BEST PRACTICES FOR THE INTEGRATION OF ADVENTURE ACTIVITIES AND ENVIRONMENTAL EDUCATION

A Project Report

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ABSTRACT

The combination of adventure activities and environmental education is a growing trend with a high amount of anecdotal support but limited research. Defining adventure activities and identifying current trends is a challenge because of many different ideas and concepts across the field of adventure education. This study researched adventure-based and environmental education programs and literature to define adventure activities, identified current organizations offering programs, and created best practices for integrating both. Suggestions were made for Treehaven, a residential environmental education center, to design and implement programs. Treehaven would like to know and implement the best practices when conducting adventure-based programs at their facility. Data was collected through interviews with professionals in the field and qualitatively analyzed to find recurring themes for planning, conducting, and evaluating successful programs. Five organizations were interviewed and four themes were present in the qualitative data. The best practices were created from the identified themes, focusing on planning programs, flexibility for different participants, training staff, and evaluation of activities. Activities should first be designed to fit within an organization's resources and mission, and then be documented in a lesson plan or other format. Organizations should work with participants to select and tailor appropriate activities for their needs. Staff must be competent with the hard skills necessary for activities but also environmental knowledge to educate participants. Evaluation is necessary to gather feedback and improve programs. These results were then applied to Treehaven's current situation and suggestions were made. The suggestions created from this study provide help to plan effective programs incorporating both adventure and environmental education. Planning programs to be both adventure and environmentally focused has several benefits for participants and will help Treehaven to better educate their audience. The study was completed in May of 2013.

ACKNOWLEDGEMENTS

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Chapter I: INTRODUCTION

Research Question

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Research Objectives

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Sub-Problem 3   Create best practices to plan environmental education programs that successfully incorporate adventure activities

Sub-Problem 4   Research Treehaven programming to identify their characteristics and how to apply the best practices

The Importance of the Study

The importance of this study is (1) to help Treehaven provide adventure education as part of its programming, (2) to identify trends and the effective components of adventure opportunities that align with environmental education, (3) to integrate environmental education with the adventure activities, and (4) to establish best practices for implementing adventure programs that also educate participants about the environment.

The Limitations

Limitation #1   This study does not guarantee there will be new adventure

education opportunities at Treehaven

Limitation #2   This study is not aiming at a specific activity, audience, or venue

leaving many possibilities available

Limitation #3   This study will offer suggestions for Treehaven but not implement

new activities or programs

Limitation #4   This study has a focus on adventure activities with environmental

education and not strictly adventure programs for Treehaven

Definitions

Adventure Education- Providing a learning experience that challenges participants

physically, mentally, and emotionally with an amount of risk that can be safely managed.

Adventure Activity- an activity containing physical, mental, or emotional risks for

participants that can be safely managed.

Environmental Education- Teaching the knowledge of nature in addition to skills and

motivation to act in a positive manner towards nature.

Hard Skills- Technical abilities and knowledge needed to teach or participate in an

adventure activity.

Treehaven- a facility owned by University of the Wisconsin - Stevens Point that serves as a residential natural resources education and conference center located in Tomahawk, Wisconsin.

Assumptions

- There are benefits to integrating environmental education with adventure programs
- There will be a need to offer adventure activities that are also educational about the environment
- Other programs have integrated the two areas before and are willing to share their experiences

Chapter II: LITERATURE REVIEW

Sub-Problem 1- Define adventure-based activities by identifying adventure

programming characteristics and trends in the field

Adventure education has been an increasing trend in the United States beginning

with the 1962 Outward Bound program (Attarian 2002). The Outward Bound Process is

an example of how adventure and experiential based activities are designed. As a process

for the Outward Bound program, it has evolved through several stages beginning with the

Mountains Speak for Themselves (MST), then the Outward Bound Plus (OBP), and last

the Metaphor Model (MM) (Walsh 1976). Programs other than Outward Bound offering

adventure activities will typically fall into one of these areas as well. Initially MST

provided backwoods activities using nature to inspire participants to take away their own

meanings and connections. The OBP built on this by using the instructor to help draw

conclusions and meaning with the participants at the end of their experience. The

culminating MM begins with the instructor prompting themes before an activity and

includes a similar debrief to the OBP. The later stages are implemented to improve upon

early models with the hope of retaining successful elements and improving on the

shortcomings (Walsh 1976). Some areas addressed through improvements were

providing prompts for groups before an activity and then facilitating discussions with

groups after activities. The evolution of the process is reflective of the entire field of

adventure education as research and development continue to grow.

Adventure education expanded throughout the 1970's to include other notable

programs such as the National Outdoor Leadership School (NOLS), Project Adventure,

and the Wilderness Education Association, just a few among the over 190 that were operatingat that time within the country (Attarian 2002). Also important to the field was the establishment of the Association for Experiential Education (AEE) in 1975. Adventure education was beginning to take hold as a valuable program with many outcomes including therapy, recreation, and non-formal education. Adventure programs draw a diverse audience shown by increases among specific experienced based training, professional development, therapeutic, and women-centered programs (Attarian 2002).

Adventure education is not limited to an American audience. In Australia, adventure education "is concerned primarily with personal development and, to varying degrees, with environmental problems" (Lugg 2004). Few researchers look at the outdoor education objectives and curricula on the national level in Australia but instead focus on a regional level. The research into the outdoor and adventure education in Australia did not start as a means of being destructive or critical of current programs but rather to learn about the underlying principles and development evolving over time, including both intentional and unintentional outcomes (Lugg 2004).

Geographical expansion of adventure education is occurring as well as new applications which are starting to part ways with the traditional hard skills participation from participants. One approach to adventure education is online as done by the AT2004 project, which provided a free eighteen week curriculum for K-12 grades, connecting students to scientists and explorers as they learned about the Arctic. This particular type of educational opportunity is the result of advances in geospatial and communication technologies capable of connecting over three million learners to an Arctic experience (Miller 2008). The focus of the online adventure learning is developed so the curriculum

and the online classroom foster students' abilities to identify and pose questions, design and conduct investigations, analyze data and evidence, use models, and communicate findings (Miller 2008). The approach was decided on versus the memorization and recalling of facts to promote the inquiry skills of students.

Given the unique aspects of adventure education and its recent growing popularity research has increased to investigate the anecdotal support for its positive outcomes. Researchers look at the structure and components of programs, the role of the instructor, and the benefits that are taking hold with the participants. As research helps to legitimize the positive effects of adventure activities there is the potential to combine adventure and environmental learning within the same program to better engage participants. There is a long list of potential adventure activities that can include activities like bushwalking, ropes course activities, rock climbing, canoeing, rafting, skiing, horse riding and mountain biking (Lugg 2004). One thing present in a majority of adventure activities is the environmental surrounding for the participants. Nature surrounds participants during their adventure activities making environmental education possible through their independent observations and intentional program designs.

Sub-Problem 2- Identify and research current facilities integrating adventure-based activities with environmental education

There are many facilities and organizations operating with programs containing environmental education and adventure activities. Five were researched to gain an understanding of how they operate and run their programs. Wolf Ridge, IslandWood, Project Adventure, Pok-O-MacCready, and The Conservancy are programs across the

nation offering various programs featuring adventure and environmental education. They are all diverse and have unique characteristics they bring to the field of education.

Wolf Ridge is a Residential Environmental Learning Center located in the town of Finland, Minnesota near the coast of Lake Superior. "Wolf Ridge's mission is to develop a citizenry that has the knowledge, skills, commitment, and motivation to work together for a quality environment" (Wolf Ridge 2008). They offer a first-hand experience and understanding of the natural environment but also work to improve respect and social understanding between people. After being founded in 1971, Wolf Ridge became the first accredited environmental learning center in the country and continues to be at the forefront of environmental education. In addition to environmental learning, their 2,000 acre campus serves as the site for many adventure and outdoor recreation activities as well as a launching point for backcountry trips. The onsite facilities include classroom buildings, dormitories, a dining hall, a raptor aviary, a library, auditoriums, rock climbing walls, outdoor ropes courses, and administrative offices. The audiences served approaches 5,000 visitors per year and are diverse including a range of ages from grade school to senior citizens.

There are 57 different programs and activities offered to the visitors at Wolf Ridge. The subject matter includes environmental science, cultural history, contemporary environmental issues, personal growth, team building, and outdoor recreation. The typical format for school groups consists of multi-day residential visits during their school year where each program or activity runs within a three hour block. Wolf Ridge serves schools in Minnesota, Wisconsin, and North Dakota and incorporates Minnesota Department of Education Academic Standards in their class programs. During

the summer the main programming is summer camps and back country trips to the Superior Hiking Trail, Boundary Waters Canoe Area Wilderness, and Lake Superior. Outside of students and campers, programs are extended to families and road scholars, trips and education for senior citizens, for week and weekend events.

IslandWood is located on Bainbridge Island in Washington near the city of Seattle. This outdoor learning center features a 255 acre campus with residential facilities. Their mission is "To provide exceptional learning experiences and to inspire lifelong environmental and community stewardship" (IslandWood 2013). IslandWood works towards their mission by hosting school groups, summer camps, meeting spaces, and special events. There are several driving principles found in their programs which include hands on education, the environment used as a classroom, targeting of multiple learning styles, and the showcasing of green and sustainable practices throughout their facilities. IslandWood strives to create a future where people are lifelong learners and engaged in their own community through environmental stewardship. The community involvement at IslandWood is important and engaged through of their off-site programs and use of volunteers to help run programs.

During the school year, the School Overnight Program is IslandWood's flagship program and is comprised of a four day experience for groups. The target age is fourth through sixth grade classes in the Puget Sound area. Students are engaged with environmentally focused topics covered mostly outside on the IslandWood campus. Recreational activities are also a part of the overnight programs and provide team challenges to further develop a sense of community for participants. The teachers are able to select curriculum for their class, sign up for pre and post classroom visits,

participate in professional development workshops, and network with other programs in the area. Special event programs that are offered include nature art, nature hikes, adventure racing, team building, low ropes course, sustainable cuisine, and canopy tower.

Project Adventure is an organization based out of Beverly, Massachusetts featuring a variety of adventure activities for clients. They are an innovative organization with the mission "to provide leadership in the expansion of adventure-based programming. Project Adventure seeks to develop responsible individuals, productive organizations and sustainable communities" (Project Adventure 2013) Project Adventure has been around since the 1970's and at the forefront of the development of adventure education in both the United States and abroad. One of the many facets of Project Adventure is their professional development and training opportunities. They offer a variety of workshops, trainings, and college credit courses through their onsite facilities and offsite trainers. In addition to helping train other educators, Project Adventure also sells and installs challenge courses to other organizations. They install courses across the country and worldwide as well as supplying publications, team building activity supplies, and adventure game props. Another aspect to Project Adventure is their research and grants they offer to help further the field of adventure education.

There are a variety of programs offered by Project Adventure for clients including both onsite and offsite opportunities. The programs cover health and wellness, physical education, community building, behavior management, bullying prevention, classroom adventure, camps, and team building. Project Adventure offers not only the programs but the publications and trainings to help guide other organizations. A recent addition to their programming is their Green Scholar program, which trains educators interested in

increasing sustainability at their school. The program offers an option to combine adventure activities and service projects outside of the classroom at a low cost option to engage students and teachers.

Pok-O-MacCready Outdoor Education Center offers environmental education and adventure activities through their programs. They are located in upstate New York along the border with Vermont in Willsboro. Pok-O-MacCready's mission is "to create and encourage a sense of awe in the presence of nature, to build self-confidence, to nurture self-worth and to promote teamwork, communication and tolerance for students of all ages" (Mannix). Originally operating as an all-boys camp in the early 1900's, the camp evolved into the center it is today, which serves over 50 schools and groups around the Northeastern United States and Canada. Sitting on 300 acres of land adjacent to an additional 6 million acres of protected wilderness, the center is able to offer a mix of land and water-based activities, for both environmental education and adventure activities. Pok-O-MacCready has a year-round residential capacity with overnight accommodations, lounge areas, and dining hall services.

Pok-O-MacCready offers programs for participants in four main areas including team building, natural sciences, living history, and high adventure. The team building is done on low ropes and team challenge courses. There is a broad range of subjects covered within the natural sciences including weather, astrology, several forms of ecology based lessons, nature art, and nature walks. Pok-O-MacCready offers three time periods of living history with their Underground Railroad, 1812 Homestead and Revolutionary War programs. The High Adventure programs consist of day and overnight programs both on and off the Pok-O-MacCready campus. They offer indoor

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and outdoor rock climbing, ice climbing, mountain biking, orienteering, canoeing, and survival skills as well as camping and hiking trips.

The Conservancy for Cuyahoga Valley National Park is an organization offering outdoor programs in Peninsula, Ohio. They work within the Cuyahoga National Park to enhance the visitors experience and engage them in educational programs. The Conservancy creates support for the park through efforts to increase public advocacy, organize volunteers, and gain philanthropic support from the public. Programs and opportunities offered from the Conservancy and the National Park Service include races, concerts, interpretive tours, fine dining, lodging, retreats, and seminars. The Conservancy leases and manages several buildings form the park including lodges, houses, a dining hall, a dormitory, and conference center.

The Conservancy offers several different education programs including overnight and day programs, summer camps, internships, and junior ranger training. The overnight program is a four day environmental-focused curriculum for fourth through eighth grade schools in the area. Topics covered include plant and animal diversity in the park, sustainable living, and local watersheds. The day programs focus on environmental and natural history in the park with the option to run some of the programs offsite in local classrooms. The Conservancy's internship program is offered during the school year to provide educators and supervision for the overnight programs. In the summer there are specialty camps aimed at different interests like theatre, wilderness survival, farming, cooking, camping, and junior ranger programs.

Sub-Problem 3- Create best practices to plan environmental education programs that successfully incorporate adventure activities

A factor for the importance of environmental education is the increase of "landlessness" amongst people. This term refers to people becoming disconnected from nature through the loss of nature walks, increasing classroom labs, physical loss of land, and lack of people's nature awareness, all within the past 100 years (Baker 2005). As this trend continues and people become increasingly disconnected from nature, adventure education helps to expose and reconnect people to the outdoors. One potential issue with adventure activities is increasing "landlessness" by distracting participants from nature with highly skill-focused activities. Given the location of many adventure activities, outdoors in nature, it builds a clear bridge between participants and their surroundings when executed properly.

Balance is required for programs to be successful in both areas of adventure and environmental education. Achieving the balance of adventure activities and environmental connections is addressed using several concepts and considerations when planning and facilitating programs. There is a need for a safe environment from physical and emotional stresses associated with adventure activities as well as a connection to the natural environment where the program is taking place. Important for adventure education is challenge, giving the participants a difficult task for them to work past. "Challenge is defined as any stressful task that stimulates problem solving and develops strength and resilience" (Brendtro 2007). Working with challenges creates levels of stress, some of which are good but too much can lead to distress, which has a negative effect on participants. "Effective change and adventure activities engage youth with

manageable risk in supportive and safe environments (Brendtro 2007)." Balancing risks

with challenges is important to provide the best opportunity but also promote a safe

environment for adventure activities.

An adventure activity can be planned to be "landful" by the instructor to engage

the land rather than allow it to fade into the background. There are ways the instructor

can guide the participants' focus to the environment. One gateway found in adventure

activities is connecting participants to nature through Leave No Trace principles and

practices. Another is traveling with or in the land rather than passing through it to engage

the participants (Baker 2005). "Landfullness" does not occur when students are taught

the names of trees and animals but when the land becomes a part of them, influencing

their experience and future nature interactions (Baker 2005).

There are also steps taken while planning and implementing adventure activities

to make them "landful" activities. The framework is designed with flexibility for various

instructors, audiences, and types of activities, with participants progressing through four

different levels, being deeply aware, interpreting land history, sensing place in the

present, and connecting to home (Baker 2005). When starting an activity, a group builds

awareness of their surroundings for the unique features and not just a starting point on a

map. The focus for an aware audience is to engage them with a specific item at their

location, which can be done with several activities (Appendix A). The next level of

connection for an audience to nature is interpreting the land history, both natural and

cultural. When presenting information to students, the focus should not be on facts,

dates, and figures, but instead at the conceptual level, working to build connections and

curiosity amongst students (Appendix B). Once the history of the location is covered the

instructor shifts focus to developing a sense of place for participants in the present

setting. The history is an important building block leading to individual realization of

their personal connection and feelings to their surroundings (Baker 2005). A sense of

place in the present is important and continuously evolving since the location and

participants are always changing, but accomplished through facilitated activities

(Appendix C). The fourth and final step in creating a "landful" experience during

adventure activities is building a connection to home for participants. A connection to

their home is important to transfer knowledge and understanding from one setting, the

environment of the activity, and apply it to another, the place they will be returning to

(Baker 2005). Building the connection cannot be accomplished with one singular process

since it is an ongoing challenge to work on with participants in the field (Appendix D).

Planning and balancing content with activities is important for programs, but

another important part is the instructor themselves and their influence. The link is not

always present since it becomes dependent on the facilitation and technical skill involved

in the activity (Baker 2005). The instructor must fill a role of environmental educator,

coach/guide for adventure activities, and facilitator for discussions and group

interactions. All of the equipment and skills needed for activities can distract

participants, centering their focus away from their surroundings. The instructor's role as

a facilitator during activities is another important factor to the experience because

directing the participants towards social and team interactions will further distract

participants from the surrounding nature (Baker 2005). Another way an adventure

activity becomes landless is during navigation through a location when the focus

becomes a point A to point B assignment about getting through landmarks. To

participants the surroundings begin to fade, and the woods can be "Any Woods, USA," a location that only serves as a route, and no connection is inspired within participants (Baker 2005). Natural history can be taught with Leave No Trace but is often omitted with the focus being on technical skills (Baker 2005).

There is evidence supporting instructor's influence on outcomes for program participants while the specific aspects are not clearly identified. This led to research identifying the specific behavior traits and characteristics of an instructor's influences on program outcomes (Gookin 2009). A study on NOLS participants by Gookin et al collected data measuring the instructor influences on participants' experience using semi-structured interviews. The interviews compared pre-identified behavior traits and characteristics of instructors.

Instructor characteristics were identified from the data and then described as the personality traits recurring throughout the experience from the student's perspective. Some characteristics included patience, with a focus on being willing to repeat instructions, and knowledge, specifically referring to their instructor's previous experience (Gookin 2009). Instructors can increase their knowledge through experience and convey it to students, increasing their influence on student's skill development. Empathy, inspiration, and being fun/entertaining were listed as characteristics helping to enhance student's adventure experience (Gookin 2009). Empathetic instructors influence participant's self-awareness and communication skills while inspirational instructors help students acquire skills during an activity (Gookin 2009). Humor used to entertain and keep students focused is a positive influence but watched carefully since the takeaway for students should be the skill set and not the instructor's jokes.

Additional data about the behaviors of the instructors came from the participant interviews. A few of the instructor behaviors influencing the individual participants experience included providing feedback on an individual basis, role modeling skills and attitudes, and direct instruction/coaching for individuals (Gookin 2009). Additionally for the whole group, instructors creating a positive learning environment with formal curriculum for teaching and safely managing risks of activities are both positive behaviors ranked by participants (Gookin 2009). The use of a catch/pet phrase by the instructor was also ranked as being positive and influential but none of the interviewees identified the same phrase used by an instructor. Student's perceptions of learning are positively influenced by role modeling. Feedback is both a positive or negative since it depends on the level of feedback provided by the instructor. Positive feedback is considered well versed, positive, and relevant to the student (Gookin 2009). To learn specific skills, direct coaching is a positive when used in a guided practice format as well as creating a safe environment for students to experiment on their own with skills (Gookin 2009). One important task for the instructor is maintaining a safe environment for activities, but their influence is greater than the physical safety of the participants. Working to create a comfortable and positive setting yields a higher quality experience where participants are more likely to benefit. Participants will only be able to learn about the natural environment when they feel a level of safety, allowing them to apply their focus beyond the hard skills.

There are important items to consider when implementing adventure activities with environmental learning. Important factors for activities are making the most of teachable moments, successfully managing the difficulty of skills and gear for activities,

deliberately planning specific environmental topics to cover in relations with adventure

activities, and balancing the timeframe for activities and class time in an appropriate

manner (Thomas 2005). When traveling through an environment, there is an expectation

of the leader from the group to cover some basic ecological concepts and interpretation of

the landscape (Hanna 1995). Additionally, when leading adventure programs another

topic with environmental information and behaviors are minimal impact techniques for

travel and living (Hanna 1995). Once information about the environment is covered, the

educator can then provide information about relevant environmental issues to their

specific location (Hanna 1995). A difficult influence on participants is changing their

environmental behaviors, which discussion helps by showcasing ways to take

participants' knowledge and apply it when they are back home (Hanna 1995). The leader

can suggest universal and broad environmental actions, such as recycling or not littering,

and groups to join, such as environmental clubs. To prepare for an activity or trip, a

leader needs a basic ecologic understanding of the immediate environment, minimal

impact information, awareness of relevant environmental issues, and knowledge about

how the participants can apply what they have learned at home.

Teachable moments are an effective use of time to educate participants about the

environment. These moments are difficult to plan but there are steps for the educator to

prepare. This includes a knowledge and understanding of the local history, culture, and

environment to provide accurate information to participants and create teachable

moments (Thomas 2005). Less familiarity in these areas leads to fewer teachable

moments. Selecting an appropriate adventure activity is important because it must be

challenging enough to engage participants with the environment but also allow for

learning and not dominate the attention of participants (Thomas 2005). An activity with

a low technical aspect may not provide enough risk to challenge participants resulting in

a non-adventure activity. An activity with too much focus on a technical aspect may hold

all of the focus of participants and the environment becomes a backdrop to the activity so

finding a balance becomes important. For a successful environmental and adventure

learning experience, planning is necessary to achieve balance and organize the lesson to

appropriately meet the intended outcomes. This includes considerations about the

composition of the group, properly progressing through and linking activities, providing

guided self-reflection about the experience, and making sure all of the program's

intended goals are being met (Thomas 2005). All of the planning must also fit in the

allotted time slot provided for a specific situation including the environmental topic(s)

and adventure activities for an audience (Thomas 2005).

There is limited research backing the positive personal gains of adventure

education participation, but recent studies attempt to understand the rationale and

outcomes for adventure activities. In the United Kingdom, there are debates in relation to

outdoor education, with some stating it has grown in to something accepted over time and

lacks a philosophical foundation (Thomas 2005). Researchers look to see how adventure

education integrates with environmental education goals confirming it is helping and not

grandfathered in. Previous evaluations of adventure programs rely heavily on anecdotal

evidence supporting the claims of personal growth both within individuals and groups.

One benefit of adventure education is the physical component, often requiring

participants to be physically active. One comparison is using adventure education over

traditional physical education class activities. Adventure activities take away the focus

on numbers, how far someone runs or how many push-ups they do, and allows all participants to challenge themselves (Rheingold 2010). Another benefit with adventure activities is the equal challenge for people of different sizes and abilities, especially when the activities are being first introduced and contain new skills for everyone. Many of the activities create a social and team environment focusing on communication and teamwork, often serving as a nice de-inhibition activity for participants (Rheingold 2010).

There are many different ways of measuring positive psychological improvements of participants when looking at individual's leadership, self-concept, and personalities, and each is expanded in to several sub-categories (Golby 2006). Participants of 3 month adventure programs showed no improvements in areas and no difference between groups of age or gender when measuring their mental toughness, hardiness, dispositional optimism, self-esteem, self-efficacy, and positive/negative affectivity (Golby 2006). The results were limited to a small sample size of 52 participants and did not yield any significant data initially. The study raises further questions of the timeframe of the study (is more time needed to see visible change) and changes made in other positive personal psychological improvements (are participants benefiting in other areas than the selected categories for measurements) (Golby 2006).

In a study by Sibthorp and Arthur-Banning (2004), participants of an adolescent adventure program are studied to see the effects of programming in their leadership, teamwork, openness to new ideas, beliefs, and cultures, sense of self, initiative and work ethic, and environmental stewardship outcomes. To measure these outcomes, the Characteristics of the Experience Scale (CES) and the Life Effectiveness Questionnaire

were used. A pre- and post-test was administered by anonymous volunteers. There was

a partial correlation between in the areas of personal empowerment, learning relevance,

and group empowerment and program participation. Group functioning and instructor

support did not yield correlation from pre- and post-test, subsequently neither received

further analysis. Personal empowerment is important for individual development during

programming and can be focused on during instruction. Increasing participant

involvement and responsibilities during a program, such as student leaders, will help

foster the personal empowerment outcome (Arthur-Banning 2004). Learning relevance,

despite being weaker in correlation, is considered important and in other studies as

important to the experiential learning process. The connection to participants' lives

outside of their time spent in programs is important to develop learning relevance

(Arthur-Banning 2004). The limitations of this study included small size (only one

adventure program was included) and inconclusive results (only weak correlations were

found). More research is needed to confirm intentional program designs and their

progress towards intended participant outcomes (Arthur-Banning 2004).

Two areas for participants affected positively by increased outdoor interactions

and activities are their self-confidence and action skills. The greater the amount of time a

person spends outdoors, the greater their self-confidence and feeling of safety, which

makes them more likely to continue to spend time outdoors (Kuru 2000). This is

especially true for younger ages with more experience and independence from adults,

instructors and teachers; during activities they showed the ability to be open-minded and

cooperative with others (Kuru 2000). In contrast to this, students with less experience

show a lower level of self-confidence, often stating their inability to perform certain tasks

through verbal and physical cues, and lower levels of cooperation when working with others (Kuru 2000). One potential avenue for effectively combining adventure activities and environmental education is using specific activities to engage participants in a particular environment to experience firsthand. Concerns are that the adventure activities, while taking place with nature as the backdrop, are drawing too much attention to the activity itself and taking away from the natural location engaging students (Thomas 2005).

With outdoor education there are clear personal and social benefits for participants. The setting also allows for the inclusion of environmental education and leads to challenging social norms, a deeper look at the relationship between people and the environment, and increased knowledge and motivation for action (Thomas 2005). An individual's own relationship to and perception of nature varies depending on their exposure time to nature and outdoor-based activities. In general, the more experience people have in nature, the more empathetic they are towards nature (Kuru 2000). Most people find importance in nature but show conflicting evidence when they must describe and explain it using their own past experiences. Some of these responses from students included participants of active nature engagement describing it for the instrumental value, for human use, while students engaged in nature for its beauty and privacy describe its own standing value, independent from humans, by worrying about nature's welfare (Kuru 2000). Students felt sympathy with nature when it was endangered and a portion offered solutions for issues regarding the environment. The difference between students with more outdoor experience compared to others was their ability to name solutions to problems, but they still showed struggles with building larger concepts to the global scale

(Kuru 2000). Research that questions the value of the adventure component of education

is not fully developed, and many studies discounting adventure based activities contain

very limited samplings of participants and activities (Thomas 2005). Support for a

positive relationship between outdoor activities and environmental education begins by

linking participants, children and adults, in certain outdoor-based activities, leading to

more action helping the environment. The student's actions towards the environment

show a gap between small individual tasks like picking up litter, and larger concepts,

such as reducing and recycling waste (Kuru 2000). The benefits of time spent outdoors

clearly affect students' confidence, teamwork, and actions skills, as does greater

knowledge of environmental topics. There is room to improve on the knowledge and

actions skills towards the environment for students through education and exposure to

outdoor activities. Finding a balance between adventure and environmental education is

crucial because eliminating activities or reducing the risk level may disengage

participants and lead to another set of problems for educators (Thomas 2005). In

contrast, the result of low risk adventure activities on certain populations leads to a

negative or boring experience in nature and participants are driven away from nature and

taking action on environmental issues.

Sub-Problem 4- Research Treehaven programming to identify their characteristics

and how to apply the best practices

Treehaven is a residential natural resources education center also serving as a

conference and research facility. It is located in northern Wisconsin between the towns

of Rhinelander and Tomahawk. The Treehaven campus consists of 1400 acres with both

forests and wetlands. The land was donated by Dorothy K. Vallier in 1979 and is

currently owned and operated by the University of Wisconsin-Stevens Point College of Natural Resources. They operate under the mission that "Treehaven Campus is the Wisconsin center for integrating natural resources education, management, research, and recreation" (Burns 2009) One of the main functions for the facility reaching its mission is during the summer when they host Summer Field Techniques, a residential program for undergraduate students attending the UW-Stevens Point College of Natural Resources. "Treehaven is also designated as a stand-alone Environmental Learning Center with the goal of providing many additional services" (Burns 2009). In addition to the summer program, they use their facilities for school programs, university courses, and professional development opportunities. Groups may host their own events on the campus and make use of their facilities as well.

The Treehaven campus consists of nine and a half acres of buildings, parking lots, and recreation areas with the remainder of the land remaining undeveloped. The main facilities at Treehaven include two dormitories that can house a total of 200 people, a cabin, a classroom center with multiple room options, a dining room, staff offices, a faculty cottage, three storage and maintenance buildings, and an on-site property manager's residence. The forest on the grounds is a mixed hardwood forest consisting of conifers and deciduous hardwoods. Trails are open for public access throughout the property but ATV and motorized vehicles are not permitted. The trails are maintained and groomed for cross country skiing and snowshoeing during the winter months. Skis and snowshoes are available on-site as are kayaks and canoes. The water on property is limited to Dragonfly Pond, which is not suitable to sustain a fish population and has an

average depth of less than two feet. The recent addition of a 19-hole disc golf course in

the pine plantation section adds to the recreational opportunities available on site.

Chapter III: METHODS

Data

The data for this research project comes from a series of interviews with environmental education instructors working with programs incorporating adventure based activities into their programs. The open and closed ended questions (Appendix E) gather qualitative data. Research articles provide peer reviewed information on adventure and environmental education. The articles come from a variety of journals and authors looking at various aspects of programs including outcomes, planning, participants, instructors, and instructional components. Information about organizations comes from their online websites to understand their mission, values, facilities, staffing, audience served and programs offered.

Research Methodology

The project identifies environmental education programs and professionals familiar with adventure-based activities across the nation. A selected sample created by researching programs and facilities was contacted and asked to participate in interviews via email (Appendix F). The participating organizations were interviewed with questions regarding their experiences in mixing environmental education with adventure-based activities. Next, the data was coded (Appendix G) and themes were identified and compiled (Saldana 2009). Then best practices were created using the themes with integration of adventure activities and environmental education. Interviews were also used to collect information specific to Treehaven, a residential nature center. These interviews included a series of questions (Appendix H) to identify specific characteristics

of their facility and operations. A contact had already been set up at Treehaven with the assistant director, John Huesinkveld. Last the best practices will be applied to Treehaven to fit their needs and abilities. This will provide suggestions for Treehaven to use in the future planning of programs and activities.

Project Treatment of Each Objective

Sub-Problem 1: Define adventure-based activities by identifying adventure programming characteristics and trends in the field (January-March 2012)

1. Collect literature, books, articles, and journals covering adventure activities and environmental education (10-12 hours)
2. Identify current definitions and traits from literature (3-5 hours)
3. Work with Treehaven to define adventure education and activities to fit their needs and intent (3-5 hours)

Sub-Problem 2: Identify and research current facilities integrating adventure-based activities with environmental education (April-January 2012)

1. Find professionals and organizations with environmental education and adventure activities in their programs (3-5 hours)
2. Research organizations to identify their audience, programs, facilities, and staff (3-4 hours)
3. Determine which organizations to make contact with and set up interviews with individuals (2-3 hours)
4. Create questions to identify program components and concepts used in combining environmental education teachings and adventure based activities (2-3 hours)

5. Submit paperwork (Appendix I) and gain Approval from the IRB at UWSP and make revisions as necessary

Sub-Problem 3: Identify best practices that should be used to plan environmental education programing that successfully incorporates adventure activities (January-February 2013)

1. Conduct interviews with participating organizations (5-10 hours)

2. Transcribe interviews (10-15 hours)

3. Code data to highlight propositions with their supporting sources, then identify keywords, and sort into themes (15-20 hours)

4. Create best practices to implement each of the identified themes (8-10 hours)

Sub-Problem 4: Research Treehaven programming to identify how best practices can be used at this environmental education facility (February-April 2013)

1. Read literature (websites, brochures, etc) on Treehaven's mission, goals, facility, and programs (2-3 hours)

2. Develop questions for my contact person, John Huesinkveld (2-3 hours)

3. Interview John to fill in gaps in and gain understanding of Treehaven and its environmental education (1-2 hours)

4. Analyze and identify areas for Treehaven to implement best practices (5-7 hours)

5. Seminar presentation and submission of final paper (4-5 hours)

Chapter IV: RESULTS

This project addressed four sub-problems to define adventure based activities, find organizations with adventure environmental education programs, identify current trends for implementing adventure activities with environmental education, and research information about Treehaven's programs, staff, and facilities. The results are from a combination of literature and qualitative interviews providing information for each sub-problem. The literature comes from articles in peer reviewed journals and organizations' official websites. The information gathered from interviews was transcribed, coded for common propositions and supporting sources, and formed in to themes.

Sub-Problem 1- Define adventure-based activities by identifying adventure programming characteristics and trends in the field

There are many different definitions and characteristics within the field of adventure education used to define adventure based activities. Program and research literature vary in how adventure education and adventure based activities are defined. The following definitions exist in current literature:

- "adventure in the natural environment is consciously to take up a challenge that will demand the best of our capabilities - physically, mentally and emotionally" (Lugg 2004)
- "These influences include the high profile of adventure, the emphasis placed on personal outcomes, and the increased focus on risk and safety management" (Thomas 2005)

- "Adventure is defined as an unusual, exciting, stirring, or remarkable experience, where the outcome is uncertain, sometimes accompanied by the perception of risk" (Brendtro 2007)

- "Adventure-based activities and programs operate from the model of experiential learning" (Moote 1997)

- "unfamiliar setting to impel students into mentally, emotionally and physically demanding experiences…utilizing and managing appropriate risk" (Outward Bound)

One shared idea is the element of risk present during participation in adventure activities. The participants have a perception of physical or emotional risk during activities. Another common idea is safety, which is necessary to manage the risks being taken by the participants. At the base of adventure education is the perceived risk to participants and the risk management necessary to keep the participants safe. The following definition is used in this study to define adventure based activities:

> **Activities providing learning experience(s) that challenges participants physically, mentally, and/or emotionally with an amount of risk that can be safely managed.**

Adventure programs come in a variety of types and formats. Their commonality, the use of adventure activities, varies from one to another but all fit within the definition of an adventure based activity. Like most educational programs, adventure programs have an instructor, students, facilities to use, and materials for the activities. Instructors vary depending on the program and have a variety of backgrounds, certifications, and trainings to prepare them for the role they must fill. Depending on the format of the program the instructor is responsible for managing the safety and supervising the

activities while other situations require the instructor to be a facilitator of discussions and to help build connections for the participants. For portions of programs an instructor may lead through a formal teaching format and other times informally instruct participants. Adventure program participants are diverse and range from all ages to include young children to the elderly. The participants' benefit from a program is an area about which little is known since the research has not been completed about short and long term effects of adventure education. The anecdotal support confirms that participants are receiving benefits from their involvement with adventure activities. Facilities and materials are two things affecting what activities are practical and can be done safely. Certain activities need specific materials and make use of certain types of facilities, which includes the physical landscape and manmade buildings. This leads to a variety of organizations with diverse locations, activities, and participants but all fit within the field of adventure education.

Sub-Problem 2- Identify and research current facilities integrating adventure-based activities with environmental education

There are several programs offering adventure activities and environmental education across the country. Five were identified in this study through reading literature offered by each. The main focus was the programming since not every facility identified itself as offering adventure and environmental education components in their programs. The selected five were Wolf Ridge Environmental Learning Center, Islandwood, Project Adventure, Pok-O-MacCready Outdoor Education Center, and the Conservancy for Cuyahoga Valley National Park. All of them serve a broad audience offering many different programs on and off site with four of the five having a residential school

program. Project Adventure is the most adventure education focused program offering different challenge course opportunities and consulting for developing adventure programs. The Conservancy and Islandwood are the most environmentally focused of the programs offering mostly natural science and history programs for their participants with a few adventure activities. Wolf Ridge and Pok-O-MacCready have a balance of programs containing both environmentally focused and adventure-based activities.

Sub-Problem 3- Create best practices to plan environmental education programing that successfully incorporates adventure activities

All five of the interviews were coded to analyze the qualitative data. The interview coding process identified four themes with a total of 76 propositions. The coding documentation includes the propositions, supporting sources, two keywords, and the theme. Theme #1 has the most supporting propositions and supporting sources while theme #4 has the fewest.

The first theme highlights the characteristics about the activities run by the organizations interviewed in propositions. The key words repeated in the propositions were lessons, nature, programs, challenge, flexibility, adventure, connection, and learning. Three or more organizations supported five of the thirty propositions.

- "School groups have structure lessons with concept, outcomes, purpose, and assessment"
- "Using nature as a context for learning has strong benefits"
- "There are logistical concerns to make programs feasible"
- "Talking to chaperones/teachers ahead of time is key for success"

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- "We use previous context and what has worked to build on and create programs"

Other propositions had less support but focused on the structure for conducting programs and what elements programs include. The programming structure propositions include maintaining flexibility when running programs, keeping participants moving, making hard skills aimed at the beginner level, and pilot testing new programs/activities. The elements of programs were forms of risk, challenge, and mystery for the participants, safety procedures and protocols, community decision making, and guaranteed participant success.

The next theme centered on the participants, specifically their characteristics and needs during programs. Some prevalent keywords found in the propositions supporting the theme were goals, outcomes, comfort, audience, client, preparations, and create. Three or more of the organizations interviewed supported four of the eighteen propositions.

- "Serves a variety of clients and needs"

- "Goals are created for the specific needs of groups"

- "The frame of the lessons are structured but maintain flexibility to provide an interdisciplinary experience"

- "Outcomes are created based on the group details, concepts, and purpose"

Other propositions found in one or two of the interviewed organizations included providing the participants a list of what to bring, individualizing program components for participants, using nature to connect participants for both adventure and environmental education, and working within and beyond the comfort zone.

The third theme supported by the propositions focused on staff and their functions within programs and activities. The nineteen supporting propositions have the repeating keywords staff, instructor, judgment, training, facilitator, communicate, information, and classes. There are five propositions with support from at least three of the participating organizations.

- "[Instructor] experience is important but good judgment and decision making is a priority"
- "Leaders/Instructors are given a complete set up and lesson plan"
- "Leaders/Instructors need to keep house with their groups and meet the needs of the participants"
- "Fulltime staff trains the grad student instructors and model for them"
- "There is practicum training model for grad students"

The remaining propositions focus on the staff running programs including information about their trainings, the staff's role before and after activities, staff interactions when participants are not on site, and the comfort of staff leading specific activities. The staff has different roles and functions at the organizations interviewed outside of teaching and leading activities. Some locations have the staff involved with logistical and lesson planning while others hand the staff pre-written lesson plans to work with. The program staff at several of the locations consists of students involved in internships or graduate work and teaching provides experience while working with long-term staff.

The fourth and final theme from the remaining propositions is the role of evaluation in the programs interviewed. The organizations note their evaluation of both

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the programs and instructors is completed by participants and current employees at the organization. The keywords present in the seven supporting propositions include evaluation, observation, program, assessment, model, staff, and goals. There are three propositions with support from three or more organizations.

- "Staff are evaluated through observation"
- "Skills assessment can easily be done during the program"
- "Evaluation of programs by groups is completed at the end of the program"

The other propositions focusing on evaluation include why evaluations are used, how they are used in the future, difficulties with evaluations, and methods for evaluating. Evaluations exist among all of the participating organizations.

Sub-Problem 4- Research Treehaven programming to identify their characteristics and how to apply the best practices

Treehaven is a natural resource learning center with several unique characteristics and areas to incorporate adventure activities with environmental education. They serve a diverse audience with program participants ranging in ages from young children to the elderly. School groups ranging from 4th to 12th grade visit for day and residential programs typically from within a 150 mile travel radius or from major metropolitan areas like Chicago, Milwaukee, Rockford, and Beloit. Treehaven is a part of the University of Wisconsin- Stevens Point and serves around 300 undergraduates during the summer months through their required summer sessions for students in the College of Natural Resources. Throughout the remainder of the year, undergraduates from Stevens Point participate in leadership and wellness courses offered on the Treehaven campus.

Programs for adults include lifestyle and leisure activities typically occurring on weekends through the form of workshops. Road scholar programs focus on local elderly and retired groups experiencing nature through both art and photography.

The groups attending Treehaven work with staff members to select activities prior to their arrival. Treehaven makes suggestions and provides lists of ideas to make use of the landscape during the season of their visit. Ideally groups are scheduled one year in advance to help plan, but arrangements are also made for groups visiting four to five months out. Returning groups often elect to repeat a specific activity and visit with a mixed group of new and returning participants.

The program staff at Treehaven consists of the assistant director, one or two graduate students, part-time instructors, and various outside contracted help. The graduate students, who are studying for a Masters in Natural Resources through the University of Wisconsin - Stevens Point as part of a fellowship program, serve one semester of assistantship work at Treehaven. The assistant director oversees the program staff and is responsible for training the new graduate students each semester. The training is dependent on the comfort and knowledge level of the graduate students since they must navigate Treehaven's campus to conduct programs and activities on their own. Once they have an understanding of the property, the graduate students can identify what locations best serve different lessons and activities. Content knowledge is another factor affecting the depth and time spent teaching hard or technical skills for each graduate student. Once the graduate students have knowledge of the landscape and technical skills they are able to instruct classes and activities on their own. Outside contractors are another teaching resources used by Treehaven to provide instructors with expert

knowledge and experience. The contracted help provides equipment if Treehaven does

not have it on site. Treehaven is able to expand their programing through the contracted

help since they provide knowledge and skills at a high competency to offer programs and

activities that would not otherwise be feasible. One challenge Treehaven faces is the

documenting of their lessons and creating lesson plans. The background content for

some programs is extensive and hard to incorporate in a lesson plan for a new instructor

to use but Treehaven is beginning to document lessons and provide sufficient background

information.

Evaluation is an identified area for growth within their organization. Programs

receiving high ratings are kept to be repeated while low ranking programs are scrapped

and not developed further. The small staff size is a limitation because their work is

focused on leading programs and running the facilities. The yearly calendar is another

challenge for evaluation because during busy times of the year groups are scheduled

closely together and once a group leaves there is little time before the next group's

arrival.

Chapter V: CONCLUSION AND RECOMMENDATIONS

The sub-problems in this project are all addressed from careful analysis of the results of data collection. Sub-problems one, two, and three provide information applicable to the entire field of adventure and environmental education. The first three sub-problems focus on definitions, characteristics of programs, and best practices for running adventure activities within environmental education. Sub-problem four directly addresses Treehaven and their use of the best practices created. There are limitations within each sub-problem and areas for additional research and while working with each sub-problem creates answers it also raises new questions. As the field of adventure and environmental education continues to grow and develop, a better understanding of the organizations, programs, and trends will provide continued high quality education for participants.

Sub-Problem 1- Define adventure-based activities by identifying adventure programming characteristics and trends in the field

The definition of adventure-based activities was used to identify organizations with programs and activities fitting the definition. A compilation of literature created the definition and Treehaven offered their insights and approval of the definition to fit their needs and idea of adventure-based activities. Adventure education has a varied and broad range of definitions. More work with multiple organizations to gain their input about the definition to make a stronger and more consistent definition is a good place for more research.

One challenge for creating and executing adventure-based activities is managing the variables. Programs are highly diverse with many different factors including the type of activity, participants involved, facilities available, staff size and experience, overall operation of the organization, and external factors. A perceived risk needs to be present to create the proper setting for the participants but is influenced by several factors. For example, the age/experience of the participants and the weather can affect how much risk is associated with a given activity. An activity may be risky for novices but experts find it safe and feel no risk or weather one day will make an activity risky while another day the perception of risk is not present. Neither factor is addressed in the identified adventure activity definition given their high degree of variability.

With the many variables and characteristics changing throughout the different adventure activities, focusing on one specific activity may yield a clearer definition and list of its characteristics. Because of the broad range of activities, this study identified a short and open-ended list of characteristics. Choosing to work with specific activities allows for easier identification of programs since they do not have to identify themselves as being adventure-based, only as offering the activity or not.

Sub-Problem 2- Identify and research current facilities integrating adventure-based activities with environmental education

The five organizations participating in this study are all related through their adventure activities. They were identified through a web based search looking at their activities offered and contacted for a semi-structured interview. The number of participants in the study was held to five to fit the time frame of methods, and data was

beginning to repeat itself with few new propositions being recorded from the last two interviews. Since there is not a clear ratio for programs to balance their adventure activities and environmental education, the five participants gave a good representation of several approaches. Project Adventure did not focus on environmental education but had a connection with nature since their programs mostly run outside. They represented organizations focusing on adventure activities which inherently put students close to nature through the proximity of activities to the natural world. The environmental education focus of The Conservancy and IslandWood represented environmental education programs focusing on the natural sciences and history but with some programs involving some degree of emotional or physical risks for participants. At Wolf Ridge and Pok-O-MacCready participants have the opportunity to take part in adventure activities and environmental education in balance. The two facilities represent organizations with an equal balance of adventure activities and environmental education. The diversity of the interviewed organizations is representative of the entire field and is not restricted to any one particular type of organization.

Future research could focus on more specific programming aspects of organizations, such as all residential or one grade level of school group programs, to narrow the results. More specific selection of participants makes the results more applicable for a specific need or program. Another way to select participants for research could be regionally, since trends in the field may relate to the location of the organization. The climate and geographical location does dictate which adventure activities are feasible for a specific site. For example, downhill skiing or ice climbing is not always an option for organizations. The length an organization has been working

with adventure activities is another factor to consider with future research. Older programs have proven success and longevity while newer programs will have recent transitions and trials to report on, giving a different perspective of trends. Organizations are always changing and developing programs, making research necessary to identify trends of the emerging adventure activity and environmental education field. There are many different programs filling the role of both and could be a part of future studies to answer new questions.

Sub-Problem 3- Create best practices to plan environmental education programing that successfully incorporates adventure activities

This study identified four best practices for integrating adventure activities with environmental education. The best practices created include information and insights from five separate programs currently implementing adventure activities and environmental education and were arrived at through the process of coding the qualitative data for themes. The identified practices highlight several areas of programs including selecting and planning appropriate activities, accommodating various groups, the staff member's role in programs, and evaluating programs and activities. These best practices highlight current trends by organizations and provide ideas for integrating adventure activities with environmental education. These practices are not the end all to running successful programs but provide four key concepts to consider.

Theme #1

> **Best Practice- Appropriately select activities with a balance of adventure and environmental education factoring in the resources, time, site location, and staff available. Then create pre-designed lesson plans for the instructors to use with groups.**

Current programs use "nature as a context for learning" because of the benefits to the participants. Topics focusing on the immediate environment provide a first-hand experience while adventure activities can bring the participants closer to their surroundings. The encompassing environment should not be a backdrop for activities but used to engage participants. To create a program with both environmental and adventure education, activities need to be selected in balance. Too much focus on one component and the participants may not be reaching the desired outcomes for the other. Time is an important factor when balancing a program to make sure selected activities can be completed. Planning to meet the basic needs of participants (Example: restroom and meal breaks) and providing classroom supplies (Example: are there enough chairs or equipment for each individual) are important logistics to plan ahead for. The site location and availability of resources for programs are essential logistics dictating what outcomes can be achieved and what concepts can be covered in a specific program. Accounting for logistics in planning guides an organization's programs to run more smoothly with a high chance for success.

Adventure and environmental education are best planned together with intended outcomes and core concepts clearly identified for planning. An important aspect for a

program is accounting for goals, outcomes, and objectives when selecting appropriate activities. Working the outcomes and concepts into a structured lesson plan will organize activities, assessments, and class purpose, making effective use of class and planning time. This research found several established programs using structured lesson plans with concepts, outcomes, purpose, and assessments given to instructors as a complete set prior to leading a program. All of the programs interviewed identified using "previous context and what has worked to build on and create program." Modifying the concepts, outcomes, activities, and assessments is necessary to keep successful components and combine them with new ideas in the future. Evaluation is an important measure of program components and helpful when modifying programs and is discussed in Theme #4. The creation of programs is a combination of the tangible logistics (the physical supplies that are available) and the outcomes (what the participants are taking away from the program). Using both of these factors, creating a lesson plan for a program is a feasible task and leads to successful adventure and environmental learning opportunities.

Theme #2

Best Practice- Plan to meet the needs of the participants while remaining flexible during the program and make adjustments to continue working towards the desired outcomes of the group.

For facilities offering adventure and environmental education programs, there is a diverse audience base attending programs with organizations identifying they "serve a variety of clients and needs." There is a range of ages, grade levels, experiences, ethnicity, and socio-economic status and changes within different groups attending a

program. Given the diversity, planning is needed to meet the needs of each particular

group. Working with structured lesson plans as identified in Theme #1 still offers the

potential for flexibility to best engage and relate to participants. Identifying the specific

details about a group, their intended outcomes, and their purpose for attending the

program are all important points when preparing goals for an audience. Programs can be

tailored or created to meet the goals within the timeframe allotted. Preparation and

foresight in the beginning will help to provide quality programs for participants. An

example of this would be a group attending a program that may not be proficient in a

technical skill. If the program were not changed they would spend a majority of time on

the adventure activity learning the technical skill and have little time for environmental

education. Planning ahead allows organizations to alter the activity to one with a less

technical focus and then there is ample time for environmental education with the

participants.

There are additional factors for educators to consider when leading programs

focusing on adventure and the environment. Preparation is important, but there are other

factors to consider once the program begins. Some things are not possible to identify

ahead of time and include individual processing time, comfort level with specific

activities, and how far participants are willing to push themselves. Flexibility becomes

important for an instructor to adapt in the moment to how a group is functioning with

each other and the activity. Programs identified "the frame of the lessons are structured

but still maintained flexibility."   Some groups may need more time or assistance to

complete activities while others need more challenging activities to create an element of

risk. Comfort levels can affect the ability for participants to learn about the environment

because if they are not comfortable they will have a harder time taking in and processing information. All of these factors can be managed through formative assessment and observations of how the group is working during the programs. When formative assessment is not possible, an evaluation (Theme #4) at the end of the program can help to make a stronger program for future groups.

Theme #3

Best Practice- Instructors need to be knowledgeable and competent in the hard skills (for adventure activities) and the natural history/ecological concepts (for environmental education) to be effective.

The instructor is an essential part of adventure and environmental programs. There are several desirable characteristics for an instructor to have. Programs identified "[instructor] experience is important but good judgment and decision making is a priority." Given the inherent risk of adventure activities, the instructor should be a person with sound judgment skills in order to maintain a physically and emotionally safe environment for participants. Trainings help to teach safety management and hard skills but to balance all of the intangibles and unknown factors the individual's decision-making becomes important. The instructor's role can change throughout a program or activity. They need to be a formal instructor at times while at different times needing to facilitate discussion amongst participants or stepping back and allowing the participants to problem solve on their own. Managing group safety is a top priority but the need to help individuals through their own struggles and keep them engaged are also important.

This requires an instructor to keep a balance between group and individual time, which may not be split in even amounts depending on the individuals in the group.

At programs, "leaders are given a complete set up and lesson plan" ahead of time to help them in their planning process and promote the organizations goals. As stated in Theme #1, these lesson plans can be modified to best serve the needs of the group they will be working with. The instructor working with a group should be involved in the process of modifying the lesson plan to better prepare them by getting to know the group and the materials. An instructor needs to be aware of their lesson plan but will also benefit from having an understanding of the natural history and ecological features of the site. This contributes to any possible teachable moments and creates impromptu experiences with accurate information for the audience. The instructor should never depend on teachable moments for environmental education when working with a group given their unpredictability but should be aware that opportunities may present themselves. Teachable moments can be generated from participant or instructor observations with some examples including wildlife sighting, weather changes, seasonal changes, and recent disturbances. The instructor can then expand and highlight what is happening, deepening the participant's environmental knowledge.

Theme #4

Best Practice- Continuous evaluation of adventure and environmental education programs is important to confirm outcomes and goals are being met.

As with any program, one important component is the evaluation process. Evaluation is a way to measure if the program or activity goals and outcomes are being met. Items to evaluate include the instructors, the program activities, the logistical set up and organization, the participants, and overall experience. Evaluation can be done in a variety of ways to best collect the desired information and process it. Some possibilities for evaluation tools are questionnaires, interviews, focus groups, surveys, and observations. Each has their own positives and negatives, so creating an evaluation matrix will help guide an organization to select the best tool to measure the goal or outcome they are interested in. Using the feedback is equally important as gathering the information. The evaluation process is intended to strengthen and improve programs through the feedback to keep or makes changes regarding the staff, activities, and equipment. One overarching evaluation component found throughout the field is staff evaluation through observation. This gives the staff member feedback on things done well and areas to improve. Some locations will video tape staff and show them as feedback in addition to using it as a training model for other staff. The observation provides direct feedback but requires some extra hours by other staff to take the time observing.

Another evaluation used by adventure and environmental programs is a post-visit evaluation completed by the visiting group. The evaluation is distributed and gathered at the end of the program or shortly after the group's visit. The information gathered regarding their experience includes feedback on the instructor, the activities, the logistics of their stay, and their overall impressions. This information is valuable since returning groups can have their feedback used to improve on their experience when they

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return. Additionally post-program feedback provides a way to stay in touch with groups and contact them for future visits by gauging their interest and gathering contact information.

One of the challenges for evaluating the effectiveness of environmental education programs is measuring future changes and attitudes of participants. The same is true for adventure programs to evaluate personal growth and development which takes place over a period of time much longer than the time spent in a program. There are assessments for participants done during programs. These include assessing the hard or technical skills involved with the adventure activities, which can be measured and assessed by the instructor during the program. For example, an instructor can assess if a participant is using the proper form or procedure while canoeing or rock climbing, which can be directly observed. Increased stewardship and self-confidence are challenging aspects to measure given the timeframe of most programs. With the length of these outcomes, many organizations struggle with evaluating and gathering data.

This research gathered information about the best practices for integrating adventure activities and environmental education through semi-structured interviews. Other potentials methods for gathering qualitative information could include using questionnaires and observations. Using a series of questions to be answered and returned to the researcher allows for more participants but lacks the freedom to use follow-up questions for clarification. Observations would be helpful to shadow a program or activity and understand the complete operation but would be time consuming and may only involve a select portion of an organization's functions. Quantitative data is another possibility for gathering information. Using a questionnaire with scales and ratings

makes quantitative analysis possible so that trends with sufficient support become clear. A consistent form with statements to rate opinions could be easily distributed to a greater number of centers because the time to complete and analyze would be shorter. The challenge is discovering the underlying concepts behind the statistical analysis because it may not be clear without the qualitative support. Another potential for quantitative research is the hard numbers associated with programs including number of participants, budget figures, staff hours, and returning participant percentages. Comparisons and trends overtime could be identified to show trends in the field with quantitative support.

Sub-Problem 4- Research Treehaven programming to identify their characteristics and how to apply the best practices

The following is an application of the best practices identified in this project for the University of Wisconsin - Stevens Point's Treehaven facility. As an organization, Treehaven is a natural resource learning center with residential facilities interested in the possibilities of using adventure activities and environmental education to engage program participants. The recommendations for Treehaven are site specific but demonstrate how the best practices can be used to fit an organization's current situation. After reading through the first three sub-problems, any organization can find ways to apply the best practice with their adventure and environmental education programs.

Best Practice #1- Appropriately select activities that are a balance of adventure and environmental education factoring in the resources, time, site location, and staff available. Then create pre-designed lesson plans for the instructors to use with groups.

Treehaven works with visiting groups prior to their visit to determine the

activities and programs they will take part in during their visit. To begin offering

adventure activities with their current activities, Treehaven needs to look at their list of

programs and determine if any of them fit within the definition of adventure activities.

Any programs featuring adventure activities will help market and promote integrated

adventure and environmental learning opportunities at Treehaven for visiting groups.

Offering any new activities should begin with compiling an inventory and description of

the available resources, time, facilities, and staff to determine what new activities can be

conducted during a group's visit. Focusing on one or two activities at a time creates a

manageable task for Treehaven without requiring large amounts of resources or funding

initially. This process also allows Treehaven to gain experience with the adventure

activities and environmental education to determine if it is a proper fit for their facility

and mission. It is important to create lesson plans for the integrated programs to have

consistency amongst groups and to make changes after running the activities with

participants. Treehaven acknowledges their current programs do not all have

documented lesson plans, but staff members are in the process of formalizing their

documents. One concern is the large amount of content background needed to teach

some of the programs. Working to create short lesson plans, for classes lasting an hour or

two, will create lessons with less background content and begin the documentation

process. Another option used by organizations is the videotaping of programs to provide

an example to other staff and also serve as feedback for the instructor. Over time, the

lesson plans will improve and grow as more content is added and instructors gain

experience working with them. Then Treehaven will have a compilation of activities

they can offer to groups when they visit and can pass lessons on to different instructors.

Best Practice #2- Plan to meet the needs of the participants while remaining flexible during the program and make adjustments to continue working towards the desired outcomes of the group.

Treehaven has a diverse audience like many of the organizations participating in

this project. The staff at Treehaven works with visiting groups prior to their visit to

determine the best activity or program to participate in during their visit. It is hard to

make a catch-all adventure activity integrated with environmental education for

Treehaven given the diversity of their participants. Working with the group is important

to see if the adventure and environmental activities meet their needs and intended

outcomes for the visit. When working with groups prior to their visit, the staff at

Treehaven can match activities to a group's interests and needs. The activities could then

be tailored to fit the specific needs and considerations of the group and engage them in

both areas of adventure and environmental education. Then the instructors working with

the group will have a list of selected activities and intended outcomes to work with and

ensure the group is receiving a positive experience that aligns with their expectations. If

the instructor finds certain outcomes are not being met, they can change the course of the

program by altering activities to guide participants back towards achieving their desired

outcomes. The instructor will not have a formula to measure the outcomes since they are

different for every group. Formative assessments help the instructor to see during an

activity the progress of the group and any changes necessary to match outcomes.

Best Practice #3- Instructors need to be knowledgeable and competent in the hard skills (for adventure activities) and the natural history/ecological concepts (for environmental education) to be effective.

Treehaven has a variety of staff leading programs and activities. Developing and training staff in the hard skills for adventure activities is essential because of the inherent risk present and the need to safely manage it for participants. Depending on the activities being offered, pursuing certifications is a good option if they are going to be repeated in other programs. The natural history and ecological understanding of the landscape is important for environmental education and keeping current on information is helpful when engaging participants with teachable moments. Building each staff member's knowledge base is an ongoing process and increases the amount of information incorporated within programs.

The high turn-over of the graduate students creates a challenge as these staff members prepare to lead programs during the semester spent at Treehaven. The current training of staff is a good fit because the permanent staff works with the graduate students personally and focuses on each individual's preparation for leading groups. Their training includes the hard skills for activities and environmental knowledge of the landscape before leading on their own. Another positive for the high turn-over of graduate students is that their rotation brings in new ideas and knowledge to share with the Treehaven staff and creates a two-way shared learning atmosphere. Training new staff can be strengthened through the documentation of lessons to provide examples and content necessary to properly run activities. The flexibility in preparing graduate students for working with groups is an important consideration because it matches their

skill, knowledge, and comfort levels with an appropriate group and activity. Contracted help is a resource Treehaven uses to provide expertise for activities they offer. Working with the contracted help can strengthen adventure and environmental programs to complement their specialty with the Treehaven's staff knowledge of the landscape and natural areas. The result from the collaboration will be effective and engaging programs with both adventure and environmental education.

Best Practice #4- Continuous evaluation of adventure and environmental education programs is important to confirm outcomes and goals are being met

Evaluation is an important component for organizations to develop and improve programs. Gathering feedback about the goals and outcomes from program participants presents a challenge because of the time and resources needed to gather data, analyze, and make changes to programs or facilities. Treehaven understands there is room for growth with the evaluation of their programs. Currently, Treehaven uses feedback from participants to determine if a program is rated high enough amongst participants to repeat or scrapped and not offered in the future. The small staff and timing of group's visits to the facility pose a challenge to not only gathering feedback but also using it to improve programs. Developing a series of evaluation tools to fit their established programs will increase the initial workload but creates a system for future evaluation. Exploring with different evaluation options will help to make sure programs are meeting the needs of the participant and creating an experience with both a sense of adventure and increased environmental understanding. The results from evaluations can be saved and reviewed later during slower periods with fewer visiting groups. Creating a series of evaluation

forms and data gathering tools helps to strengthen and improve programs, confirming if intended outcomes and goals are being met for participants.

Summary

Based on the trends currently in the field of adventure activities and environmental education, there are several suggestions for Treehaven to implement the best practices identified in this study. Any facility or organization looking to begin or improve on their adventure and environmental education can benefit from the best practices because they are based on recent interviews with successful organizations. Increasing the research about adventure and environmental education is necessary to continue development in the field. There are many topics to focus research on and revisit to see how organizations are developing and implementing their programs. As this growing field continues to expand, the number of participants receiving high quality adventure and environmental learning opportunities will increase, spreading the benefits to an even greater reach and making a positive future for everyone.

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APPENDICES

Appendix A- *Excerpt from Landfullness in Adventure-Based Programming: Promoting Reconnection to the Land* (Baker 2005)

• *Focus:* Increase awareness of one's surroundings.

• *Questions:* Where am 1? What's around me? Who is around me?

• *Activities:* Students ground themselves by becoming conscious of the lay of the land on both a micro and macro scale through different activities, such as: (a) *Sensory Awareness* games (e.g.. "Meet Your Neighbors"-each student goes off to get acquainted with something that interests t hem, then have a "party" where everybody introduces his/her ··new neighbor" and tells its story); (b) *Mapping Initiatives-* students use ropes on the ground to outline where they are including the state, park/forest boundaries, mountain ranges. rivers; (c) *Location Celebrations-* take time out to observe surroundings in an engaging way (e.g., have a birthday party for a tree to celebrate its age. including balloons and singing); and (d) *Art Gallery-* students take turns being the "docent" along the trail by sharing with others the "masterpieces" of artwork they find most intriguing.

Appendix B- *Excerpt from Landfullness in Adventure-Based Programming: Promoting Reconnection to the Land* (Baker 2005)

• *Focus:* Increase knowledge of the uniqueness of a particular landscape.

• *Questions:* How has this land changed over time? What and who have lived here in the past? How did they relate to the land?

• *Activities:* (a) *Site Specific Interpretation-* take time to contemplate points of interest, such as cliffs, signs, names on a map, or found objects that may be overlooked as "junk:" (b) *Journaling-*students write their personal land histories (e.g., their story with the land over time); "A Day in the Life Of. .."

-students write from the perspective of something/somebody that used to live on the land and then guess each other's perspectives; (c) *Role Plays-*identify people/land-use groups from the past and take on roles for a day, for a d inner party, or for a debate at a town meeting; (d) *Skits-* dress up as an historical figure and appear on the trail or in camp with a story to tell (a face full of leaves and duct tape make a great beard!); (c) *Melodrama-* as a group, act out the story of the land and people over time. and if no information is available have different groups interpret signs in the landscape and act out their version of what could have been the story); and (f) *Time Travel -* connect to people from the past through food, gear, and/or stories (e.g.. If we were here 100 years ago what would we be wearing? Eating? What would the land look like?).

Appendix C- *Excerpt from Landfullness in Adventure-Based Programming: Promoting Reconnection to the Land* (Baker 2005)

• *Focus:* Facilitate connections to a place that are personalized

and ever-evolving.

• *Questions:* How is this place unique'?   Who   lives/passes through this land now and what is their relationship to it? What does this place mean to me?

• *Activities:* (a) Mapping-students draw a map of the route and then add overlays to it, including personal highlights, group benchmarks, and sense of place landmarks-aspects of the land that were personally   significant;   (b) *Topo Naming-* rename terrain features on the map based on your personal experiences and/or impressions of the land; (c) *Solos-* students are given solo time both at the beginning and end of the trip/course to contemplate how their relationship to the land has changed   over time; and (d) *Art* Gallery-students are given ample time to find a spot and create a masterpiece that represents their interactions/relationship with the place and then students explain their creations to the group.

Appendix D- *Excerpt from Landfullness in Adventure-Based Programming:*

Promoting Reconnection to the Land (Baker 2005)

• *Focus:* Promote the linking of landscapes-the transference from the backcountry to the front country (home).

• *Questions:* How can this place link to other landscapes and experiences with the land? When does the land become home? When does home become the land?

• *Activities:* (a) *Water Talk-* discuss the water supply at camp and then have students share where their water comes from at home; (b) *Daily Walk-* link the skill of being an active navigator in the woods to increasing awareness of one's surroundings at home. Have the students draw   or map out the route   they take to work/school at home, every day, including significant land- marks along the way; (c) *Time Warp-*students

envision what a particular piece of land looked like 50/100 years ago and then

consider what their hometown looked like at the same lime; (d) *Constellation Myths*-

locate a constellation in the night sky during the trip and then discuss where the

constellation would be located at home; then create a myth of how it came to be; and

(e) *Back Home Discoveries*-parallels of discoveries made on the trip/course are made to

home (e.g., a tree on the trail is linked to a tree in the neighborhood; vista on the trails

can spur discussion of what is my "vista" from the home/office).

Appendix E- The questions asked during interviews with participating organizations

Interview Questions:

What are some components that are essential for successful AE programs?

What are the goals for your AE programs?

What are the intended outcomes and benefits for participants in your AE programs?

What guidelines, procedures, or key points are used to create AE programs?

Tell me about any staff training for AE programs

Tell me about any participant preparation prior to AE programs

When conducting AE programs, what teaching, instructional, and classroom management techniques do you find most effective? Least effective?

Tell me about your AE program evaluation. Program, staff, participant

How do you use the information gathered from the evaluations to create new and change existing AE programs?

Is EE intentionally incorporated with your AE programs?

If EE was incorporated in AE, how would you structure it?

What is the driving force for designing and marketing AE programs with EE?

What kind of structure does an AE program with EE have?

What is necessary for an AE and EE program to have effective delivery?

Do you have any additional comments or resources you would like to share?

Appendix F- Introduction Letter sent to organizations selected to take part in research

Dear _____

I am writing to request your assistance with a project I am conducting as a requirement of the University of Wisconsin graduate program I am enrolled in. I am a graduate student at the University of Wisconsin-Stevens Point working on my Masters' in Natural Resources with a focus in Environmental Education. For my graduate project, I am collecting information from programs with adventure-based activities in order to design a framework to assist educational and recreational institutions in planning high-quality adventure and environmental education programs.

I am contacting the _____ because of your strong reputation in environmental/adventure/outdoor programs. I hope I might be able to speak with you or another individual from your organization so that I can ask you some questions about your adventure activities and include your insights in my work. Some topics I would like to cover include components of successful activities, planning, best practices to implement, evaluation, and any integration of environmental topics. Additionally, I would appreciate it very much if you could provide me with written resources about your program, such as brochures, program catalogs, or lesson plans.

I would greatly appreciate your help. I look forward to hearing back from you. I would be happy to share more details of my project or answer any questions you might have. Please feel free to contact me by email or phone.

Thank you for your time.

Sincerely

Bill Quade
Graduate Fellow in Residential Environmental Education
University of Wisconsin- Stevens Point/Conserve School
5400 North Black Oak Lake Road
Land O Lakes, WI 54540
Office: (715) 547-1367
wquad844@uwsp.edu

Appendix G- Coding of the data gathered from interviews

Prop osition #	Propositions	Source of Proposition	Supporting Sources	Keyword	Keyword	Category
12	School groups have structured lessons with concepts, outcomes, purpose, and assessment	1-12	1-14;3-4; 3-11; 5-11	Structured	Lessons	1
45	Using nature as a context for learning has strong benefits	2-10	2-11; 2-42; 3-22; 5-2; 5-7	Nature	Benefits	1
22	There are logistical concerns to make programs feasible	1-23	2-15; 4-13	Logistical	Feasible	1
50	Keeping programs simple but effective is key and used for all ages	2-19	2-17	Programs	Effective	1
32	There is flexibility with students to incearse or decrease the challenge and intensity	1-34	2-22	Flexibility	Challenge	1
56	Talking to chaperones/ teachers ahead of time is key for success	3-1	2-29;3-6;3-7	Chaperones	Success	1
55	Keep kids moving around	2-28	2-30	Moving	Around	1
8	Summer camp goal is to "go outside, keep going"	1-8	2-41	Outside	Goal	1
20	We use previous context and what has worked to build on and create programs	1-21	2-9; 3-9; 3-12; 4-12; 5-19	Context	Create	1
15	For programs there are tangible hard skills	1-16	3-24	Tangible	Skills	1
67	All programs have local operating and safety procedures	4-3	4-23	Programs	Procedures	1
71	All programs have a core set of concepts at their foundation	4-19	5-6	Programs	Concepts	1
1	Adventure programs have a level of risk	1-1		Adventure	Risk	1
4	Adventure programs have a level of trust, hope, and mystery	1-4		Adventure	Trust	1
7	AE will introduce new variables to participants providing challenges	1-7		Variables	Challenges	1
11	There is knowledgefor the participants and an EE connection	1-11		Knowledge	Connection	1
13	All lesson plans are mission-based	1-13		Lesson	Mission	1
16	There are intagibles such as self esteem, self image, challenge, leadership, and teamwork	1-17		Intangibles	Challenges	1
21	Participant numbers are an indication of what is successful	1-22		Participants	Successful	1
29	Programs are aimed at the beginner level	1-31		Beginner	Programs	1
30	There is natural and cultural learning for students	1-32		Student	Learning	1
31	Trips are designed to be successful for participants	1-33		Designed	Successful	1
42	Programs are inquiry-based and interactive for participants	2-3		Inquiry	Interactive	1
46	The beginning is creating the connection with nature, then strengthening emotional ties, a desire for learning, and people taking actions	2-12		Connection	Nature	1
47	The decisions about community are also important	2-13		Decision	Community	1
52	Instruction is diversified to hit varied targets for each group	2-20		Instruction	Diversified	1
68	Certifications through the health department, public safety, and amusement park	4-4		Certifications	Safety	1
73	Summer programs were first pilot-tested	5-4		Programs	Tested	1
75	Students learn by exploring, building, and creating	5-15		Students	Learning	1

Proposition #	Propositions	Source of Proposition	Supporting Sources	Keyword	Keyword	Category
38	Teacable moments are incorporated with the classes and EE topics used in balance	1-41	1-42; 3-23	Teachable	EE	1
5	Serves a variety of clients and needs	2-5	1-5;2-8; 3-10; 4-1	Variety	Clients	2
43	Goals are created for the specific needs of groups	2-4	2-21; 3-2; 3-8; 4-2; 4-12	Created	Goals	2
39	The frame of lessons are structure but maintain flexibility to provide interdisciplinary experiences	1-43	2-38; 2-43; 5-1	Lesson	Interdisciplina	2
14	Outcomes are created based on the group's details, concepts, and purpose	1-15	2-6; 3-3; 4-11	Outcomes	Created	2
70	We send out a list of what to bring ahead of time, no other prep	4-18	4-17	List	Prep	2
17	Intangibles are individualized for participants	1-18	5-15	Intangibles	individualized	2
37	EE builds a connection through nature which is also the case for AE	1-40	5-6	Connection	Nature	2
2	Participants need to be pushed beyond their comfort zone	1-2		Participants	comfort	2
6	There are different comfort levels for each audience	1-6		Comfort	Audience	2
9	The goal is for participants to see the value of the outdoors and push themselves	1-9		Goal	Outdoors	2
10	Participants do what they can and if they enjoy something they keep doing it or challenge themselves	1-10		Participants	Challenges	2
19	There is different processing and evaluation speeds for individuals	1-20		Processing	Evaluations	2
44	Groups will bring their own programs and just use our facilities	2-7		Program	Facilities	2
48	Action is geared for small changes and all ages	2-14		Action	Changes	2
51	The hardest part is managing time to deal with unknowns, mostly humans	2-18		Managing	Unknowns	2
58	A combination of social connections, facebook, and mailings are used to communicate with people	2-44		Combination	Communicate	2
61	New clients are obtained through conferences and scheduling	3-5		Clients	Obtained	2
72	Standards are covered with school groups	5-3		Standards	Covered	2
28	[instructor] Experience is important but good judgement and decision making is a priority	1-29	1-30; 4-22	Judgement	Priority	3
25	Leaders/instructors are given a complete set-up and lesson plan	1-26	1-39; 2-37; 5-11	Complete	Lesson	3
24	Leaders/instructors need to keep house with their groups and meet the needs of the participants	1-25	2-31; 5-10	Needs	Instructors	3
69	Staff receive refreshers on training every 2 years, safety and hard skills	4-5	4-7;	Training	Refreshers	3
18	The instructor is a facilitator to guide and help participants	1-19	4-8	Instructor	Facilitator	3
26	Staff training includes logistical planning	1-27	5-8	Training	Planning	3
40	Fulltime staff trains the grad student instructors and models for them	2-1	3-19; 4-6; 5-13	Staff	Trains	3
41	There is a practicum training model for grad students	2-2	4-10; 5-9;	Practicum	Model	3
3	Staff manage physical, emotional, and mental stuggles	1-3		Manage	Struggles	3
23	Activities and trips serve as a learning experience for teachers in the wilderness	1-24		Learning	Experience	3
27	Classes taken by instructors are judgement, WFA, and WWS	1-28		Classes	Instructors	3

Proposition #	Propositions	Source of Proposition	Supporting Sources	Keyword	Keyword	Category
53	Instructors serve as liasons to schools in the area to help communicate and bring them in	2-23		Liasons	Communicate	3
54	Goals and objectives are created for all [instructors]	2-25		Goals	Created	3
59	Sales and recruitment teams will meet to share strategies and ideas to contact target audiences	2-45		Audience	Contact	3
63	The staff handbook covers all the classes with possible variations	3-17		Handbook	Class	3
64	Staff rate their own comfort with skills and scheduled for their strengths	3-20		Comfort	Strengths	3
65	Monthly, the staff visits a museum or nature center to help share information	3-25		Staff	Information	3
66	Having a varied staff helps to run varied programs	3-26		Staff	Programs	3
74	The instructors have a commitment to succeed	5-12		Instructors	Commitment	3
33	Staff are evaluated through observation	1-35	2-24; 2-26;2-27; 3-14; 4-9; 20; 5-14	Evaluated	Observation	4
35	Skills assessment can easily be done during the program	1-37	2-35; 5-17	Assessment	Program	4
34	Evaluation of programs by groups are completed at the end of the program	1-36	2-39;2-40; 3-15; 3-21; 4-14; 21; 5-16	Evaluation	Programs	4
57	Evaluations are to find out what is the point of programs and if goals are met	2-34	3-16	Evaluation	Goals	4
62	Evaluations and forms are used to help plan programs for returning groups	3-13	4-15; 4-16	Evaluation	Programs	4
36	Future interactions are very difficult to evaluate	1-38		Interaction	Evaluate	4
49	Successful activities are video-taped to share with other staff	2-16		Activities	Share	4
76	Outside evaluators are used to evaluate new programs	5-18		Evaluate	Programs	4
60	Partnerships are important and need to have benefits for both parties	2-46	5-5	Partnerships	Benefits	

Appendix H- Questions discussed with Treehaven

- What kinds of audiences does Treehaven serve?

    o What preparations are made to accommodate different groups?

    o How are activities adjusted during programs to meet the group's needs?

- How are activities selected for groups visiting Treehaven?

    o Are lessons kept on file from previously run programs or activities?

- What is the background of Treehaven program staff?

    o What hard skills are they proficient in?

    o What is their level of understanding the properties ecology and natural history?

    o How are program staff trained?

- What does the evaluation process at Treehaven look like?

Appendix I- Informed Consent and IRB Submission Form used in research

Dear Educator,

Bill Quade, Graduate Student from the College of Natural Resources at the University of Wisconsin- Stevens Point, would appreciate your participation in an interview designed to assist in the development of a Master's project. You are being asked to participate in one interview that would last approximately 25-35 minutes.

We anticipate no risk to you as a result of participating in the study other that the inconvenience of time for the interview.

The goal of the interview is to collect information that will help to develop a framework for planning adventure and environmental programs for Treehaven, a residential environmental learning center.

The information you provide will be kept on record in anonymous form and no information will be released that could identify you. All recordings, transcripts, and notes from interviews will be kept in a locked office or on a password protected computer and destroyed upon completion of the study.

If you would like to withdraw from the study at any time you may do so and the information collected to that point will be destroyed.

I would be glad to share the results when completed. If you have any question, please contact:
Bill Quade, Graduate Fellow, UWSP
Conserve School
5400 North Black Oak Lake Road
Land O Lakes, WI 54540
715-547-1367, wquad844@uwsp.edu

If you have any complaints about your treatment as a participant in this study, please contact:
Dr. Jason R. Davis, Chair
Institutional Review Board for the Protection of Human Subjects
School of Business and Economics
University of Wisconsin-Stevens Point
Stevens Point, WI 54481
(715) 346-4598
Although Dr Davis will ask your name, all complaints are kept in confidence.
I have received a complete explanation of the study and agree to participate.

Name_____Date_____
(Signature of subject)

University of Wisconsin-Stevens Point
Institutional Review Board for the Protection of Human Subjects
Protocol for Original Submissions
A complete protocol must be submitted to the IRB for approval prior to the initiation of any investigations involving human subjects or human materials, including studies in the behavioral and social sciences.

For all research protocols, please submit the following:
- **1 printed copy with Faculty Mentor and Department Chair signatures** of (1) the completed protocol; (2) project abstract; and (3) samples of informed consent forms. PROTOCOLS LACKING ANY ONE OF THESE THREE ELEMENTS WILL NOT BE APPROVED.
- **A second copy of this page, with signatures.**
  Printed materials should be submitted to: **IRB/Grants Office, 204 Old Main.**
- **Electronic copies of all submission materials (multiple files are acceptable)** emailed as attachments to Jason R. Davis, IRB chair: jdavis@uwsp.edu AND Sharon Courtney, Grants Office: scourtne@uwsp.edu

PLEASE TYPE

Project Title: Creating a Framework for Adventure and Environmental Education at a Residential Environmental Learning Center

Principal Investigator: Bill Quade

Department: Natural Resources   Rank: Graduate Student

Campus Mailing Address: 5400 North Black Oak Lake Road, Land O Lakes, WI 54540

Telephone: 847 624 2455   E-mail address: William.g.quade@uwsp.edu

Faculty Sponsor (if required): Randy Champeau
(Faculty sponsor required if investigator is below rank of instructor.)

Expected Starting Date: April 2012   Expected Completion Date: May 2013
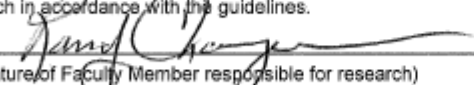
Are you applying for funding of this research?   Yes ——————   No X——————
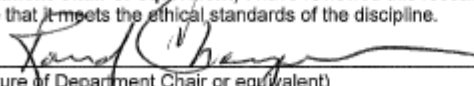
If yes, what agency? _____

Please indicate the categories of subjects to be included in this project. Please check all that apply.
- —X— Normal adult volunteers   ——— Minors (under 18 years of age)
- _____ Incarcerated individuals   _____ Mentally Disabled
- _____ Pregnant women   _____ Other _____ (specify)

(Faculty Member) I have completed the "Human Subjects Protection Training" (available at http://www.uwsp.edu/special/irb/start.htm) and agree to accept responsibility for conducting or directing this research in accordance with the guidelines.

_____
(Signature of Faculty Member responsible for research)

(Department Chair or equivalent) I have reviewed this research proposal and, to the best of my knowledge, believe that it meets the ethical standards of the discipline.

_____
(Signature of Department Chair or equivalent)

*************************** Do not write below this line – for IRB use only ***************************

IRB approval_____ Date_____
          (Signature of IRB Chair)
Approval for this research expires one year from the above date.
If research is not completed by this date, a request for continuation must be filed and approved before continuing.   Revised form: September 2010

66

University of Wisconsin-Stevens Point
Institutional Review Board for the Protection of Human Subjects
Protocol for Original Submissions
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PLEASE TYPE
Project Title: Creating a Framework for Adventure and Environmental Education at a Residential Environmental Learning Center

Principal Investigator: Bill Quade

Department: Natural Resources   Rank: Graduate Student

Campus Mailing Address: 5400 North Black Oak Lake Road, Land O Lakes, WI 54540

Telephone: 847.624.2455   E-mail address: William.g.quade@uwsp.edu

Faculty Sponsor (if required): Randy Champeau
(Faculty sponsor required if investigator is below rank of instructor.)

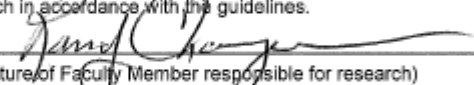Expected Starting Date: April 2012   Expected Completion Date: May 2013

Are you applying for funding of this research?   Yes ——————   No X——————
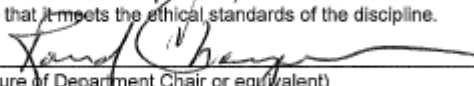
If yes, what agency? _____

Please indicate the categories of subjects to be included in this project. Please check all that apply.
——X—— Normal adult volunteers   ——— Minors (under 18 years of age)
_____ Incarcerated individuals   _____ Mentally Disabled
_____ Pregnant women   _____ Other _____(specify)

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_____
(Signature of Faculty Member responsible for research)

(Department Chair or equivalent) I have reviewed this research proposal and, to the best of my knowledge, believe that it meets the ethical standards of the discipline.

_____
(Signature of Department Chair or equivalent)

********************** Do not write below this line – for IRB use only **********************

IRB approval_____ Date_____
            (Signature of IRB Chair)
Approval for this research expires one year from the above date.
If research is not completed by this date, a request for continuation must be filed and approved before continuing.   Revised form: September 2010

Proposal Abstract

Write a brief description of the purpose of the proposed research project. (100-200 words)

This study is going to research adventure-based and environmental education programs to create a framework for Treehaven, a residential environmental education center, to design programs. Treehaven would like to know and implement the best practices when conducting adventure-based programs at their facility. The framework created in this study will provide a tool to help plan effective programs that incorporate both adventure and environmental education. The research will begin with research of past studies, finding adventure programs, making contacts, setting up interviews, conducting interviews, coding interviews, and designing the framework. Qualitative data will be collected from the interviews with professionals in the field and then analyzed to find components that are essential to planning, conducting, and evaluating successful programs. When the framework is complete, Treehaven will be able to draw in more visitors through new programs they can offer. Planning programs to be both adventure and environmentally focused is something that few other centers target which would put Treehaven ahead of the field. Researching journals and finding interview contacts is currently underway with the next step being the arranging for and conducting interviews. The study will be completed by May of 2013.

<u>Please complete the following questions for all research.</u>

1. Describe the characteristics of the subjects, including gender, age ranges, ethnic background, health/treatment status and approximate number.

I will be interviewing 5-15 adventure education professionals with no specific age, gender, or ethnic background.

2. Indicate how and where your subjects will be obtained. Describe the method you will use to contact subjects.

I will investigate adventure education programs and centers and find people to contact. Then I will request and schedule interviews with respondents willing to participate through email and phone calls.

3. What are you going to ask your subjects to do (be explicit) and where will your interaction with the subjects take place?

I will ask the interviewees to take part in an interview lasting 40-50 minutes that will be conducted over the phone.

4. Will deception be used in gathering data? Yes ———— No X————
   If yes, describe and justify.

5. Are there any risks to subjects? Yes _____ No X_____
   If yes, describe the risks (consider physical, psychological, social, economic, and legal risks) and include this description on the informed consent form.

6. What safeguards will be provided for subjects in case of harm or distress? (Examples of safeguards include having a counselor/therapist on call, an emergency plan in place for seeking medical assistance, assuring editorial rights to data prior to publication or release where appropriate.)

N/A

7. What are the benefits of participation/involvement in this research to subjects? (Examples include obtaining knowledge of discipline, experiencing research in a discipline, obtaining course credit, getting paid, or contributing to general welfare/knowledge.) Be sure to include this description on the informed consent form.

Benefits to interviewees include helping to advance research and advance general knowledge of the field of adventure and environmental education. Participants will be sent a copy of the final product if they want one.

8. Will this research involve conducting surveys or interviews? Yes ——X—— No———
   If yes, please attach copies of all instruments or include a list of interview questions.

9. If electronic equipment is used with subjects, it is the investigator's responsibility to determine that it is safe, either by virtue of his or her own experience or through consultation with qualified technical personnel. The investigator is further responsible for carrying out continuing safety checks, as appropriate, during the course of the research. If electronic equipment is used, have appropriate measures been taken to ensure safety? Yes X   No

A tape recorder will be used for conducting interviews and proper safety measures will be taken.

10. During this research, what precautions will be taken to protect the identify of subjects and the confidentiality of the data?

Interview data will be coded with numbers and will not include the participant names

11. Where will the data be kept throughout the course of the study? What provisions will be taken to keep it confidential or safe?

Data collected from interviews will be kept on file in my locked office or on my password protected computer.

12. Describe the intended use of the data by yourself and others.

Data will be used and analyzed to create a framework for adventure and environmental education at a residential environmental learning center.

13. Will the results of the study be published or presented in a public or professional setting?
    Yes ——X—— No ———
    If yes, what precautions will be taken to protect the identity of your participants? **State whether or not subjects will be identifiable directly or through identifying information linked to the subjects.**

Names of interviewees will not be used or attached to data.

14. State how and where you will store the data upon completion of your study as well as who will have access to it? What will be done with audio/video data upon completion of the study?

Upon completion I will destroy audio data and notes from the interviews.

A completed protocol must include a copy of the Informed Consent Form or a statement as why individual consent forms will not be used.
Revised form: January 2001

(Include this page ONLY if information on this page applies to your project)

15. Please identify personnel assisting in conducting this research project. Include students or others who will be carrying out or directly supervising the carrying out of the research.

Name:
Position: Campus Phone:
Campus Address:

Name:
Position: Campus Phone:
Campus Address:

Name:
Position: Campus Phone:
Campus Address:

Name:
Position: Campus Phone:
Campus Address:

Name:
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Please note: Eyeryone having contact with human subjects must have reviewed the "Guidelines for Human Subject Research" (available at http://www.uwsp.edu/special/irb/start.htm)**. The principle investigator assumes responsibility for insuring this requirement has been met.**

16. Complete the section below if you will obtain access to all or some of the subjects through cooperating institutions not under the University of Wisconsin's control. Use the following format for each institution with responsibility for human subjects participating in this activity:

Name of official:
Title: Phone:
Name and address of institution:

Subject Status: (wards, residents, employees, patients, etc)
Number of subjects: Age Range of subjects:

17. If subjects from another institution are involved, and approval was obtained from a legally constituted IRB at that institution, please attach a copy of the approval. (Please note that this does not release you from the obligation to obtain approval from the UWSP IRB for Human Subjects.)

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Revised form: January 2001

Proposal Abstract

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Revised form: January 2001

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15. Please identify personnel assisting in conducting this research project. Include students or others who will be carrying out or directly supervising the carrying out of the research.

Name:
Position: Campus Phone:
Campus Address:

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Subject Status: (wards, residents, employees, patients, etc)
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