UNIVERSITY STUDENTS’ PERCEPTIONS OF THE IMPACT OF A WILDERNESS EDUCATION PROGRAM ON THEIR PERSONAL GROWTH, RESILIENCE, AND SENSE OF COMMUNITY

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A Thesis Presented to

The Faculty of Humboldt State University

In Partial Fulfillment of the Requirements for the Degree

Master of Arts in Education

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May, 2013
ABSTRACT

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This study examines students’ perceptions of the impact of a wilderness education program on their resilience, personal growth, and sense of community. Wilderness education is a hands-on style of teaching and learning that is set in an immersion environment and provides participants with opportunities to develop experiences beyond the typical classroom educational experience. These experiences are often difficult to measure but can have profound lasting effects on participants. I developed and administered a mixed-methods instrument to measure the perceived impact of wilderness education on students in terms of their resilience, personal growth and sense of community. Results were coded to reveal themes. The resulting data revealed trends in the similarity of positive and lasting effects that participants recalled from their experiences in relation to resilience, personal growth, and community. Links were made between the results of this research and behavioral learning theory, social learning theory, and cognitive learning theory. Participants perceived themselves to have an increased resiliency, to have developed personally through this experience, and to have developed stronger senses of community. The results of this research support the philosophy of wilderness education that learning occurs between teacher and student with content that is embedded directly in the environment.
ACKNOWLEDGEMENTS

I would like to thank my academic advisor, Ann Diver-Stamnes for her unwavering support, encouragement, attention to detail, and keen ability to help my ideas blossom into this thesis. Without Ann’s guidance and similar passion for the wilderness, I would not have been able to implement this research. I would like to thank Jayne McGuire for serving on my committee and sharing her astute insights into the field of education. I would like to thank Eric Van Duzer for many years of mentoring through the Master’s in Education program at Humboldt State University. I would like to thank everyone involved with Natural History Field Quarter at the University of California, Santa Cruz. Without this experience and the contributions of this community, I would not have had the data needed to complete this research. I would like to thank my colleague Anna Thaler Petersen for her moral support and for assisting me in navigating through the process of creating a thesis. I would like to thank my wife Jennifer for her support through many late nights where I was glued to the computer while she diligently cared for our children. I would like to thank my brother Stein for taking me into the wilderness for the first time as kids, on trails mostly untrammeled by humans, and awakening a passion for wilderness that has stayed with me my whole life. I would like to thank my parents for blessing our family with Five Waters Ranch, a wilderness paradise in northern California where many of my outdoor experiences have transpired. I must give thanks to Paul Marsh who inspired me to walk many miles on the trail and have a chance to reflect upon my experiences. And ultimately, I would like to thank my good friend Julio Harvey
for proving to me that through perseverance, courage, unwavering aplomb, and a little funk music on the dance floor, anything is possible in this life.
# TABLE OF CONTENTS

ABSTRACT ........................................................................................................................................ ii

ACKNOWLEDGEMENTS ................................................................................................................ iii

CHAPTER 1: INTRODUCTION ........................................................................................................ 1

CHAPTER 2: LITERATURE REVIEW ............................................................................................. 3

CHAPTER 3: METHODOLOGY ..................................................................................................... 25

CHAPTER 4: RESULTS ..................................................................................................................... 33

CHAPTER 5: ANALYSIS ................................................................................................................... 47

CHAPTER 6: CONCLUSIONS .......................................................................................................... 53

REFERENCES ..................................................................................................................................... 57
TABLES

TABLE 4.1:  Resilience Scale: Mean and Standard Deviation .........................................35
TABLE 4.2:  Personal Growth Scale: Mean and Standard Deviation ...............................37
TABLE 4.3:  Community Scale: Mean and Standard Deviation .......................................39
FIGURES

Figure 4.1. Sense of Resilience .................................................................36

Figure 4.2. Sense of Personal Growth .......................................................38

Figure 4.3. Sense of Community ...............................................................40
CHAPTER ONE
INTRODUCTION

Wilderness education has existed for as long as humans have been interacting. This mode of hands-on teaching and learning awakens feelings through action that allows students to retain knowledge, build on learned skills, and hone abilities to perfection. While wilderness education programs have become scarcer than the modern trends of cognitive teaching in self-contained classrooms, wilderness education has become an even more important tool for the development of hands-on learning that helps develop individuals on a holistic level.

Attributes of learning that lead to the development of well-rounded individuals include outcomes that are often difficult to measure like students’ sense of resilience, personal growth, and sense of community. This study was designed to further the understanding of the outcomes that students obtain from participating in wilderness education, specifically in relation to these three attributes.

Operational Definitions

Offering definitions of the terminology used in this thesis can help to create a foundation of similar understanding for readers. People conceptualize resilience, personal growth, and community in many different ways. For the purpose of this thesis, they are defined as follows. Resilience is the power or ability to return to one’s original form, in the context of wilderness experience. In other words, resilience could also be defined as the ability to cope with adversity and stress, or the ability to experience a stressful event
but to return to the same psychological state as before the event occurred. Personal growth is defined as the act or process of gradually increasing one’s self-awareness, self-knowledge, and self-sufficiency through natural processes by way of original experience, in the context of wilderness experience. Community is defined as the connection to other wilderness group members in the context of group wilderness experiences.

**Overview of Thesis**

The research in this thesis explores the participants’ perceptions of their wilderness education experience in terms of their sense of resilience, personal growth, and sense of community. The chapters are organized as follows. Chapter Two presents a literature review exploring an overview of experiential education and wilderness education. It includes a brief history of the field as well as related definitions and examples of programs including exchange programs, orientation programs, service learning, and wilderness education. An overview of traditional learning theories provides a conceptual framework for categorizing experiential education in the field of education. In addition, the rationale, duration and location, target audience, and intended outcomes of wilderness education are explored. Chapter Three offers a description of the methods used in this study including the development and dissemination of a mixed-methods survey. The results of this survey are presented in Chapter Four, including a compilation of survey responses and the identification of emerging themes. Chapter Five consists of an analysis of the discussion and survey results. Chapter Six concludes the thesis with limitations of this research and implications for future research.
CHAPTER TWO
LITERATURE REVIEW

Introduction

This literature review provides an overview of experiential education in order to frame the context for understanding wilderness education. Definitions of experiential education and examples of programs and organizations help to define the history of experiential education. A review of traditional learning theories provides a conceptual framework for categorizing experiential education in the field of education. University experiential programs are described including: exchange programs, orientation programs, service learning, and wilderness education. Each of these programs share the common characteristic of building social relationships between students and their environments, developing knowledge, and providing direct opportunities to test new skills and abilities. Finally, the rationale, duration and location, target audience, and intended outcomes of wilderness education are explored.

Overview of Experiential Education

The following quote is widely attributed to Confucius: “Tell me and I will forget; show me and I may remember; involve me and I will understand” (Association for Experiential Education, 2011, p. 1). Experiential education, occurring outside of classrooms, has been around much longer than the current standard of contained-classroom education (Neill, 2006). The trend of cognitive teaching in education has overshadowed the tradition of hands-on teaching, making experiential education seem
like a novelty (Neill, 2006). Many universities have a history of teaching students reading, writing, and arithmetic in self-contained classrooms (Miner & Boldt, 1981). In an attempt to instill deeper levels of understanding and involvement in students’ learning process, universities are going back to the root of the teaching experience, developing programs based on experiential education, wilderness education, and adventure education (Neill, 2006). Awakening the natural mode of learning that includes feelings and actions takes students beyond the realm of thinking and into the realm of understanding (Miner & Boldt, 1981). The environment of experiential education is often more supportive for this mode of learning than traditional contained classrooms (Martin et al., 2006). Defining experiential education provides a framework for understanding the role of experiential education in wilderness education. The next section defines experiential education and provides examples of several foundational programs and organizations in experiential education including Outward Bound, National Outdoor Leadership School, the Wilderness Education Association, and the Association for Experiential Education.

**Experiential education defined.**

“Experiential education is a philosophy and methodology in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills and clarify values” (Association for Experiential Education, 2011, p. 1).

The hands-on approach of experiential education is a style of education that teaches not just the mind, but the entire body (Thayer, 1976). Because experiential education involves active engagement in a physical setting, and struggling through
challenges to gain deeper understanding of knowledge, skills, and abilities, this approach can instill a passion for learning in students that goes beyond the self-contained classroom and leads to deeper understanding and enjoyment of the learning process (Jiusto & DiBiasio, 2006). Being passionate about learning often leads to higher engagement and productivity (Sibthorp et al., 2011). Participants in experiential education take personal responsibility for their learning and seek out environments to build on their foundation of experiential knowledge (Sibthorp et al., 2011). Research has shown that experiential education participants learn to be self-reliant while going through the process of building on prior knowledge (Sibthorp et al., 2011).

Experiential education programs include activities that rely on collaboration, utilize teamwork, help develop leadership skills, and ultimately, serve participants by creating a tangible foundation of experience for new challenges (Stern, Powell, & Ardoin, 2010). Program cost is also a consideration as education is becoming more expensive (Lempert, 1996). University environments in which self-contained classroom education is the norm, educators are often constrained by budgets and standards and are limited by having to meet budget and accreditation goals thereby reducing their effectiveness (Lempert, 1996). Experiential education programs have been recognized by faculty and administrators for being successful in effective teaching and are lower-cost per unit than traditional classroom design models (Lempert, 1996). This is possible because in a majority of experiential education programs, all subjects of study are integrated into a fluid experience that promotes learning outcomes across disciplines (Thayer, 1976).
The incorporation of participants’ feelings, thoughts, and values into activities in experiential education learning plays a significant role in their ability to internalize the meaning of the experience (Thayer, 1976). This approach of having the participants directly involved in the pedagogy of teaching and learning is a meaningful emphasis of experiential education (Thayer, 1976). The goal of this approach is to focus the learning on individuals and their ability to learn the material, as well as on the means by which that material is learned (Thayer, 1976). The structure and content of this learning process is designed in a way to emphasize the affective aspects of learning (Thayer, 1976).

Experiential education programs often use environmental education as a model for teaching and learning but are not necessarily environmental in their content (Alagona & Simon, 2010). Using the outdoor environment as a classroom for experiential education provides the ideal environment for educators to engage with students in direct experience (Alagona & Simon, 2010). This direct experience increases knowledge and develops skills that can be related to the environment, but often students in these situations identify positive aspects of the curriculum not directly related to the environment such as history, philosophy, and literature (Alagona & Simon, 2010).

John Dewey, a pioneer in the field of experiential education believed that pairing experience with curriculum theory to better understand students’ experience was pivotal in the development of experiential education as a new philosophy (Dewey, 1938). Dewey’s position was that the rigid knowledge-delivery method of public education was biased toward passing on knowledge versus using the experience of people to help them understand the learning experience (Neil, 2005). His belief was that students need to
support their learning process by engaging their bodies in the learning experience (Dewey, 1938). He wanted to change the way education was structured to actively engage students in the learning experience instead of attempting to force knowledge upon them as passive recipients (Katula & Threnhauser, 1999). By encouraging interaction among individuals and their environment, and creating continuity from task to task, a deeper understanding of the content would develop based on the quality of the experience (Dewey, 1938). Interaction helps to contextualize learning for students, and continuity leads to further learning experiences (Dewey, 1938). At a time in our history when Dewey’s ideas were just blossoming into the philosophy of experiential education, other proponents of experiential education were starting to take action as well. In the 1940’s, Kurt Hahn and Lawrence Holt were working in Great Britain on a project rooted in experiential education that eventually became known as Outward Bound (Gass, 2003). Kurt Hahn was born in Berlin, Germany in 1886 (Miner & Boldt, 1981). Trained at Oxford in England from 1910 to 1914, Hahn became known as a natural leader and teacher, enamored with the outdoors (Miner & Boldt, 1981). Lawrence Holt, a teacher and owner of a merchant-shipping enterprise in Great Britain met Kurt Hahn during World War II (Miner & Boldt, 1981). Both men were enamored with survival and experiential education, especially focused on the young seamen who were going off to war with solid theoretical knowledge of seamanship but limited experience to brave the natural elements encountered on the open ocean (Miner & Boldt, 1981). Their work to establish the Outward Bound program, founded in 1941, exemplifies how the philosophy of experiential education can be solidified into action.
Outward Bound.

Outward Bound is a program with a long history of experiential education, rooted in wilderness and adventure education, as a means to pique the interest of students and challenge their physical, social, and intellectual values (Miner & Boldt, 1981). Started by Kurt Hahn and Lawrence Holt in Great Britain in 1941, Outward Bound was a school founded on the principal of “training through the body, not of the body” (Miner & Boldt, 1981, p. 33). This outdoor school which embodied the principles of experiential education came about at a time of World War II when young people were coming out of schools intellectually strong but experientially weak (Miner & Boldt, 1981). All of the book learning in the libraries and schools was still not preparing them for the challenges of seamanship and war (Miner & Boldt, 1981). Hahn had a vision of training students in an outdoor environment setting that would train their entire being and root their learning experiences in this emotional and physical space (Miner & Boldt, 1981). While experiential education was a model known in the United States, and there were some examples of day schools and summer camps, Outward Bound did not open a school in the United States until the 1960s (Miner & Boldt, 1981). The first Outward Bound school in the United States started in Colorado in 1961. (Miner & Boldt, 1981). This started a snowball effect of programs based on experiential education, wilderness education, and adventure programs (Miner & Boldt, 1981). Every few years, as the trend became more popular, and schools were showing positive results, Outward Bound opened a new school across the United States and into the Caribbean (Miner & Boldt, 1981). Outward Bound expanded to 14 schools in the United States and now has a national presence accessible
through the World Wide Web (Outward Bound, 2011). From Outward Bound evolved another program designed to meet the growing needs of trained leaders in experiential education programs (Bachert, 1990). This program is called National Outdoor Leadership School and is the topic of the next section.

_National Outdoor Leadership School._

Experiential education promotes a skill set beyond knowledge acquired in the mind; experiential education connects the acquisition of this knowledge to tangible skills and abilities that require the involvement of all of the bodily senses. The processing of external stimuli creates muscle memories and gives the mind a point of reference to anchor newly acquired knowledge and make it accessible for future learning scenarios. This set of skills was recognized and promoted as the focus of the National Outdoor Leadership School (NOLS) (Bachert, 1990). NOLS, founded in 1965, is a non-profit educational organization located in Lander, Wyoming (Bachert, 1990). With programs all over the United States and internationally, NOLS is a pioneering organization in outdoor education and wilderness leadership. Founded in 1965 to help promote the training of teachers and leaders needed in the experiential education movement, NOLS has become the premier institution for training wilderness education leaders. The NOLS mission “is to be the leading source and teacher of wilderness skills and leadership that serve people and the environment” (NOLS, 2011, p. 1). Organized and led by educators, NOLS is an institution dedicated to teaching future leaders about safety, ethics, natural history and survival skills through experiential education (NOLS, 2011). Soon after the creation of Outward Bound and NOLS, formal associations were established to standardize
certification and accreditation of experiential education programs. These were known as the Wilderness Education Association and the Association for Experiential Education.

*Wilderness Education Association.*

Paul Petzoldt, the first instructor for the United States Outward Bound, and founder of the National Outdoor Leadership School, started the Wilderness Education Association in 1976 (Lupton, 1990). This association was designed to address the need for a formalized standard of certification for wilderness leaders (Lupton, 1990). As more and more universities established experiential education programs, a curriculum to develop wilderness leadership standards was born (Lupton, 1990). The Wilderness Education Association was the group of professionals and scholars who made this happen (Lupton, 1990).

*Association for Experiential Education.*

Because experiential education is a philosophy that permeates so many different disciplines, proponents of this philosophy felt the need to formalize an association to share resources and ideas (Association for Experiential Education, 2011). The Association for Experiential Education was formed in 1977 (Garvey, 1990). It started as a loosely affiliated collection of scholars interested in formalizing the field of outdoor education and incorporating it into college curricula (Garvey, 1990). Now, the Association for Experiential Education is an accredited, member-supported, international organization that is committed to the practice and promotion of learning through experience (Garvey, 1990). With an overview of experiential education, a brief history of the philosophy, and
examples of how this has been implemented, the next section will address long-standing theories that helps define experiential education in the field of education.

*Experiential Education Theory*

Learning as defined by educational psychologists is a change in how people think and operate due to an experience (Slavin, 1986). While change can occur in the classroom setting through experiences like lecture, discussion, reflection, texts, and assessments, this experience of change is not confined to the classroom (Kraft, 1990). The trend in education to take the form of a standardized classroom-based approach of learning which is often domain-specific, is a fairly new development in the long history of education (Kraft, 1990; Siegler, 2008). Experiential education that occurs outside of the classroom setting is an equally effective method for promoting change in the way in which students think and operate (Kraft, 1990). Experiential education, as a domain-general learning model, incorporates many different disciplines including ecology, political science, physiology, psychology and sociology (Alagona & Simon, 2010; Siegler, 2008). A limit to the effectiveness of experiential education is that many experiential educators have ignored the need for domain-general learning and multi-disciplinary practice (Kraft, 1990; Siegler, 2008). This has led to criticism in the field of experiential education by learning theorists (Kraft, 1990). The following theories help to frame the foundation of the experiential education approach and tie it to the contained classroom approach of learning.
Behavioral learning theory.

Behavioral learning theory is prevalent in experiential education (Kraft, 1990). Behavioral theorists believe that understanding human nature comes from the interaction of individuals with their environment (Martin et al., 2006). The age-old cause and effect relationship is defined by behaviorists as a change in an independent variable leading to an immediate change in a dependent variable (Skinner, 1965). The most visible instance of this in experiential education is the principle of immediacy (Kraft, 1990). This theory that behavior changes from immediate consequences is evident in both classroom and non-classroom settings (Kraft, 1990). In the wilderness, many examples of this are evident such as exhaustion from exposure to elements, injury from lack of proper safety techniques, and blisters from improper footwear (Kraft, 1990). Positive results are also exemplified: the success of summiting a mountain, pitching a tarp-shelter, and preparing a back-country meal (Kraft 1990). The resulting effect, or change in a dependent variable impacting students’ learning, whether positive or negative, can be immediately identified, analyzed, and manipulated to promote further learning (Skinner, 1965). This process of tailoring learning components to the response of students’ behaviors is reflective of common practice in experiential education (Skinner 1965).

Social learning theory.

Social learning theory has a similar foundation as behavioral learning theory but adds to the model of immediacy (Bandura, 1969). Social learning theory suggests that in addition to learning from the immediate consequences of our actions, we also learn through imitating or modeling the behavior of others (Bandura, 1969). Consequences are
learned through experience but also through observing others (Bandura, 1969). This is achieved by observing behavior of other people, storing the information, and retrieving it from memory at a later date (Kraft, 1990). In experiential education, learning occurs through modeling by course instructors, group work, and building on prior knowledge (Kraft, 1990).

Examples of how instructors might model learning related to wilderness education through social learning theory includes the exploration of knowledge, skills, and abilities. Tasks such as orienteering, shelter building, food preparation and water sanitation can be demonstrated by the instructor, imitated by the student, practiced by the student both individually and in groups, and then tested for proficiency (NOLS, 2012). The combination of demonstration by the instructor paired with imitation by the student in community settings exemplifies the tenets of social learning theory and helps to establish a foundation of knowledge (NOLS, 2012).

Cognitive learning theory.

Cognitive learning theory focuses on the process by which information is absorbed and retained (Kraft, 1990). Information from the bodily senses transfers experience into memory (Kraft, 1990). If these experiences are meaningful enough, the information is retained, and memories are created (Kraft, 1990). Experiential educators argue that they use all of the senses to create experiences that lead to lasting memories and therefore employ effective techniques for educating students (Kraft, 1990). However, little research has been done in experiential education to substantiate this claim (Kraft, 1990).
Examining existing theories may help in developing a theory specific to experiential education or at least provide insight into future research opportunities (Kraft, 1990). Recognizing that different theories exist and that not all students learn in the same way helps guide the study of experiential education programs (Kraft, 1990). The next section will provide examples of four main types of experiential education programs: exchange programs, orientation programs, service learning and wilderness education.

*University Experiential Programs*

Experiential education programs offered at the university level occur in a variety of formats. The most common formats include: Exchange Programs, Orientation Programs, Service Learning Programs, and Wilderness Programs (Crowe & Adams, 1979; Itin, 1999; Wurdinger, 1994). Exchange programs involve studying regionally or abroad at an associated university (Engle & Engle, 2003). They are experiential in nature because they immerse students in a new environment that promotes learning through exploration of an area’s culture, traditions and history (Black & Duhon, 2006; Kitsantas, 2004; Langley, & Breese, 2005). Orientation programs are pre-entry programs into universities that build a sense of community and create connections between students and faculty (Gass, 1985). Unlike traditional schooling in which students arrive on the first day of school and are expected to perform as students, orientation programs are designed to familiarize students with the new school community, identify shared resources, and acclimate students to their new environment (Gass, 1985) Service learning programs link classroom instruction and reflection to fieldwork in a community setting that is mutually beneficial to students, universities, and the community (Furco, 1996). Wilderness
programs also take the learning experience out of the classroom and put it in an outdoor setting where students are able to learn directly from the environment (Sierra Institute, 2011).

*Exchange: long stay versus short stay.*

Long stay exchange programs, otherwise known as study abroad programs, often involve students from one country and university, attending a different university in a different country (Engle & Engle, 2003). In these programs, students not only study their subject matter, but they also learn about the other countries customs, culture, history and local traditions (Engle & Engle, 2003). Most long-stay exchange programs last from one semester to one year (Engle & Engle, 2003). They enrich participants’ life by immersing them in the local experience and teaching them first-hand, what it is like to be in that particular culture (Black & Duhon, 2006; Kitsantas, 2004; Langley, & Breese, 2005). Exchange programs tend to increase students’ tolerance of other cultures as well as increasing their language skills and world view (Black & Duhon, 2006; Kitsantas, 2004; Langley, & Breese, 2005). Students often live in the dorms of the associated university, or, in some programs, they stay with host families (Engle & Engle, 2003).

Short stay exchange programs are often referred to as summer programs or subject specific intensive programs (Engle & Engle, 2003). These programs typically draw students for a few weeks to months at a time (DeDee & Stewart, 2003). They are most commonly structured to give students an overview of language, culture, and community, but not as in-depth as a long stay exchange (DeDee & Stewart, 2003).
In both long stay and short stay exchange programs, students are expected to return home after their experience and bring their newly enhanced cultural perspective with them (Shougee, 1999). Students use the skills they learned overseas and incorporate these tools into their normal lives (Shougee, 1999). This is a process of using experiential learning in a new environment to build skills which can then be revisited and adapted for use in a more familiar domestic setting (Shougee, 1999). Students report that both long and short term programs have enriched the breadth of their cultural knowledge and acceptance of other people (Black & Duhon, 2006; Kitsantas, 2004; Langley & Breese, 2005; Soughee, 1999). In many ways, these exchange programs reinforce the meaning of learning that occurs at home by offering an alternative perspective that could not be considered unless it was viewed from outside of students’ local lens.

**Orientation.**

Outdoor orientation programs are best defined as small groups (15 participants or fewer) of first term students who engage in adventure experiences including at least one overnight trip (Bell, Holmes, & Williams, 2010). These programs are most common in the United States and help students transition from high school into college, by promoting self-reliance, problem-solving, and team-building (Bell et al., 2010). One of the first outdoor orientation programs started at Dartmouth College in 1932 (Hooke, 1987). Although this program was defined as outdoor orientation, it does not have the criteria of being tied to a curriculum that most outdoor orientation programs have today (Bell et al., 2010). There is not a substantial record of further outdoor orientation program development in the United States until the onset of the Outward Bound movement in the
1960s (Miner & Boldt, 1981). Prescott and Harvard Colleges were some of the first institutions of higher learning to incorporate outdoor orientation programs into their curricula (Miner & Boldt, 1981). As of the year 2006, less than one percent of four year colleges in the U.S. have outdoor orientation programs (Bell et al., 2010). The justification for four year colleges to promote these programs is to quell rising attrition rates thought to be caused by peer isolation, a disconnect from faculty and staff, a misconception of expectations by students, and boredom (Gass, 1985). Outdoor orientation programs can counter this by establishing connections with peers and mentors while conveying information directly relevant to the college experience (Gass, 1985).

Sixty six percent of outdoor orientation programs in the U.S exist at private colleges (Bell et al., 2010). About sixteen percent of college students in the United States attend private colleges (O’Shaughnessy, 2011). Private colleges may have leaders who are more focused on outdoor orientation programs than public colleges (Bell et al., 2010)

Comparing outdoor orientation programs to traditional orientation programs, the biggest difference in their effectiveness is that outdoor orientation programs emphasize the social connections between students while still delivering the operational content of an orientation program (Bell & Williams, 2006).

*Service learning.*

Service learning is a type of education in which classroom coursework is paired with a fieldwork element, and students are placed at businesses, schools, or organizations (Parker & Wilding, 2012). In service learning, students actively participate in organized experiences that meet community needs (Rice, 2012). These experiences promote
learning and development by integrating a structured time for reflection into the academic curriculum of students (Rice, 2012). This combination of experience and reflection enhances the learning that occurs in the classroom by extending the learning environment beyond the classroom and into the community (Rice, 2012). Following specific guidelines of the curriculum, this service learning relationship meets the needs of coursework while adding value to the placement, and ultimately creates a richer learning experience for students (Parker & Wilding, 2012). Service learning experiences are most meaningful when they include coursework-related activities such as presentations, discussion, reflection, and group work (Parker & Wilding, 2012). Faculty who incorporate service learning into their curriculum find that it enhances student involvement and interest in the classroom, and teaches new problem solving skills (Parker & Wilding, 2012). Students involved in service learning courses have higher academic scores, better evaluations, and a better attitude toward the learning experience and their communities (Furco, 2012).

*Wilderness.*

Wilderness education, another form of experiential education and the focus of this thesis is discussed in detail in the next section, starting with an overview and moving on to rationale, duration and location, target audience, and intended outcomes.

*Wilderness Education*

This section gives an overview of wilderness education. It defines the rationale, duration and location, target audience and intended outcomes.
Wilderness education takes the learning experience out of the classroom and puts it in an outdoor setting where students are able to learn directly from the environment (Sierra Institute, 2011). Pairing studies of nature and philosophy with the environment supports the learning experience by reinforcing the connection between mind and body that is at the heart of the educational experience (Alagona & Simon, 2010). Learning directly from the environment can influence students’ experience by helping them form values and perspectives that go beyond book learning. It can give them a perspective on life that incorporates an appreciation for diversity, sustainability, culture, and personal success (Sierra Institute, 2011). Often wilderness programs are based on small-group interaction in which participants face specific challenges of both the mind and the body (Miner & Boldt, 1981). This reliance on a small community of participants to succeed in survival situations through problem solving builds relationships and promotes personal and communal growth (Sierra Institute, 2011). To understand the importance of wilderness education and the value it can add to students’ education, it is useful to understand the rationale behind these programs.

*Rationale.*

The Wilderness Act of 1964, written by Howard Zahniser of the Wilderness Society, and signed into law by President Johnson that same year, defines wilderness as: “A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and community of life are untrammeled by man, where man himself is a visitor who does not remain (The Wilderness Act, 1964).” Wilderness educators take their students into all varieties of
wilderness settings (Miles, 1990). These trips often occur in National Parks or on rural State Land Management areas (Miles, 1990). They travel to environments that immerse students in challenging but solvable problem situations, taxing environments that are risky but manageable, physically demanding but with instant gratitude for attaining results (Miles, 1990). By exposing students to rivers, swamps, mountains, caves, and weather, instructors immerse students in environments where the whole person: mind, body, and spirit, have to engage in order to excel (Miles, 1990). Instructors help students convert the visceral response of exposure into mastery through skill, hard work, and group communication (Miles, 1990). The fundamental idea behind wilderness education is to place students into an environment in which they can experience hands-on learning (Martin et al., 2006). This experience is more readily internalized when students are directly participating in activities in an immersion environment (Thayer, 1976). The setting of the wilderness environment establishes a space for reflection upon experiences that are not diluted by the distractions of urban settings such as ambient noise, artificial structures and artificial sensory overload (Gardner, 1983). When the subject matter of the wilderness education experience is environmental in nature, students can use the environment around them as a case-study for learning (Alagona & Simon, 2010). An example would be a botany class in which students can identify living flowers in their natural environment instead of looking at pictures of the same flowers in a book. Conducting learning activities in a wilderness environment void of distractions from the urban environment will instill deeper understanding of knowledge, skills and abilities in students (Gardner, 1983). Similarly, knowledge-building can be enhanced through
feedback from physical activity (Gardner, 1983). Wilderness education is a way to teach students knowledge through experience (Miner & Boldt, 1981). It is offered as an alternative to the contained classroom experience which, for hands-on learners, is an enhanced educational experience (Gardner, 1983). Solid academics are paired with quality teaching leading to personal discovery through community experience (About Sierra Institute, 2011).

*Duration & location.*

Wilderness education programs in higher education range from one week long to 9 months long (University of California at Santa Barbara, 2011; Sierra Institute, 2011; The Wilderness Institute, 2011). Most commonly, programs are a semester long and can range from 8 to 12 units (Sierra Institute, 2011). Wilderness programs set in winter conditions tend to be shorter duration due to harsher environments (The Wilderness Institute, 2011). Wilderness programs set in milder spring and summer conditions tend to be longer in duration due to gentler climates (University of California at Santa Barbara, 2011). Year-long programs tend to move with the seasons to a number of different locations (The Wilderness Institute, 2011). Periods of extended fieldwork are paired with travel by vehicle to new locations with better weather conditions (The Wilderness Institute, 2011). In locating and scheduling wilderness education programs, organizers work to find the most effective balance between wilderness exposure and educational opportunities to promote the hands-on experience of problem solving in a safe environment (NOLS, 2011).
Target audience.

Wilderness education is available to anyone who has a passion for learning and a sense of adventure. Wilderness education is specifically targeted to individuals who seek a deeper understanding of the following 6 educational components: outdoor living, leadership, environmental integration, planning and logistics, risk management, and education (Wilderness Education Association, 2012). Outdoor living involves the exploration of group dynamics in the outdoor setting. Leadership is the skill set of self-assessing, as well as recognizing relationships between individuals and implementing decisions for groups of people. Environmental integration is the concept of understanding the environment to a certain level to be able to make informed decisions about the preservation of wilderness through cooperative management and planning. Planning and logistics involve an understanding of the knowledge, skills, and abilities needed to survive and thrive in the wilderness. Risk management is the element of wilderness education that includes assessing risk factors in order to identify and minimize their impact on a wilderness experience. Finally, the element of education folds in theories and practices of teaching, processing, and transference (Wilderness Education Association, 2012). Wilderness education is available to any type of learner and attracts anyone with a passion for the outdoors. Wilderness education programs are particularly well designed to reach students who are bodily-kinesthetic learners (Gardner, 1983). Some of the other intelligences that Gardner addresses such as interpersonal and intrapersonal are also reinforced through the community aspect in the design of wilderness education programs (Kraft, 1999).
Intended outcomes.

Wilderness education programs teach individuals content pertaining to survival, orientation, and awareness of their environment (Ewery & McAvoy, 2000). In addition these programs help individuals in developing personal growth and developing group dynamics that support interpersonal skills and promote community (Ewery & McAvoy, 2000). Personal growth, such as self-esteem, self-confidence, and self-concept, has increased after completing wilderness education programs (Ewery & McAvoy, 2000). Attributes including self-esteem, self-control, decision-making, leadership, independence, and communication are reported to be positive outcomes of wilderness education programs (Hattie et.al., 1997). Similarly, group dynamics have been reported as being positively influenced by wilderness education programs (Fielding & Hogg, 1997). Specifically, dynamics such as trust, cohesion and reciprocity contribute to the community within wilderness education programs and lead to stronger bonds among participants (McKenzie, 2003).

Summary

Experiential education is a philosophy that reaches beyond the classroom and promotes learning through hands-on experience. Awakening the holistic mode of learning that includes feelings and actions takes students beyond the realm of thinking and into the realm of understanding.

Defining experiential education highlights the philosophy and methodology behind this educational approach. Focusing on the learning process and the incorporation of participants’ feelings, thoughts, and values internalizes the meaning of the educational
experience. The immersion environment of experiential education is at the center of this philosophy.

Reviewing the historical significance of experiential education provides a cultural framework for this philosophy. Pioneers in the field like John Dewey, Kurt Hahn, and Lawrence Holt, and the organizations that they helped to establish, create a foundation for experiential education and its credibility.

Experiential education theory is lacking in concrete research and needs to be developed. By examining traditional theories such as behavioral learning theory, social learning theory and cognitive learning theory, it is evident that future research is needed to develop the philosophy of experiential education.

Experiential education programs exist in a number of different formats including exchange programs, orientation programs, service learning, and wilderness education. Focusing on the wilderness education format of experiential education and exploring the rationale, duration and location, target audience and intended outcomes of wilderness education helps inform the question posed in this thesis: What are university students’ perceptions of the impact of a wilderness education program on their resilience, personal growth, and sense of community?

The next chapter introduces the methodology used in answering this question.
CHAPTER THREE
METHODOLOGY

Introduction

In my exploration for a deeper understanding of how the wilderness could be an ideal location for teaching and learning, I repeatedly came across references to the wilderness as an experiential classroom. Looking back on my childhood of growing up on a family farm in northern California, I have strong memories of the wilderness as my first classroom and teacher. As important as learning to read and write, my sense of resilience, personal growth, and community were direct results of my experiential learning in wilderness settings. As a result, I sought out coursework in my undergraduate experience at University of California, Santa Cruz (UCSC) that was similarly placed in wilderness settings. This undergraduate experience culminated with Natural History Field Quarter at UCSC. From this experience and many years of intervening life experience, I was inspired to delve more deeply into wilderness education, and in my graduate studies, I have had the opportunity to develop a survey instrument to research this topic. This chapter outlines the development of an online, mixed methods survey, inquiring about participants’ perceptions of their wilderness education experience in terms of their resilience, personal growth, and sense of community. It describes the participants in the survey and the procedure by which the survey was conducted, and it concludes with an overview of the ways in which the results were compiled to illuminate emerging themes from the data.
Development of Research Instrument

My research instrument consisted of a mixed-methods online survey that I developed and implemented through SurveyMonkey. From participation in wilderness education programs, and through a review of the literature, I identified three independent variables that I believed influence participants’ experience in wilderness education: resilience, personal growth, and sense of community.

At first I had the idea of correlating resilience, personal growth, and sense of community with learning styles. I began developing and testing a survey instrument based on these three independent variables. I tested my instrument by having a number of former wilderness education students review it and then conducting a verbal protocol analysis. I also tested my instrument by comparing it to similar instruments and found that scales of resilience exist (e.g., Bride, 1999; Connor & Davidson, 2003; Wagnild & Young, 1993) and have been used in other research. Personal growth and community scales were adapted from research based on Student Development Theory (Davis, 2012). Face validity showed me that my instrument appeared to have integrity, that is, it measured what I had intended it to measure. However, it was the stage of verbal protocols that illuminated the disconnect between my instrument and my research question.

I realized that I was really more interested in a perceptual study on participants’ experience relating to the first three variables and less interested in learning styles. I restarted my research by identifying the dependent and independent variables in my
research question. I attempted to operationalize these variables by clearly defining them in the context of wilderness education.

I identified that one way to get a sense of participants’ experience would be to create a series of statements for each variable that could be quantified by using a five-point Likert Scale (1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree). In order to validate this new instrument, I compared it to existing instruments, tested it for face validity, and conducted an analysis of verbal protocols. I concluded that I had a viable survey instrument that could be used to reject my null hypothesis. I fine-tuned the wording in my instrument to eliminate double negatives, double-blind subjective biases, and leading statements. I modified the order of my questions and moved the demographic questions to the end of my instrument to increase the likelihood that participants would complete the survey. Asking too many demographic questions at the beginning of a survey can discourage participants from completing the survey and as a result increase the cost that participants incur in attempting to complete it (Nardi, 2006).

I tested my instrument by conducting a pilot study. For my pilot study, participants included a total of 28 Recreation Administration students who were enrolled in two courses at a California university. I administered the online survey via kwiksurne.com to this group. In order to give credibility to my survey for the students, I took my survey to a faculty member in the Recreation Administration department of a small rural university. He willingly agreed to forward my email on to his students. I gave the students a 10 day window in which to respond. After five days, I sent a reminder email via the professor to any non-responders. The result was a response rate of 57%.
After conducting the pilot study, I further modified my instrument, simplifying the Likert scale questions and adding several qualitative questions. The resulting survey included the three independent variables of resilience, personal growth, and sense of community and consisted of 32 questions. I added the following definitions of each variable to the survey to help frame the variables’ meaning and make them clear to participants.

Resilience, defined as the power or ability to return to one’s original form, captures the element of survival that is prevalent in any wilderness experience. In theory, people's resilience is the measure by which they are able to cope under stressful survival situations, leading to a learned process of survival. Resilience scale questions are adapted from research conducted by Waginald and Young's psychological resilience scale developed in 1993.

Personal growth, identified as the act or process of increasing gradually through natural processes by way of original experience, is a way to identify the learning that people experience and the process by which they develop skills to navigate through future endeavors. Personal growth and community questions were adapted from research on Student Development Theory that was being conducted HSU Sociology lecturer Dan Davis.

One’s sense of community, also referred to in this study as one's wilderness group connection, captures the theory by which people identify their place in a larger whole. This is an important element to people's perception of their experience because as humans, we identify our place in society based primarily on the social group in which we
exist. This type of communal wilderness learning experience can have a profound impact on student learning outcomes. It can influence critical and creative learning skills, expand world views, support lifelong learning and pursuit of social justice, and promote environmental responsibility.

The first section of the survey contained 21 questions that were structured as statements using a five-point Likert Scale (1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree). These 21 questions covered the topics of resilience, personal growth, and sense of community, or more specifically, sense of wilderness group connection. The second section consisted of four open-ended questions focusing on the impact and level of a wilderness experience course on the topics of resilience, personal growth, and sense of community (wilderness group connection). The third section included three qualitative questions that gave participants the opportunity to add any further information not covered in the first section. These three questions were: 1) How would you define a wilderness experience? 2) Why did you choose to enroll in a wilderness education course? 3) Do you have any additional comments about your sense of resilience, personal growth, and/or sense of connection to your wilderness group? The last section contained four questions that requested demographic information (e.g., age, sex, date of initial wilderness education experience, and number of trips taken per year).

This section detailed the development of the research instrument, including the process of creating a pilot study to guide the development of the research, definitions of variables included in the instrument, and the quantitative and qualitative components of
this mixed-methods study. The next section provides an overview of the participants in
the study and the ways in which they were selected.

Participants

Participants were members of a program called Natural History Field Quarter
(NHFQ) at the University of California, Santa Cruz. This program included a list of more
than 350 participants who had been students in the Natural History Field Quarter program
over the last 40 years of the program’s existence. I chose the NHFQ because I had been
through the program, knew the program director and some of the graduates, and felt it
would be a good source of potential participants because all members had some level of
familiarity with participating in wilderness education. Participants would be able to
reflect on their perception of wilderness education as it related to my research.

I made the survey described in the previous section available through a link on the
Facebook page for the NHFQ program. The program director sent out an email to the
NHFQ listserv with the link to the survey, requesting that they complete it.

Participation in the online survey was voluntary and anonymous. Because I did
not have access to the names of any of the participants, those who decided not to
participate did not accrue penalty. Participation was anonymous, and as a result, their
completion of the survey indicated their informed consent.

The benefits to participants included the opportunity for participants to reflect on
their academic experience in wilderness education and participation in research that could
benefit future wilderness education students. Participants did not receive any course
credit, extra credit, or payment. A potential risk was that if participants had negative
experiences, it could have been emotionally uncomfortable for them to reflect on those experiences and answer the survey questions. Otherwise, no other foreseeable risks to research participants existed. All participants were advised that they could discontinue completion of the survey at any time without jeopardy, should they experience discomfort with the process.

All of the data collected for this research were anonymous in that I collected no identifying information about the participants, and their completion of the survey did not provide information that would lead to their identity. The only demographic information that was requested was participants' age, sex, and prior wilderness experience. I aggregated all responses and reported negative and positive trends. All data collected for this research were protected and kept confidential.

This section described the participants in the survey, the ways in which they were selected, and methods for protecting their identities. The next section is an overview of the procedure by which the survey was administered.

Procedure

The Program Director of the Natural History Field Quarter sent email messages to members of the Natural History Field Quarter mailing list. The emails invited members to participate in the SurveyMonkey survey. In addition, a request with a link to the survey was posted on the Facebook page UCSC Field Quarter. The survey opened on January 8, 2013. One week later, on January 15, I added a reminder to the Facebook page requesting that group members complete the survey. After two weeks, on January 23, I added a final reminder to participate, including a message that the survey would close on January 25,
2013. On January 25, 2013, the survey closed. Of the 359 members on the UCSC Field Quarter Facebook page, 32 people responded, leading to a response rate of 9%.

After closing the survey, I exported the survey results from SurveyMonkey to Excel. For each category of resilience, personal growth, and sense of community, I aggregated the data from the quantitative Likert-scale statements, converting each data set from a five-point scale to a three-point scale to simplify the analysis of trends that could be inferred from the responses. The result was that the strongly disagree and disagree response fields were combined into one category, undecided remained as a second category, and the strongly agree and agree response fields were combined into a third category. I then used descriptive statistics to find the mean, and standard deviation of these results. For the qualitative questions in my mixed-methods survey, I reviewed the responses to each question to identify themes and patterns. Depending on the responses of participants, I sorted narrative data into various themes through a process of coding. Finally, I compared the data across participants.

Summary

This chapter provided an overview of the methodology used to create the survey instrument, choose and contact potential participants, administer the survey, and extract data from the completed questionnaires. It also explained the method used to analyze the data. The next chapter details the results obtained from the completed surveys.
CHAPTER FOUR

RESULTS

Introduction

This chapter provides an overview of the demographics of participants who responded to the online survey, including age and sex. In addition, it presents response rates for all of the questions as well as both the quantitative and qualitative results of the online survey. It also describes in detail specific responses to the qualitative questions posed in the survey which exemplify the experience of participants in terms of their perceptions of the impact of wilderness education upon their resilience, personal growth, and sense of community.

Survey Results

The survey consisted of three parts: demographic questions, quantitative Likert-scale statements, and open-ended qualitative questions. Results to the demographic questions identify participants’ sex and average age. The Likert-scale statements identify perceived levels of experience regarding resilience, personal growth, and community. The open-ended qualitative questions were designed to reveal more depth of experiences and illuminate any areas that may not have been explored through quantitative analysis.

A total of 33 individuals responded to the survey. All participants were reached through the Facebook page supporting the Natural History Field Quarter (NHFQ) at University of California, Santa Cruz, or they were asked to participate in this research by the current director of the program. Members of this Facebook group date back to the
inception of the NHFQ program in 1972, while other members were actively involved in the program this year. The average age of participants was 36. Sixty percent of participants were female, and 40% were male.

Because the group of participants who were surveyed were from a program dating back forty years, it seemed important to frame participants’ levels of outdoor experience and perceptions of their first wilderness experience on their resilience, personal growth, and sense of community. Ninety three percent of participants characterized their level of outdoor experience as being intermediate to expert. Most of the participants also reported that their first wilderness experience course had a medium to high level of impact on their resilience, personal growth, and sense of community. I employed descriptive statistics to examine the responses to the quantitative section of my survey. I calculated the mean and standard deviation of each statement. I had intended to describe and display these through box-plot analysis. However, due to an extremely negatively (left) skewed distribution, in which a majority of participants agreed with all of the statements, detailed statistical analysis would not add value to my study. Therefore, it did not make sense to analyze the results in this way. I have added figures to show the percentages of participants who perceived that their experience matched the Likert-scale statements. I provide detail on these results in each of the following sections: resilience, personal growth, and community.

Resilience.

The quantitative section of the survey, designed as a series of Likert scale statements (1-Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree),
revealed consistent, constantly positive results. Overall, an average of 81% of participants perceived that their wilderness experience had a positive effect on their sense of resilience. Resilience was defined as the power or ability to return to one’s original form, in the context of wilderness experience. In other words, resilience could also be defined as the ability to cope with adversity and stress, or the ability to experience a stressful event but to return to the same psychological state as before the event occurred. I calculated the mean and standard deviation of each statement. The results are displayed in table 4.1 below:

**TABLE 4.1**

*Resilience Scale: Mean and Standard Deviation*

<table>
<thead>
<tr>
<th>Sense of Resilience</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I cope well with challenges.</td>
<td>4.24</td>
<td>0.55</td>
</tr>
<tr>
<td>I am able to multitask.</td>
<td>4.36</td>
<td>0.64</td>
</tr>
<tr>
<td>I am self-reliant.</td>
<td>4.52</td>
<td>0.55</td>
</tr>
<tr>
<td>I have a strong endurance.</td>
<td>4.36</td>
<td>0.59</td>
</tr>
<tr>
<td>I can stay focused on a goal.</td>
<td>4.48</td>
<td>0.49</td>
</tr>
<tr>
<td>I possess emotional stability.</td>
<td>3.97</td>
<td>0.57</td>
</tr>
<tr>
<td>I am quick to recover emotionally.</td>
<td>3.73</td>
<td>0.96</td>
</tr>
</tbody>
</table>

On a scale of one to five, with one being strongly disagree and five being strongly agree, the average response rate for resilience was 4.23. A large majority of respondents characterized themselves as coping well with challenges, being able to multitask, being
self-reliant, being able to stay focused on a goal, and being emotionally stable. Figure 4.1 below provides an overview of the responses.

**Figure 4.1.** Sense of resilience. This figure illustrates the respondents’ perceptions of the impact of a wilderness education program on their sense of resilience.

From the table above, it is evident that a majority of participants perceived their experience as having an overwhelmingly positive effect on their sense of resilience. The next factor that was measured was participants’ perceptions of personal growth.

**Personal growth.**

An average of 81% of participants perceived that their wilderness experience had a positive effect on their personal growth. Personal growth was defined as the act or process of increasing gradually one’s self-awareness, self-knowledge, and self-sufficiency through natural processes by way of original experience, in the context of
The results are displayed in table 4.2 below:

**TABLE 4.2**

*Personal Growth Scale: Mean and Standard Deviation*

<table>
<thead>
<tr>
<th>Personal Growth</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I trust my own knowledge.</td>
<td>4.22</td>
<td>0.59</td>
</tr>
<tr>
<td>I can rely on my own abilities.</td>
<td>4.34</td>
<td>0.59</td>
</tr>
<tr>
<td>I know my own identity.</td>
<td>4.06</td>
<td>0.89</td>
</tr>
<tr>
<td>Experiences build on my ability to be successful.</td>
<td>4.53</td>
<td>0.66</td>
</tr>
<tr>
<td>My experiences help me grow.</td>
<td>4.81</td>
<td>0.39</td>
</tr>
<tr>
<td>I aspire to change.</td>
<td>4.28</td>
<td>0.75</td>
</tr>
<tr>
<td>I value experiences that improve my social abilities.</td>
<td>4.50</td>
<td>0.66</td>
</tr>
</tbody>
</table>

On a scale of one to five, with one being strongly disagree and five being strongly agree, the average response rate for personal growth was 4.39. In the personal growth section, a large majority of respondents characterized themselves as trusting of their own knowledge, being self-reliant, being aware of their identities, being able to grow through experiences, aspiring to change, and valuing experiences that improve their social abilities. Figure 4.2 below provides an overview of the responses, including the percentages for each.
Figure 4.2. Sense of personal growth. This figure illustrates the respondents’ perceptions of the impact of a wilderness education program on their sense of personal growth.

From the table above, it is evident that a majority of participants perceived their experience as having an overwhelmingly positive effect on their personal growth. The next factor that was measured was participants’ perceptions of their community.

Community.

An average of 71% of participants perceived that their wilderness experience had a positive effect on their sense of community. Sense of community was defined as the connection to other wilderness group members in the context of group wilderness experiences. I calculated the mean and standard deviation of each statement. The results are displayed in table 4.3 below:
TABLE 4.3

*Community Scale: Mean and Standard Deviation*

<table>
<thead>
<tr>
<th>Community</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>My group members help to fulfill my needs.</td>
<td>3.97</td>
<td>0.78</td>
</tr>
<tr>
<td>My group members shape my values.</td>
<td>3.74</td>
<td>0.91</td>
</tr>
<tr>
<td>I can rely on my group members for support.</td>
<td>4.19</td>
<td>0.69</td>
</tr>
<tr>
<td>I can trust in my group members.</td>
<td>4.23</td>
<td>0.43</td>
</tr>
<tr>
<td>I have a sense of familiarity with people in my group.</td>
<td>4.45</td>
<td>0.24</td>
</tr>
<tr>
<td>My group members help to define my identity.</td>
<td>3.71</td>
<td>0.99</td>
</tr>
<tr>
<td>I feel safe among my group members.</td>
<td>4.35</td>
<td>0.64</td>
</tr>
</tbody>
</table>

On a scale of one to five, with one being strongly disagree and five being strongly agree, the average response rate for community was 4.09. In the community section, a majority of respondents characterized themselves as sharing needs and values with their group members, finding support from and trusting in their group members, feeling familiar and safe with their group members, and perceiving a sense of shared identity with their group members. Figure 4.3 below provides an overview of the responses, including the percentages for each.
Figure 4.3. Sense of community. This figure illustrates the respondents’ perceptions of the impact of a wilderness education program on their sense of community.

From the figure above, it is evident that a majority of participants perceived their experience as having a positive effect on their sense of community. Overall, the quantitative section of this survey revealed that participants perceived their wilderness education experience as being powerfully influential on their sense of resilience, personal growth and sense of community. The Likert-style section of survey revealed general trends as described above. The next section provides an overview of the results from the qualitative section of the survey which offers greater depth in participants’ responses.
Qualitative Data

Participants of the Natural History Field Quarter who responded to this survey answered a series of open-ended qualitative questions. These questions included: how do students define a wilderness experience, what factors influenced the choice to enroll in a wilderness education course, and what additional comments exist regarding participants’ perceptions of resilience, personal growth and sense of community. In this section, I will share the themes that emerged from their responses.

Themes.

Several themes emerged from the responses of the question: How would you define a wilderness experience? The first theme to emerge was the sense of wilderness as a non-human environment. One participant wrote:

Being away from the presence of large masses of people. Not seeing structures built by humans or contrails in the sky. Not hearing machine noises. Relying on my own power, my own skill to move from place to place through a natural setting. Being surrounded by ancient geological, hydrological, and biological processes.

This response defines wilderness as a place void of the influences of humans. Another participant wrote a similar response, but added a sense of self-reliance:

I would define a wilderness experience as an event that takes place in the outdoors, lacks the components of modern-day life, therefore one has to solve problems differently within one’s group, and allows one to utilize the skills and
knowledge in ecology and natural history for survival, scientific enquiry, and pure enjoyment.

A third participant referred to a sense of a place “untrammeled by man” and defined wilderness as “Wilderness as defined by the Wilderness Act.” Other participants also shared definitions of non-human settings including: “feeling the sense of the non-human world thriving around me,” and being in a place with “non-human related sensory experiences, such as wind, snow, forests, cougars, bears, insects, bird song, mountains, sand, etc... where humans do not stay, rather visit.”

A second theme to emerge in the responses to the question of defining a wilderness experience was “an experience in isolation from technology.” One participant responded with the statement: “[A wilderness experience is] an experience between myself and the natural world with minimal modern technological interferences.” Another participant responded with: “An experience that happens outdoors away from modern man-made conveniences can be said to be a wilderness experience.” A third participant wrote about spending time outdoors “without the distractions of modern life and with relatively no plug-in technology.”

The next open-ended question posed in the survey was: Why did you choose to enroll in a wilderness education course? Three themes emerged from the responses to this question. The first theme was in regards to wilderness education being an opportunity to learn through a different educational experience than the standard classroom model. As one respondent wrote: “I wanted to have a different educational experience from my
standard classroom and campus college experience.” Another responded with a similar theme but in the context of feeling disconnected from the environment:

I chose to enroll in a wilderness education course because I felt a gap between myself and the local environment in which I lived in and I wanted to fill in that gap with knowledge and awareness. I also craved to learn in an outdoor setting.

A third respondent was quite blunt and stated: “I chose to apply for NHFQ because I hate sitting and ‘learning’ in a classroom! Travelling around and learning about natural history sounded like the perfect way to learn for me.” A fifth respondent was quite reflective and added, “I did not realize how intimate my education would be and how environmental immersion could change my perspective of nature’s rhythms.”

The second theme to emerge from the question of: “Why did you choose to enroll in a wilderness education course?” included a desire to interact with like-minded people. A respondent offered: “I wanted to have an intense outdoor adventure with a group of strangers who shared the desire to do this course.” Another response included the “desire to meet people who had similar interests,” and yet another said “I loved the idea of experiential learning and travelling with a hand-picked group of students and professors.”

The third theme revolved around gaining a stronger sense of being comfortable living in a wilderness setting. The simplest response related to this theme was: “Learning how to be comfortable in the wild was important to my personal growth.” Others voiced it as “becoming more comfortable in a wilderness setting,” and “gaining experience in the field.” A participant also related this theme of being comfortable in the wild to “wanting
to acquaint myself with the unfamiliar and experience a different way of living from what I was used to.”

The final open-ended question in the survey was: Do you have any additional comments about your sense of resilience, personal growth, and/or sense of connection to your wilderness group? The themes to emerge from this question included resilience, personal growth, and sense of community. As with the quantitative section of the survey, a majority of respondents wrote in support of their wilderness experience as having a positive effect on their sense of resilience. Statements such as: “the challenges definitely contributed to my sense of resilience,” and, “NHFQ was a huge addition to my sense of resilience.”

The theme of personal growth was also strongly supported. For one participant, this wilderness experience “definitely resulted in personal growth.” For another participant, the affect was also profound: “My wilderness course/group changed my entire college experience and the path that I took in my life.” Other powerful responses stood out such as: “I feel like my experience put everything I do in life in a new perspective.” Specific to NHFQ, one respondent wrote: “The experience of participating in NHFQ is a major milestone in my life. The time I spent outdoors across California gave me tons of time to connect with nature.”

The final theme to emerge from the additional comments was participants’ sense of community. A majority of the comments were in support of strong bonds forming between participants. In some cases, these were bonds of friendship, and in other cases,
these were bonds of mere tolerance but with an element of reliance tied in as well. For example, one respondent wrote:

A group that started as strangers became very familiar with each other over the course of the 3 months. There were good friendships that developed, and also there was the full range of relationships including some less than compatible ones. But overall it did come to resemble a family type dynamic, with a lot of inter-reliance and learning from one another.

Many commented that deep close friendships came out of the group and that lasting relationships were formed. There were also a number of comments that participants still feel a sense of connection with their group years later. One participant stated: “I definitely feel a bond has been formed with everyone I shared the experience with that will not and cannot ever be broken.” Another participant added: “Living in the wilderness with a group creates an unmatched sense of closeness between members.” One respondent wrote about how their experience changed their social interactions in the future:

The group of people I did NHFQ with are a tribe of like-minded people who share their passions of nature and kindness with one another. Whenever I run into a fellow NHFQ member we embrace in a hug, and I am not a hugging type of person.

A few participants also wrote about how the community promoted learning because participants could share the collective energy of what had been experienced,
smelled, heard, and felt, on a given day. One commented that it “brought me back to that communal sense of learning.”

**Summary**

The survey I administered to participants of the Natural History Field Quarter provided information about participants’ perceptions of a wilderness education program in terms of their sense of resilience, personal growth, and sense of community. A majority of participants agreed that their wilderness experience had a positive effect on all three factors. Through qualitative questioning, more details emerged identifying specific ways in which the participants defined wilderness; their choices in prescribing to wilderness education; and the ways in which they perceived this experience to have affected their resilience, personal growth and sense of community. Participants believed that a wilderness experience needed to be a non-human experience, away from technology, and as the Wilderness Act claims “recognized as an area where the earth and community of life are untrammeled by man (The Wilderness Act, 1964).” In regard to participants’ choices to participate in wilderness education, the overarching themes included a different type of educational experience with a group of like-minded people who are comfortable in the wild. Participants perceived that the wilderness experience brings people together into community, regardless of differences and diversity, that each participant felt a strong sense of personal growth, and that, for the most part, participants were left feeling more resilient than when they started.

The next chapter will provide an analysis of the survey results.
Introduction

The question that prompted this study was: What are university students’ perceptions of the impact of a wilderness education program on their resilience, personal growth, and sense of community? This section will provide an analysis of the data collected by survey specific to resilience, personal growth, and sense of community. It will also delve into themes that arose from the series of qualitative questions that were included.

Resilience

The quantitative section of this survey dedicated to resilience revealed that a majority of participants perceived their wilderness experience as having a profoundly positive effect on their sense of resilience. Participants were more oriented toward strong coping, multi-tasking, self-reliance, and focus than with emotional stability and emotional recovery. This indicates that participants perceive their wilderness education programs to be able to provide them with the skillset and knowledge to become more resilient, but the emotional stability and recovery that goes along with these experiences can still be challenging to develop. The results from this survey support the idea that these wilderness education experiences can have lasting effects on the perceptions of students. This is an important indication of how wilderness education programs can have positive effects on students in terms of coping with stress and building self-awareness in
order to persevere through difficult experiences in the future. The qualitative section of this survey offers greater depth in participants’ responses related to resilience.

The question asking participants to share any additional comments about their sense of resilience prompted several striking responses. Participants consistently noted that resilience was indeed a strong theme that they encountered in their wilderness experience. The phrase “strong contribution” was used in relations to participants’ sense of resilience, as well as the phrase “huge addition.” These phrases indicate strong development in participants’ perceptions of their own resilience as a direct result of their involvement in wilderness education. This is meaningful because if resilience can be developed during an educational experience and carried with participants to future endeavors, then it is possible that participants will be more likely to succeed in their lives, educational experiences, and careers. When faced with adversity, they could be inspired to have more resilience to face challenges in their lives and to better understand how they would react to a given challenge. Viewed through the lens of behavioral learning theory, I propose that participants build a heightened sense of resilience as an immediate response to their interaction with the wilderness environment. It seems to be a trend that repetition of immediacy may lead to an increase in resilience.

It is possible that the experiences gained through wilderness education can have a powerful and lasting impact on participants’ sense of resilience and their ability to carry this confidence forward with them into future endeavors in life. Specifically, the knowledge, skills, and abilities that are presented, tested, and reviewed over and over again in wilderness settings can develop patterns for participants that are easily recalled
in both familiar and new situations. Having the skills to be prepared to face any challenge that may arise can awaken strength of character in participants that may not have existed before. This development of a strong sense of resilience can build upon itself leading to a heightened sense of personal growth. The next section offers interpretations of the survey results pertaining to participants’ perceptions of personal growth.

**Personal Growth**

The quantitative section of this survey exploring participants’ perceptions of personal growth revealed that a majority of participants strongly agreed with the statements related to personal growth. Personal growth can lead to better outcomes in new challenges through a richer understanding of mechanisms for problem solving. Exploring these outcomes in the context of wilderness education can be an environment which challenges participants to explore their own self-awareness, self-knowledge, and self-sufficiency, and instills new experiences and skills upon which they can draw. The qualitative section of this survey offers greater depth in participants’ responses related to personal growth.

The notion that an educational experience such as NHFQ can create perceptions of personal growth that lead to life-long change and perceptual changes to participants’ identities implies that wilderness education can be an important tool for preparing students to meet the demands of future educational and life challenges. I posit that through their participation, students made a connection with the wilderness education experience that inspired them to seek further exposure to these environments to promote expanding opportunities for personal growth, self-awareness, self-knowledge and self-
sufficiency. It may be that the empowering nature of developing knowledge, skills, and abilities in wilderness settings leads directly to personal growth in such a way that participants in these program seek out further experiences with similar themes to expand their personal development. This could be caused by the process of participating in a particular challenge that seems overwhelming and ultimately finding success through the challenge while learning new ways in which to operate. Building upon these new skills and taking on bigger challenges may then lead to growth both mentally and physically. Having other like-minded individuals involved in these experiences may also help participants recognize their personal growth in relation to others. This type of learning through imitation and modeling of others affirms that wilderness education is rooted in social learning theory. The next section offers interpretations of the survey results pertaining to participants’ sense of community.

Sense of Community

The quantitative responses clearly indicated that a majority of participants had felt a sense of community with other participants in their wilderness experience. While all respondents reported that they had a sense of familiarity with their group members, and a majority shared the perceptions that they could rely on their group members for support and that they felt safe in their group, the responses were more diverse regarding a reliance on the group to define participants’ individual identities and to shape individual participants’ values. It is possible that although participants felt connected to their community, they were more aware of their own personal growth and development of resilience than they were aware of the cohesion of their community. It is likely that this
awareness of the experience of others is reliant on whether the program instructor offered opportunities for group processing and whether the instructor had skills to facilitate such processing. If participants were not given the opportunity to hear about their colleagues’ experiences and compare them to their own, they cannot be faulted for lacking that awareness. In the absence of community building activities, I posit that individuals are more likely to take credit for knowing their identities and shaping their values than acknowledging that their communities were responsible for shaping these attributes.

Referring back to cognitive learning theory, I believe that these meaningful experiences lead to long-term memory retention. Through this process, the use of all senses creates a matrix for retaining experiential knowledge, leading to heightened senses of resilience, personal growth and community.

The qualitative responses to the question of community revealed one overarching theme. This theme was the idea that community developed rapidly and deeply, and it lasted throughout the experience and beyond. It seems that the type of individuals who would choose to participate in wilderness education courses may be more similar in nature to begin with than people who would choose other forms of education. This possibility was illuminated by the following themes that arose.

Several themes arose in response to the question “Why did you choose to enroll in a wilderness education course?” These themes were: seeking a different educational experience, seeking experiences with like-minded people, and learning to be comfortable in the wild. These themes seem to support the implication that the type of people who would seek out wilderness education may be a self-selecting population in that they all
share similar interests in alternative education conducted in non-traditional classroom environments. Because of this, it is likely that there is a predetermined cohesiveness among participants due to similar interests which may cause a stronger willingness for participants to work together, assist each other in becoming more resilient, and support each other to grow in new and different ways both personally and communally. This may have led directly to an immediate and strong sense of community.

The next themes to arise were aligned with the ways in which participants define wilderness experiences. The themes to arise from the question “How would you define a wilderness experience?” were non-human related experiences and experiences away from people and technology. In analyzing these themes in relation to the previous themes that revealed cohesiveness among participants, another theory arises. If participants are seeking non-human experiences away from people and technology, even if they are of like-mind, they may be a more introspective group than those who do not seek out these experiences, and therefore, may be less likely to acknowledge that their wilderness community influences their identities and value systems.

The next chapter will present the limitations of this study, share conclusions, and propose directions for future research.
CHAPTER SIX

CONCLUSION

Wilderness education can have profound and lasting effects on participants in terms of their resilience, personal growth, and sense of community. Individuals who experience this type of educational environment tend to feel that they have an increased sense of resiliency, have a heightened sense of personal growth, and have a stronger sense of community, as reported in this study. The literature documents a long history of wilderness education and its relationship to these outcomes as perceived by participants. Prior studies have shown that this relationship exists, but a gap still exists between the activities involved in wilderness education and the exact causes for these outcomes.

Wilderness education is an immersion environment and provides participants with opportunities to develop experiences beyond the typical classroom educational experience. This research was designed to reveal trends in how participants perceived their experiences such as their sense of resilience, personal growth, and sense of community while in a wilderness education experience. The participants in this study represent a population of students who were all members of Natural History Field Quarter at some point in their educational careers. The resulting data revealed trends in the similarity of positive and lasting effects that participants recalled from their experiences in relation to resilience, personal growth, and community. Links were made between the results of this research and behavioral learning theory, social learning theory, and cognitive learning theory. Participants perceived themselves to have a heightened
sense of resiliency, to have developed personally through this experience, and to have
developed stronger senses of community. While resilience, personal growth, and
community are not necessarily outcomes central to the teachings of wilderness education,
they are outcomes that have been shown to be deeply interconnected with this experience.

Themes arose that included a desire by participants for different educational
experiences with groups of like-minded people that were comfortable in the wild. Other
themes that arose were a desire by participants to seek out non-human environments that
were away from the influences of society and technology. All of the themes revealed in
this study support the philosophy of wilderness education that learning occurs between
teacher and student with content that is embedded directly in the environment.

Limitations of the Research

This research had several specific limitations. The structure of the survey was a
single post-test based on the perceptions of participants. More specific results may have
resulted from a combination of a pre-test and post-test or a longitudinal study.
Participants ranged from students who enrolled in Natural History Field Quarter within
the last year, to participants who may have enrolled in the program as distant as 40 years
ago. This potential time-gap in program participation by students may have affected the
resulting data, but the perceptions of participants remain consistent in that a majority of
participants reported similar positive experiences.

The response rate out of the entire population was 9%. A different method of
delivery may have resulted in a larger response rate which could have revealed more
specific results. Eight months prior to the dissemination of this survey to participants, the
Natural History Field Quarter hosted a 40 year reunion. If the survey had been available at that event, there may have been a higher investment in participation from members of the NHFQ community.

The quantitative section of the survey was lacking a significant spread of responses to justify any significant statistical analysis. There could be better development of quantitative scales of measurement to reveal larger diversity in the data. Some of the participants in the survey were recent program completers while others were veteran alumni of NHFQ. The qualitative section of the survey could have included a means for differentiating between recent program completers and former program completers with a way to analyze if any differences in perceptions existed.

Implications for Future Research

In the future, this research would further serve the wilderness education community if it were expanded to include relationships to Gardner’s learning theory. This could be achieved by expanding the research to include the identification of the learning style of participants which could then be juxtaposed against the experience of participants in order to analyze their specific perceptions. By relating it back to their self-identified learning style, researchers could identify whether wilderness education attracts particular types of thinkers and whether this type of educational experience is more beneficial to particular types of thinkers. This extended research may lead to a better understanding of how wilderness education reaches the minds of participants and for whom it is most effective.
It would also be useful to redo this research with a larger population of individuals involved in wilderness education so as to obtain a better response rate. It could prove profitable to do a pre-test and post-test with multiple groups of students involved in a wilderness education experience for the first time to get a window into its direct and immediate impact. Conducting interviews with people who have been in this experience earlier in their lives might net information on how they perceive the experience impacted them long-term.
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doi:10.1080/00958961003796849


