result of taking this course, I am better able to write measurable program objectives that link program development and evaluation.	4.42	4.44	4.40	4.56
4. As a result of taking this course, I am better able to develop a comprehensive evaluation plan for an environmental education or outreach program.	4.37	4.51	4.45	4.53
5. As a result of taking this course, I am better able to state when and how to use data collection tools.	4.05	4.24	4.25	4.19
6. As a result of taking this course, I am better able to develop three data gathering tools: observation form, survey, and an interview or focus group guide.	4.53	4.78	4.75	4.47
7. As a result of taking this course, I am better able to develop alternative assessment tools such as rubrics, checklists, and rating scales to assess performance.	4.32	4.44	4.25	4.08

8. As a result of taking this course, I am better able to analyze and interpret data gathered from evaluation tools.	3.79	4.10	4.20	3.81
Overall Course Outcomes				
To what extent do you agree or disagree with the following statements...				
10. I have increased my knowledge of environmental education program evaluation as a result of taking this course.	4.58	4.71	4.58	4.69
11. I have increased my skills in conducting an evaluation of an environmental education program as a result of taking this course.	4.58	4.68	4.68	4.42
Course Structure				
To what extent do you agree or disagree with the following statements...				
13. The course units were organized in a way that made sense to me.	4.16	4.39	4.37	4.33
14. The course material seemed to flow logically and make good transitions.	4.26	4.24	4.18	4.31
15. There seemed to be sufficient interaction between the students and the instructor.	3.21	4.37	4.35	3.83
16. There seemed to be sufficient interaction among the students.	3.63	4.39	4.29	4.03
17. I am glad that I was able to take this course <u>on-line</u> .	4.16	4.20	4.65	4.17
18. I would participate in another on-line course as a result of this experience.	4.00	4.15	4.18	3.75
19a. I would have preferred to have taken this course in a face-to-face format at a location such as the National Conservation Training Center over a week long period.	3.32	2.85	---	---

19b. I would have preferred to take a one-week, modified version of this course in a face-to-face format where instruction emphasizes application of evaluation tools through group activities and site visits, and less time is spent on evaluation theory and direct application of evaluation tools to my specific program.	---	---	2.35	2.97
Technology				
To what extent were you able to do the following...				
21. Log in to the course.	4.53	4.83	4.58	4.44
22. Navigate the course within Desire2Learn.	4.32	4.63	4.32	4.28
23. Access the course content.	4.58	4.63	4.68	4.22
24. Check your grades.	4.37	4.73	4.89	4.44
25. Use e-mail to communicate with your instructor.	3.89	4.32	4.53	4.14
26. Use the Dropbox to submit assignments to your instructor	4.35 (N=17)	4.68	4.79	4.14
Advanced Technology for Future Courses				
<u>Response Set:</u>				
Yes				
No				
28. Would you have liked to have used real-time chat during the course? (Real-time chat is similar to instant messaging. Your typed message is immediately delivered to someone else's monitor and that person's response is immediately delivered back to your monitor.)	Yes=63% No=32%	Yes=34% No=66%	Yes=26% No=74%	Yes=54% No=47% (N=35)
29. Would you have liked some content presented via a PowerPoint presentation?	Yes=56% No=44%	Yes=49% No=51%	Yes=39% No=61% (N=18)	Yes=47% No=49% (N=34)

30. Would you have liked some content presented via an audio presentation?	Yes=50% No=50%	Yes=25% No=75% (N=40)	Yes=26% No=74%	Yes=38% No=60% (N=34)
31. Would you have liked some content presented via a video presentation?	Yes=50% No=50%	Yes=46% No=54%	Yes=47% No=53%	Yes=56% No=43% (N=34)
Course Content				
To what extent do you agree or disagree with the following statements...				
32. I am satisfied with the amount of information the course provided.	4.47	4.44	4.42	4.31
33. I am satisfied with the amount of examples used to help me understand the information.	3.79	4.17	4.33 (N=18)	4.06
34. I am satisfied with the amount of environmental education program evaluation resources the course provided.	4.05	4.39	4.32	4.33
35. The grading guidelines were clearly outlined.	4.37	4.46	4.16	4.00
36. The assignment due dates were clearly outlined.	4.53	4.39	4.32	4.33
37. The glossary was useful to me.	3.42	3.41	3.32	3.50
38. The <u>reflection assignments</u> were helpful in advancing my learning.	4.37	4.00	3.78 (N=18)	3.94
39. The <u>read and respond</u> assignments were helpful in advancing my learning.	4.26	4.20 (N=40)	3.95	4.08 (N=35)
40. The <u>short activity</u> assignments were helpful in advancing my learning.	4.42	4.49	4.32	4.23 (N=35)
41. The <u>in-depth activity</u> assignments were helpful in advancing my learning.	4.37	4.56	4.53	4.58
42. Posting and reading assignments on the discussion board was helpful in advancing my learning.	3.68	4.10	3.95	4.14
43. Replying to others' assignments and ideas on the	3.26	3.85	3.47	3.75

discussion board was helpful in advancing my learning.				
44. The culminating assignment was helpful in advancing my learning.	4.11	4.03	4.11 (N=18)	3.85
45. The amount of work required seemed appropriate.	3.26	3.76	3.84	3.47
46. The amount of time given to complete each assignment seemed appropriate.	3.04	3.59	3.95	3.39
Graduate Students Only:				
47. The graduate assignments were helpful in advancing my learning.	3.74 (N = 4)	4.56 (N=9)	4.00 (N=3)	4.40 (N=5)
Overall				
49. Approximately how many <u>total</u> hours did you spend working on the course? <u>Response Set:</u> A. Less than 20 hours B. 21-40 hours C. 41-60 hours D. 61-80 hours E. More than 80 hours F. Unable to Estimate	A. 0% B. 5% C. 43% D. 42% E. 5% F. 5%	A. 7% B. 12% C. 17% D. 37% E. 17% F. 10%	A. 5% B. 5% C. 16% D. 26% E. 26% F. 21%	A. 3% B. 14% C. 20% D. 20% E. 40% F. 3% (N=35)
53. Would you recommend this course to a colleague or friend? <u>Response Set:</u> Yes No	Yes=95% No=5%	Yes=90% No=10%	Yes=95% No=5%	Yes=85% No=15% (N=33)
64. What is your current or most recent occupation? <u>Response Set:</u> A. Environmental/Outdoor Educator B. Museum/Zoo Educator C. WILD/WET/PLT State	A. 11% B. 0% C. 5% D. 32%	A. 44% B. 8% C. 3% D. 15%	A. 37% B. 0% C. 0% D. 5%	A. 22% B. 14% C. 11% D. 8%

Coordinator D. U.S. Fish and Wildlife Service Educator E. Director of an Environmental Education Organization, Program or, Center F. Graduate Student G. Other	E. 42% F. 5% G. 5%	E. 0% F. 10% G. 20%	E. 26% F. 0% G. 32%	E. 14% F. 3% G. 28%
65. Prior to taking this course, how long had you been evaluating environmental education programs? <u>Response Set:</u> A. Never B. Less than 2 years C. 2-5 years D. More than 5 years	A. 11% B. 32% C. 36% D. 21%	A. 42% B. 24% C. 27% D. 7%	A. 39% B. 39% C. 22% D. 0%	A. 29% B. 23% C. 14% D. 34%
66. How long have you been in the field of environmental education? <u>Response Set:</u> A. I am not currently in the field of environmental education B. Less than 2 years C. 2-5 years D. More than 5 years	A. 0% B. 11% C. 11% D. 78%	A. 10% B. 10% C. 22% D. 58%	A. 16% B. 26% C. 26% D. 32%	A. 3% B. 3% C. 29% D. 66% (N=35)