Outdoor Schools:
Learning Impacts of Residential Environmental Education Programs as Seen by People Who Run and Work at Such Sites

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Executive Summary

Outdoor schools are located all over the nation. Many students attend these programs to gain science knowledge and experience nature first hand. Outdoor schools are residential programs for students in upper elementary and middle school. Many of the messages are environmental in nature and promote stewardship. The purpose of this study was to look at the impacts of attending an outdoor school on students as seen by the people who run and work at such sites.

Research Question
The specific research question addressed in this study is as follows:

- What are the impacts and outcomes of outdoor school on students, teachers, and the community as seen by the people who operate and work at these institutions?

Methodology
Participants. Individuals, who run, operate, direct or work at outdoor schools along the west coast, including Idaho. They have 5-33 years of experience working in the environmental education field.

Data collection. There were two phases of data collection. Phase one included the use of an online survey during the spring of 2010. The participant’s consent was implied when they filled out the survey voluntarily. Phase two included follow-up phone interviews about a month after the online surveys were completed.

Surveys. The online survey included nine open ended questions all pertaining to outdoor schools, their effectiveness, where they see programs lacking and where the participants saw the residential environmental education field headed in the future. The tenth question asked participants if they would be willing to take part in a follow-up phone interview, if willing they supplied their contact information.

Phone Interviews. The phone interview questions consisted of open ended questions to further understand the answers the participants had given in their online survey. The final
question asked the participants if they had any final thoughts or comments they would
like to add.

Data Analysis

**Qualitative analysis.** The qualitative data collected through the online surveys and phone
interviews were reviewed and common themes were identified across respondents.

Claims

Eight claims emerged from the data:

1. Participants believe outdoor schools provide a place for hands-on learning, inquiry
   lessons and natural discovery that is not always present in the traditional classroom.
2. Participants believe that students who attend outdoor school increase their science
   knowledge as well as their environmental awareness.
3. Participants believe students who attend outdoor school have the opportunity to socialize
   in a new environment and from that gain new and important social skills and grow as an
   individual.
4. Participants believe that teachers who attend outdoor school gain teaching and leadership
   skills to aid them in teaching when they return to the traditional classroom.
5. Participants believe that outdoor school experiences need to be incorporated into the
   student’s classroom experiences and not be isolated for students to benefit even more
   from them.
6. Participants believe that attending outdoor school is a transformative experience for both
   students and teachers.
7. Participants believe that there are barriers and limitations for students to participate in an
   outdoor school program that need to be addressed because the future of outdoor schools
   depends on it.
8. There is a lack of evaluation being done by the people who operate and run outdoor
   schools on their impacts on students, and evaluation that is being done is not being
   published or distributed widely.

Conclusions
This study is about understanding the impacts and outcomes of outdoor schools on students, teachers, and the community from the perspective of people who work at these sites. The first seven claims emerged from the participants’ answers from the online surveys and phone interviews. The final claim became apparent to the researcher throughout the study and during the investigation into current research on outdoor schools. The information gathered in this study can help guide future research.

It is important to note that while the study included participants who work at or run outdoor schools from all the west coast states, as well as Idaho; it would not be safe to generalize findings for all outdoor schools, students and teachers nationwide. This could be seen as a limitation for the study’s findings; however these findings are also more in-depth about these particular outdoor schools.
**Introduction**

Outdoor schools are located in almost every state, if not in all of them (Allison, 2005) and many schools attend them every year. Over 38 million students, grade K-8 attended public or private schools in the 2007-2008 school year (Snyder & Dillow, 2009). Many of these students were able to attend environmental education programs. Now the exact number of students who participated may not be known to researchers, but if only 1% of those 38 million attended a residential program than over 380,000 students nationwide would have experienced this type of environmental education program in the 2007-2008 school year. For many of these youth, these experiences may be their most powerful and only in-depth environmental education experience. It is, therefore, crucial to understand what types of impacts these experiences are having on today’s students.

With very few researchers looking at the impacts of outdoor schools and other residential environmental education programs, it is the focus of this research to begin to collect what information is out there already as well as to gather information on the perceived impacts and outcomes of outdoor school on students, teachers, and the community as seen by the people who operate and work at these institutions. This study includes data from online surveys and phone interviews with current and former staff members from various outdoor schools. What follows are definitions of the main terms used in the research as well as the importance of this study.

**What is Environmental Education?**

Over the years many groups and agencies have defined what they feel is environmental education, the larger field within which outdoor schools reside, but there is no single definition that all agree on.

One of the most often cited definitions came out of an international conference on environmental education held in 1977:

Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments and skills to work individually and collectively toward solutions of current problems and the prevention of new ones. (UNESCO, 1978)

Environmental education as defined by the US Environmental Protection Agency (EPA) is
a learning process that increases knowledge and awareness about the environment and develops skills that enable responsible decisions and actions that impact the environment. Environmental education encourages inquiry and investigation and enables the learner to develop critical-thinking, problem-solving, and effective decision-making skills. Environmental education enables individuals to weigh various sides of an environmental issue. It does not advocate a particular viewpoint or course of action. (US EPA, 1998)

There are many different aspects of environmental education, and it can take on various shapes and forms. Environmental education can take place in various settings as well; in-class, outdoors on school grounds, day field trips to nature centers or other natural areas, and residential programs (Dettmann-Easler & Pease, 1999). Outdoor schools are considered one of the various forms of environmental education.

History of Environmental Education

It is hard to pin point exactly when environmental education began. The environmental movement in the 1960’s and 70’s was a large turning point for environmental education, but it can hardly be called the beginning. At the start of the twentieth century there were the first phases of environmental awareness with the development of ecology as a field of study in the 1920’s. The first resident outdoor environmental education center also opened in the late 1920’s in Dowling, MI (Perry, 1998). With the onset of the “Dust Bowl” of the 30’s Americans started looking towards conservation education (McCrea, 2006). During that time there was also a progressive education movement led by John Dewey to promote a more student-centered and holistic approach to education (Smith, 2001). In the 1950’s associations started forming that contributed to the environmental, conservation and education movement, such as the National Association of Interpretation and the Conservation Education Association. The 60’s and 70’s brought a large environmental movement to the forefront with various environmental and health acts being passed, the creation of the Environmental Protection Agency (EPA) as well as powerful literature being published such as Rachael Carson’s *Silent Spring*, Project Learning Tree, and the beginning of the *Journal of Environmental Education* which published some of the first research on the subject. On April 22, 1970, Americans celebrated the first Earth Day, and in 1971 the National Association of Environmental Education, now called the North American Association of Environmental Education was founded. In 1972 the United Nations Conference
on the Human Environment was held in Stockholm, Sweden, which called for the “provision of environmental education as a means to address environmental issues worldwide” (McCrea, 2006). In 1974 the National Outdoor Leadership School was created. In 1977 in Tbilisi, Republic of Georgia, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) along with the United Nations Environment Program held the Intergovernmental Conference on Environmental Education which created goals, objectives and guiding principles of environmental education that people still use today (McCrea, 2006). Since the 1970’s the environmental education movement has continued to grow. In 1990 congress passed the National Environmental Education Act, which requires the EPA to provide national leadership to increase environmental literacy. In 2005 the National Environmental Education Foundation held the first annual National Environmental Education Week. In 2009 the No Oregon Child Left Inside (NOCLI) Bill was passed by the Oregon State legislature. The NOCLI established a task force to develop an environmental literacy plan for grade K-12 students in the state of Oregon.

What is Outdoor School?

Outdoor schools, sometimes referred to as residential environmental education programs, are usually a two to five day trip where students of all ages, but mainly 4th-8th grade, spend their time studying and experiencing all things science and/or nature related in the field in lieu of traditional classroom time. Programs’ goals are often focused on increasing environmental literacy and knowledge, promoting conservation, enhancing environmental attitudes, encouraging stewardship, social and personal growth and sometimes even teaching survival skills. Outdoor school usually happens in either the fall or the spring months. Group sizes can range anywhere from a single class of 20 or 30 students to multiple classes from various schools, upwards of 300 students.

Not all outdoor schools are identical; many have their own unique goals, schedules, lessons and even funding sources. They can be created, organized, and presented by the classroom teacher, the school district, an independent group or a site director. In smaller school districts or schools, when only one or two classes attend an outdoor school program the classroom teacher is the one who organizes everything. Much of the experience is centered on that specific class and/or those specific students. The site is rented for the time needed and parents and other community members are asked to volunteer their time to help either present
lessons or be chaperones on site and in the cabins. When a group is in charge of creating the outdoor school program they work closely with the schools who will attend, planning lessons, setting up transportation, renting the site, creating menus, etc. The programs can sometimes be altered to fit the needs of each class and teachers may lead lessons of their own. When several school districts are in need of an outdoor school program a site director may create and lead a program to accommodate students and classes from various locations. In this case the lessons and program are well developed and few if any modifications are made. The classroom teacher is usually not an active presenter of the lessons on site, but is sometimes given lessons or topics to cover before and/or after their visit. In this situation several classes may even attend the site at the same time, giving the students the opportunity to work with other students from other schools or even other districts. Each program has their own way of funding the outdoor school. Some examples of funding sources include; grants (governmental or non-profits), donations, fund raising activities (car wash, bake sale, etc.), funding from school districts, and/or fees directly from the students.

Importance of Outdoor School in Science Learning

Falk and Dierking (2002) state that “learning is something that happens not just during the school day, or even just at work, but throughout the day and across our life span” (p.4-5). They go on to say that “learning is a uniquely personal, contextual experience, constructed from both internal (head and body) and external (physical world and sociocultural contacts) experience. It is rarely linear and is almost always highly idiosyncratic” (Falk & Dierking, 2002, p.36). Students learn throughout their day not just during the scheduled class periods, and, because of this, outdoor schools can provide more opportunities for learning about science and the natural world and they can provide a more appropriate setting to do so.

The setting in which learning takes place is as important as the topic and can enhance the learning experience (Falk & Dierking, 2002). While this has been the focus of a great deal of research and evaluation over the last 30 years, only recently the National Research Council (NRC) has focused its efforts into looking at science learning that takes place in informal environments. From this perspective, environmental education in general and outdoor schools in particular, are often types of informal science education. As such, they recognize and leverage the power of social and cultural contexts for learning. The NRC argues that part of what makes
informal science learning opportunities unique is their emphasis on the social and cultural nature of learning. Phipps (2008) found that sociocultural approaches to understanding learning were the largest area of research and theory making in informal science research over the last decade. The NRC also recognizes that sociocultural approaches to learning are a primary feature of research on learning in an informal setting. “Sociocultural perspectives argue that the physical features, the available materials, and the typical activities associated with specific places centrally influence learning processes and outcomes” (National Research Council, 2009, p. 36-37). In other words, it is not just what is being presented that matters, but also the environment as well as the resources being used to teach and learn. In this sense, outdoor schools are unique and interesting learning settings because they deal with the natural environment, as a context for learning in ways that formal education often does not. As the NRC (2009) notes:

[T]he natural environment itself becomes an infrastructure and focus for learning (e.g., as groups immerse themselves in ecosystems). Science is learned in relation to these broader physical contexts (e.g., the interdependencies of natural systems, the influence of human society on the environment). The material world, with its rich place-specific features and processes, becomes the focus of inquiry and learning. (p. 38)

The place itself has an effect on how and what people learn. Outdoor school programs are great places for students to be exposed to the natural environment and learn about science.

The National Science Education Standards (1996) developed eight categories for content standards for students in grades K-12. They are: 1) Unifying concepts and processes in science. 2) Science as inquiry. 3) Physical science. 4) Life science. 5) Earth and space science. 6) Science and technology. 7) Science in personal and social perspectives. 8) History and nature of science. These standards do not all have to be achieved in the traditional classroom setting; in fact, many of these are ideal to learn in the natural setting such as outdoor school. Outdoor school is also a place where students can increase their environmental literacy. The Environmental literacy Council (2010) notes:

Environmental literacy requires a fundamental understanding of the systems of the natural world, the relationships and interactions between the living and the non-living environment, and the ability to deal sensibly with problems that involve scientific evidence, uncertainty, and economic, aesthetic, and ethical considerations.
By being immersed in the natural environment during outdoor school students can have the opportunity to see the natural systems first hand and understand the connections between humans and the environment. McBeth and Volk (2010), in a study of middle school aged students across the United States, found that “as a group, they are moderate to high in their ecological understandings. Their attitudes also appear to be moderately positive, especially in terms of positive feelings towards the environment and willingness to take positive actions towards the environment” (McBeth & Volk, 2010, p. 63). Their study gives a good baseline where other future studies can compare environmental literacy among middle school aged students.

Stern, Powell and Ardoin (2008) describe outdoor school as providing students with the chance to discover the natural world for themselves. “Residential environmental education (EE) programs offer opportunities for students to explore the environment firsthand, experience adventure-based challenges, and develop stewardship skills in active outdoor settings” (Stern, Powell, & Ardoin, 2008, p. 31). These types of programs give students a context for learning about the natural environment, while also gaining skills in other areas related to the outdoors. Dettmann-Easler and Pease (1999) claim that outdoor schools offer more benefits for students than other environmental education programs. “Compared with other forms of EE, residential programs offer numerous benefits to students. They allow more time for students to be “in” nature, longer education programs with more instruction time available (evenings in addition to days), and greater flexibility in the types of programs offered” (p.34). By having the environmental education program residential in nature students can potentially have more opportunities for learning and growth during their time in the program.
Literature Review

Literature pertaining specifically to outdoor school is limited. Most is published in the *Journal of Environmental Education* or *Environmental Education Research*. There is other research out there focusing on environmental education in the natural setting, but not on residential programs, as well as research on learning about the environment in the school setting, or other non-natural environments.

Research studies and other reference information for this literature review were gathered using the EBSCO host research data base, the Education Resources Information Center (ERIC), as well as other online search engines (i.e. Google scholar). Key terms were used when searching for relevant studies such as “residential environmental education”, “outdoor school”, “residential outdoor education”, “outdoor science education” and “residential science education”. If the research included some form of residential aspect of learning and an environmental education or a science component, it was included. Some research containing only environmental education or science education findings were included as well if they were specifically focused on how students learned about science in the natural environment. Research was not included when it focused on science or environmental education taking place only in the classroom, or only focused on students experiences learning away from school, but in a non-natural setting (i.e. field-trips to zoos, science centers etc.).

Academic Impacts

Learning impacts from an outdoor school experience can be short-term as well as long-term. One study done at Great Smoky Mountains National Park (GSMNP) found that the short-term impacts of the students’ experience were all successful with the measured outcomes of the program, including an increase in students’ commitment to environmental stewardship, their knowledge of GSMNP and of biological diversity. (Stern, Powell, & Ardion, 2008). However, when focusing on the long-term impacts not everything was equal; while some measured outcomes were still the same after three months, such as commitment to environmental awareness and knowledge of the park’s biological diversity, the “students’ interest in learning and discovery and their connection with nature faded over time” (Stern et al., 2008, p. 40).

However in other studies learning impacts on students have been shown to be long lasting. One study found that a year after their outdoor school experience, when asked, students
were able to recall information directly related to the actual content that was presented during the week-long program (Knapp & Benton, 2006). From their findings the researchers claimed that “experiences associated with the program can create vivid episodic memories that potentially aid in the development of semantic memories and hence direct knowledge” (Knapp & Benton, 2006, p. 175). In other words, the activities the students were doing and the lesson within those activities were directly contributing to the students’ knowledge.

Athman and Monroe (2004) found in their study of high school students participating in environmental education programs in Florida that programs had a positive effect on students’ achievement motivation once they returned to the classroom. Zoldosova and Prokop (2006) found similar results in their study of students’ five-day trip to a scientific field laboratory. After the completion of the trip they noted a positive effect on students’ motivation to learn science and natural phenomena.

Science test scores have also been directly affected by outdoor schools. An evaluation focused on at-risk sixth grade students in California schools who attended outdoor schools found that attending these programs raised the students’ science scores by 3 points or 27 percent, as measured by a pre- and post-survey taken immediately upon the students’ return to their school. They also found that this increase in science literacy was maintained six to ten weeks following their participation in the outdoor school program (American Institutes for Research, 2005).

**Experiential Learning/Place-Based Learning Impacts**

The place in which a student learns about the environment is just as influential as the lessons and programs they attend while there. Heimlich and Falk (2009) describe how learning in the environment and learning about the environment can be seen as the same thing to the learner.

For environmental learning *in the environment*, the setting and the message are necessarily intertwined, and—certainly for the learner—are inseparable. The visit itself and the outcomes from the visit are often seen as the same by the visitor, even if the site has its own defined outcomes. (p. 12)

It is not always easy for the learner to distinguish between where the learning took place and what the messages were.
White (2000) suggests that one of the defining characteristics of environmental education, project-based learning, is what generates interest for learning, which does not always occur when education is limited to the textbook (Cited in Athman & Monroe, 2004). Being immersed in a place and using all of one’s senses are also a large part of environmental education. James & Bixler (2008) found that “sensory-rich perceptual experiences were meaningful experiences” (p. 52). They noted that it was the senses of sight and hearing that helped create those meaningful experiences. Auer (2008) also found that the use of senses in education, specifically outdoor environmental education, helps students understand their connectedness with the natural world. He noted, in his study how learning in the natural environment can help those students who learn by doing rather than by conceptualizing or memorizing (Auer, 2008).

In 2004 a meta-analysis of 150 research studies done on outdoor education programs between 1993 and 2003 found there was considerable evidence showing that outdoor education programs have positive effects on students (Rickinson, Dillon, Teamey, Morris, Choi, Sanders, & Benefield, 2004). The analysis also found five areas that strengthened positive outcomes from such programs; 1) Longer, more sustained outdoor experience programs, 2) Well designed preparatory and follow-up work, 3) Use of a wide range of carefully-structured learning activities and assessments linked to the school, 4) Recognize and emphasize the role of facilitation in the learning process, and 5) Develop close links between program’s aims and program practices (Rickinson et al., 2004). The findings from the analysis show that outdoor education programs are affecting students in a positive way.

Research also shows that experiential learning can be a positive resource and opportunity for students who do not have the opportunity to interact with nature early on in life. In their study of environmental leaders and what impacted and influenced them the most, Arnold, Cohen and Warner (2009) noted:

All of the participants had important experiences in nature, but they were not always through unstructured play as a young child. In some instances, participation in structured outdoor camps or trip experiences in later childhood were seen as most important. This suggests that experiential programming may be an important vehicle when nature play has not been available early on. (p. 34)
Outdoor experiences were a big portion of those influences, but not all of it was unstructured play that might take place during childhood. Environmental education programs can help introduce students to the natural world who might otherwise not experience it fully.

**Overnight vs. Day Field Trips Impacts**

Stern et al. (2008) found in their study of the outdoor school at Tremont that the longer the stay, three day versus five day trips, the “greater the influences on desired outcomes, especially with regard to short-term changes” (p. 41). The longer the students were at the outdoor school the longer they were able to retain the information. In a similar study done in Belize the researcher concluded that the length of time that female students spent at the site decreased or altered the students’ negative perceptions of the environment, including addressing prior fears, such as fear of being outside at night (Emmons, 1997).

Outdoor schools also offer a chance for students to learn in a different environment than their school or home. Researchers looking at an outdoor school program in a coastal area found that the new environment “not only encouraged students’ learning about ocean environments but also allowed them to exercise choice and independence” (James & Bixler, 2008, p. 55). Students at the outdoor school were able to exercise their choice about how to learn and who to learn with based on the set up of the program. The “free time” incorporated into the residential program allowed for students to have some control over their learning and they reported that as a positive aspect of their program (James & Bixler, 2008).

**Social and Personal Impacts**

Learning about the natural environment and different science disciplines are not the only benefits of attending an outdoor school. Pace and Tesi (2004) found in their study on the impacts of field trips, three quarters of their study participants “noted social benefits of field trip experiences. Many of the social benefits discussed by these participants derived from overnight trips” (p. 37). The overnight section of the experience is what gave participants the opportunity to socialize in a new setting. Socialization was another strong area of importance for the outdoor school program at the New Jersey school of Conservation. Smith-Sebasto and Obenchain (2009), in their study on students’ perceptions of their outdoor school experience, noted:
[t]he emphasis on teamwork, communication, self-confidence, self-esteem, and other group management skills is one of the goals of the program at the NJSOC. It is also consistent with the social nature of sixth-grader students to want to fit in with their peers; it helps them to find themselves through self-actualization. (p. 56)

Having the socialization component included in the program adds to the experience for the students and utilizes what students at that age are already trying to work out for themselves. Hammerman et al. (2001) noted:

The children live and work together in a miniature community, concerned with whatever duties and responsibilities are part of their daily lives. In a setting such as this, it is possible for individuals to develop deeper insights into the reasons for accepting and sharing responsibility, for getting along with others, and for group living and planning. (p. 146)

This sense of responsibility is sometimes new for children who are on their own, away from home for the first time. The outdoor school experience gives them a safe place to try out new roles in a community.

The American Institutes for Research (2005) found that students gained social as well as personal skills as a result of attending environmental education programs. These skills included such things as self-esteem, cooperation, leadership, conflict resolution and the student’s relationship with each other and their teacher. From their research the Institute found there was a positive self-reporting effect from the student’s experience. The teachers confirmed this self-reporting with their own observations of the students (American Institutes for Research, 2005).

Child to child interactions were found to be dominate in outdoor school programs, having a great influence on the social atmosphere of the experience (James & Bixler, 2008). However the researchers noted the focus of the social interactions was not the natural environment, but the relationships themselves. “Peers reinterpreted experience with each other. Instructors who were approachable provided special moments. Also, the presence of chaperones provided security and familiarity for the students” (James & Bixler, 2008, p. 53). But even though the student interactions with each other as well as with adults were not generally focused on the natural environment and the lessons they were being taught, they were still seen as important social and lifelong lessons that are valuable in the learning process.
Sustainability/Environmental Awareness Impacts

After attending an environmental education program research has shown there are several lasting effects on participants. One of those effects is a person’s sense of stewardship of the environment. The American Institutes for Research (2005) found in a study of environmental programs in California that students who had attended a residential outdoor science school were more likely to have “significantly larger gains in environmental behaviors (p<0.05), compared to children who did not attend the program” (p. 37). An example of those environmental behaviors included in the report was recycling at home.

In a study done on attitudes towards wildlife, Dettmann-Easler and Pease (1999) compared students who attended outdoor schools to students who received only an in-class program about wildlife. The researchers found that “residential programs – even very different residential programs – are still more effective in fostering positive attitude changes toward wildlife than a single, in-class program” (p. 37). In-class environmental education does show to have some effect on students’ attitudes towards wildlife, but having multiple lessons, days, etc. to gain that knowledge was found be greater and last longer in students. Smith-Sebasto and Semrau (2004) in their study of an outdoor school program found that when lessons were focused on action strategies there was an increase in environmentally responsible behaviors in students.Arnold, Cohen, and Warner (2009) found that formative influences had a large effect on young environmental leaders. One of the subjects in their study noted their experience with an alternative outdoor education program in high school was a major influence on her attitude towards and her relationship with the natural world.

Physical Well-Being Impacts

Physical well-being is also a part of outdoor school. Many of the activities the students take part in during their time at the program include such things as hiking, climbing, and exploring all of which keeps the body and the mind active and alert (Hammerman et al., 2001). In his book, Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder, Richard Louv describes the disconnect children today are having with nature. One of his observations about those effects is on children’s health.

Even as school districts decreased students’ experiences beyond the classroom walls, they increased the number of school hours. Ironically, the detachment of education from the
physical world not only coincided with the dramatic rise in life-threatening childhood obesity but also with a growing body of evidence that links physical exercise and experience in nature to mental acuity and concentration. (Louv, 2005, p. 100)

This disconnect from nature that is happening to students today could be affecting their health.

Aids to Positive Outdoor School Experiences

The outdoor school experience alone has shown to have positive effects on students, but when combined with other experiences or opportunities it has the potential for something even greater. Stern et al. (2008) suggests that pre and post visit activities and lessons will enhance the influence of outdoor schools and other environmental education programs on students’ long-term learning outcomes. In a study done at the New Jersey School of Conservation the researchers found impacts on students to be great. Simth-Sebasto & Obenchain (2009) noted:

> [G]iven time to process their experience and the possibility that the sessions and topics taught at the NJSOC were reinforced by their teachers once back in the classroom, the students found the scientific topics and information to be the most meaningful of their NJSOC experience. (p. 58)

The more time spent on the subject matter or topic during their program at NJSOC as well as time spent in the classroom after their experience, the more the students retained the information they learned. Research also shows that combining pre and post trip activities with an outdoor school experience may have a greater effect on students’ attitudes towards the environment (Rickinson et al., 2004 and Smith-Sebasto & Cavern, 2006).

Impacts on Educators

Research has shown that the opportunity to have a class participate in an outdoor school program has influenced teachers on which grade they want to teach in order to participate in outdoor schools (Smith-Sebasto, 2007). Smith-Sebasto (2007) noted in their study that most teachers who were interviewed about their experience with the New Jersey School of Conservation (NJSOC) indicated that:

> The residential EE component of their students’ education is essential rather than superfluous. Reasons for the need for the program included the uniqueness of the learning
experience because of the outdoor component, the hands-on nature of the sessions, the role models of the NJSOC staff, the social interactions, or the appeal to multiple intelligences that can’t be duplicated in the classroom. (p. 38)

The teachers who brought their classes to the NJSOC site gained experience with new teaching opportunities as well as exposing their students to a different environment, both physically and socially that they could not provide in the traditional classroom.

 Teachers who take their students to outdoor schools also have the opportunity to see and work with their students in a new way. Hammerman, Hammerman, and Hammerman (2001) found:

 Teachers are involved in working with, and caring for, students in ways that the traditional school day does not permit. The resident situation allows classroom teachers to observe and interact with students under a variety of new conditions – educational, social, and personal – which enables them to get to know individual students better. Under these circumstances, entirely new student-teacher relationships and mutual appreciation are possible. (p. 142)

Working and living with students in a residential setting gives the teachers the chance to really see the strengths of all their students, and how they perform out of the traditional classroom setting.

**Summary**

From the literature it is clear that students are impacted in several different ways from outdoor school experiences. Some impacts are more obvious and intentional, such as gaining greater science knowledge and environmental awareness. While other impacts are more subtle and maybe not the main goal of the program, such as physical well being, gaining new social skills and personal growth. Research also points to others, teachers, educators and even parents, who are affected by outdoor schools, but also looks at how those people might also affect the programs with what they do in the classroom or at home before and after the students attend a program.
Methods

Participants

27 participants were included in this study. The sample included adults who were identified as the director of an outdoor school program, a teacher who created and lead his/her own outdoor school, or someone who has worked in the environmental education field for several years with experience working in a residential program. All possible participants were located on the west coast of the United States, including Alaska. All participants who completed the survey did so voluntarily and received no direct benefit from doing so. Participants were identified by the researcher through an online search of outdoor school programs and from the Guide to Residential Outdoor Schools (Allison, 2003a; Allison, 2003b). Figure 1 shows the locations of the outdoor school sites at which the participants either work at or have worked at in the past. Table 1 gives some details to the outdoor school programs which the participants have worked at or are currently working at. The information came either directly from the participant or was gathered by the researcher from online or other print sources.
Figure 1. Map of outdoor schools included in study.

★ = Approximate location of outdoor school site.
Table 1. List of outdoor schools included in study.

<table>
<thead>
<tr>
<th>Outdoor School</th>
<th>Location</th>
<th>Cost* (if known)</th>
<th>Mission Statement or Goals</th>
<th>Participants grade and # per Year (if known)</th>
<th>Length of Program</th>
<th>Years of Operation (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adventure Treks – School Programs</td>
<td>Flat Rock, NC</td>
<td></td>
<td>“Our mission is to ensure the safest, most substantive, and most exciting adventures for young people through our personal attention to every student, our caring, and our competence.”</td>
<td>6th-12th grade students</td>
<td>4 days</td>
<td>Since 1978</td>
</tr>
<tr>
<td>Association of Washington School Principals</td>
<td>Randle, WA &amp; Chewelah, WA</td>
<td></td>
<td>“AWSP is unique in that it is the only principals’ association in the nation that owns and operates not one, but two full-time, outdoor education centers: Cispus in Randle and Chewelah Peak in Chewelah.”</td>
<td>16,000 K-12th grade students</td>
<td>3 days</td>
<td>Since 1981 in Randle and 2003 in Chewelah</td>
</tr>
<tr>
<td>Boojum Institute for Experiential Education</td>
<td>Based in Anaz, CA, programs offered throughout the southwest</td>
<td>$495 per student</td>
<td>“Guided by our mission to unlock potential, promote self discovery, and inspire growth, the foundation of the Institute centers around six core values: Personal Growth, Teamwork, Leadership, Compassion, Environmental Stewardship, and Community.”</td>
<td>4th-12th grade students</td>
<td>5 days</td>
<td>Since 1975</td>
</tr>
<tr>
<td>Clem Miller Environmental Education Center – Point Reyes National Seashore Association</td>
<td>Point Reyes, CA</td>
<td>$15 per person per day, some scholarship available</td>
<td>“The Clem Miller Environmental Education Center is designed as a living and learning facility where students and teachers can explore the natural world.”</td>
<td>Various</td>
<td>3-5 days</td>
<td>Since 1971</td>
</tr>
<tr>
<td>Drift Creek Camp – Drift Creek Nature Center</td>
<td>Lincoln City, OR</td>
<td></td>
<td>“Developing awareness, appreciation and stewardship of Creation through education, exploration and interaction with nature.”</td>
<td>Various</td>
<td>Various, depends on school</td>
<td>Since 2006</td>
</tr>
<tr>
<td><strong>Guided Discoveries – AstroCamp</strong></td>
<td>Idyllwild, CA</td>
<td>$186-$367 per student</td>
<td>“AstroCamp is a hands-on physical science program with an emphasis on astronomy and space exploration. AstroCamp meets Science Content Standards for California and many other states including Nevada, Arizona and Colorado. Our classes are designed to inspire students toward future success in their academic and personal pursuits.”</td>
<td>18,000 4&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grade students</td>
<td>3-5 days</td>
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<tr>
<td><strong>Guided Discoveries – Catalina Island Marine Institute</strong></td>
<td>Catalina Islands, CA</td>
<td>$210-$388 per student</td>
<td>“The CIMI was founded on a basic premise: to provide teachers with an opportunity to bring their students out of traditional learning environments to experience, first hand, marine biology and island ecology by immersing them in experiential activities with an educational focus.”</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grade students</td>
<td>3-5 days</td>
<td></td>
</tr>
<tr>
<td><strong>High Trails Outdoor Science School</strong></td>
<td>Angelus Oaks, CA in the San Bernardino National Forest</td>
<td></td>
<td>“Learning how our communities and the environment can all fit together on one healthy planet”</td>
<td>9,000 5&lt;sup&gt;th&lt;/sup&gt; &amp; 6&lt;sup&gt;th&lt;/sup&gt; grade students</td>
<td>3-5 days</td>
<td>Since 2000</td>
</tr>
<tr>
<td><strong>Houston Independent School District Outdoor Education Center</strong></td>
<td>Trinity, TX</td>
<td></td>
<td>“Our mission is to facilitate a unique and meaningful educational experience for Houston ISD students utilizing our natural setting. Interdisciplinary activities will guide discovery and exploration that stimulate an appreciation and understanding of interdependence: one person to another; one culture to another; people</td>
<td>5,000 students</td>
<td>4 days</td>
<td>Since 1977</td>
</tr>
<tr>
<td>School Name</td>
<td>City, State</td>
<td>Fee/Details</td>
<td>Mission</td>
<td>Grade Level</td>
<td>Duration</td>
<td>Start Date</td>
</tr>
<tr>
<td>----------------------------------------------</td>
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</tr>
<tr>
<td>Joy Outdoor Education Center</td>
<td>Clarksville, OH</td>
<td>“Helping people grow and succeed through life-long, experience-based learning.”</td>
<td>Various</td>
<td>3-5 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Klamath Outdoor Science School</td>
<td>Klamath Falls, OR</td>
<td>$45 per student per night, scholarships available</td>
<td>&quot;To provide youth with an exciting and unique experience in a natural setting that inspires learning through exploration, and instills an appreciation for the unique resources in our region.&quot;</td>
<td>4th-6th grade</td>
<td>2-4 days</td>
<td>Since 2004</td>
</tr>
<tr>
<td>Komo Kulshan Outdoor School</td>
<td>Concrete, WA</td>
<td></td>
<td>“The goal of Komo Kulshan Outdoor School is to provide an intimate, high quality, affordable, residential, outdoor education experience in the Baker River watershed for public/private school students, and to facilitate the integration of sustainable, place-based education into the classroom.”</td>
<td>Upper elementary and high school students</td>
<td>3 days</td>
<td>7 years, but not currently available due to loss of funding</td>
</tr>
<tr>
<td>Lassen County Office of Education’s 6th Grade Outdoor Education School at Eagle Lake</td>
<td>Susanville, CA</td>
<td></td>
<td>“Each day has a theme that the lessons are built around. The Big Picture, however, is to give the students an opportunity to develop their scientific thinking skills and critical thinking skills to be able to gather information about the world around them and apply it to decisions they make every day. Of course, along the way, they also learn about living and learning with other people, friendships, self-reliance, and self-confidence. It is an amazing and often life changing experience.”</td>
<td>6th grade students</td>
<td>3 days</td>
<td>Since 1976</td>
</tr>
<tr>
<td>McCall Outdoor Science School/McCall, ID</td>
<td></td>
<td>$96 - $145 per student</td>
<td>“Our mission at the McCall Outdoor Science School (MOSS) is to use the big outdoors to connect students with nature; and things within nature.”</td>
<td>5th &amp; 6th grade</td>
<td>3-5 days</td>
<td>Since 2001</td>
</tr>
<tr>
<td>Institution</td>
<td>Location</td>
<td>Fees/Activities</td>
<td>Mission</td>
<td>Participants</td>
<td>Duration</td>
<td>Start Year</td>
</tr>
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<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>University of Idaho</td>
<td></td>
<td>outdoors as an integrating context for learning about science, place, and community.‖</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multnomah Education Service District Outdoor School</td>
<td>Oregon – 5 sites, south and east of Portland</td>
<td>Some school districts charge a fee, some do not</td>
<td>“The MESD Outdoor School Program provides innovative and collaborative leadership which enables our Districts’ students to learn science and interpersonal skills in order to meet the diverse needs of a changing world.”</td>
<td>7,000 6&lt;sup&gt;th&lt;/sup&gt; grade students, 1,600 high school students</td>
<td>5 days</td>
<td>Since 1966</td>
</tr>
<tr>
<td>Northwest Outdoor Science School</td>
<td>Oregon – 4 sites, Lincoln City, Vernonia, Neskowin, &amp; Salem</td>
<td>Some funding from METRO</td>
<td>“Northwest Outdoor Science School contributes to the development of environmental literacy and responsible citizenship, provides hands-on learning experiences that are integrated with local school curricula, and promotes learning about, and appreciation for, the natural world.”</td>
<td>6,000 5&lt;sup&gt;th&lt;/sup&gt; &amp; 6&lt;sup&gt;th&lt;/sup&gt; grade students, 900 high school students</td>
<td>4-5 days</td>
<td>Since 1968</td>
</tr>
<tr>
<td>Northwest Youth Corps OutDoor High School</td>
<td>Eugene, OR</td>
<td>No tuition, but some fees for activities</td>
<td>“The OutDoorSchool prepares youth for the workplace by emphasizing basic skills and career readiness, while providing a solid academic foundation for students interested in pursuing a college education. An innovative curriculum connects field study with math, science, language arts and social studies. Students apply what they learn, and work as members of a team to complete projects such as building trails, planting trees, restoring wetlands and streams, improving parks and completing classroom projects.”</td>
<td>9&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grade students</td>
<td>Various</td>
<td>Since 1997</td>
</tr>
<tr>
<td>Olympic Park Institute –</td>
<td>Olympic National</td>
<td></td>
<td>“Olympic Park Institute's professional educators guide students in hands-on “participants”</td>
<td>6,000  “participants”</td>
<td>3-5 days</td>
<td>Since 1987</td>
</tr>
<tr>
<td>NatureBridge</td>
<td>Park, WA</td>
<td>activities that illuminate the scientific process and create memorable and rewarding life experiences. While many students arrive feeling disconnected from and uninterested in nature and science, our staff has spent years learning to successfully engage them and renew their interest in these areas.”</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>San Mateo Outdoor Education</td>
<td>La Honda, CA</td>
<td>“During a week at Outdoor Education, students will learn about the natural world, explore the forest and beach ecosystems and work together as a community. Each year nearly 5000 students and hundreds of teachers and Cabin Leaders join our enthusiastic staff to experience the magic of nature.”</td>
<td>5,000 5th &amp; 6th grade students</td>
<td>5 days</td>
<td>Since 1969</td>
<td></td>
</tr>
<tr>
<td>Sierra Outdoor School</td>
<td>Sonora, CA</td>
<td>“Our mission is to provide, in an outdoor setting, a science-based educational experience in which one learns to respect one's self, others, and the environment.”</td>
<td>11,000 4th-6th grade student</td>
<td>3-4 days</td>
<td>Since 2001</td>
<td></td>
</tr>
<tr>
<td>SMILE Outdoor Science Camp</td>
<td>Corvallis, OR</td>
<td>“SMILE stands for Science &amp; Math Investigative Learning Experiences. The SMILE Program is a partnership between Oregon State University and 14 Oregon school districts – mostly rural – to provide science and math enrichment for underrepresented and other educationally underserved students in grades 4-12.”</td>
<td>160 4th &amp; 5th grade students</td>
<td>7 days</td>
<td>Since 1988</td>
<td></td>
</tr>
<tr>
<td>Tillamook County</td>
<td>Tillamook</td>
<td>$95 per</td>
<td>“We will provide a positive, safe and</td>
<td>300 6th grade</td>
<td>5 days</td>
<td>Since 1967</td>
</tr>
<tr>
<td>School Name</td>
<td>Location</td>
<td>Grade Levels</td>
<td>Length</td>
<td>Duration</td>
<td>Year Established</td>
<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Outdoor School</td>
<td>County, OR</td>
<td>student</td>
<td>caring environment in which sixth graders will be challenged to learn important life concepts in relating to and caring for our environment including both nature and people. Students and their teachers will be creatively challenged to pursue more learning opportunities about the needs of our environment and how people can meet those needs in very wise and caring ways.”</td>
<td>students, 80 high school students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waskowitz Outdoor School</td>
<td>North Bend, WA</td>
<td>“Students are immersed in 4-5 day experiences- classes are taught by classroom teacher- materials and training provided by Waskowitz- several classes from different schools are blended in cabin groups - High School students are trained and used as cabin leaders- Waskowitz staff are responsible for all aspects of programming.”</td>
<td>5th &amp; 6th grade students</td>
<td>4-5 days</td>
<td>Since 1947</td>
<td></td>
</tr>
<tr>
<td>Wolf Ridge Environmental Learning Center</td>
<td>Finland, MN</td>
<td>“Learning at Wolf Ridge is profound and memorable because of the combination of the experiential, hands-on activities students experience outdoors, the magnificent site, highly skilled teachers, extended class periods, and small teacher to student ratios.”</td>
<td>15,000 4th – 8th grade students</td>
<td>3-5 days</td>
<td>Since 1971</td>
<td></td>
</tr>
<tr>
<td>YMCA Camp Seymour</td>
<td>Puget Sound, WA</td>
<td>“The OEE program provides an opportunity for students to learn more about themselves and their places in the world. Students will learn about”</td>
<td>8,000 4th - 6th grade students</td>
<td>1-5 days</td>
<td>“over 30 years”</td>
<td></td>
</tr>
</tbody>
</table>
relating to each other and being a member of a community. They will discover new things about themselves and the natural world and how each impacts the other. Through growing awareness and appreciation, we help students to become more responsible citizens of our planet.”

| YMCA East Bay Outdoor School – Camp Arroyo | Oakland, CA | “Camp Arroyo is the Bay Area’s premier environmental education center. Our hands-on approach and low student-to-teacher ratio ensure that each student will have a quality and lasting experience.” | 4th-6th grade students | 3-5 days | Since 2001 |
| YMCA Seattle – Camp Orkila | San Juan Islands, WA | “Set in the unique classroom of the San Juan archipelago, the outdoor environmental education program at Camp Orkila has grown out of a dedication to offering experiential education to participants. Our goal is to cultivate positive relationships of all kinds, both between participants and the natural world and among participants themselves.” | 4th-8th grade students | 3-5 days | |

*Information based on 2010 data.*
Study Design

There were two phases of data collection in this study. The first phase involved contacting participants and inviting them to fill out an online survey. The second phase was contacting those participants who voluntarily gave their contact information at the end of the online survey to do a follow up interview over the phone.

The first phase included emailing 100 potential participants and inviting them to take the online survey. The email stated the purpose of the research study and why they were being included (Appendix C). The survey contained nine open ended questions all pertaining to outdoor school programs, their effectiveness, where the participants see programs lacking and where the participants see the field headed in the future (Appendix A). At the end of the survey, the tenth and final question asked the participants if they would be willing to do an optional follow up interview. Those participants who agreed supplied their contact information and were contacted by email to set up a phone interview a few weeks after the online surveys were completed.

The second phase of the study included phone interviews. All participants who supplied their contact information were contacted by email to set up a time for a phone interview. Of those 15 people who supplied their contact information ten responded and eight set up a date for a phone interview. A total of eight phone interviews were conducted about one month after the initial online surveys were completed. Before each interview the research reminded the participants what the research study was about and that their answers would remain anonymous. The phone interview questions consisted of open-ended questions to further understand the answers the participants had given in their online survey. The final question asked the participants if they had any final thoughts or comments they would like to add. Participants were also asked if they had any questions about the study.

Data Analysis

This was a qualitative study and the methods of data analysis were derived from those described by Auerbach and Silverstein (2003). After the online surveys were completed, with a 27% response rate, the data was broken up by individual questions including all relevant text and entered into ATLAS.ti for coding. After systematic coding was completed, the researcher looked for repeating ideas and frequent responses in the codes. A repeating idea is described as when
participants often use the same or similar words and phrases to articulate the same idea (Auerbach & Silverstein, 2003). After repeating ideas were identified, the researcher looked for common themes, or patterns among the repeating ideas. Common themes were developed into claims.

After the online survey analysis was completed, phone interviews were done with those who volunteered to do so. Eight phone interviews were completed in a two-week time frame and were recorded in a timely manner in order to retain as much detail and information as possible. The phone interview data was also entered into Atlas.ti and analyzed to find repeating ideas to support the claims already established and to find new repeating ideas, if any existed.

Limitations

While the study included participants who work at or run outdoor schools from all the west coast states, as well as Idaho, it would not be safe to generalize findings for all outdoor schools, students and teachers nationwide. This could be seen as a limitation for the study’s findings; however, these findings are also more in-depth about these particular outdoor school programs.

Another limitation in the study is the sample size. The sample size for this study is small from which the data is drawn from, and not every outdoor school program from the west coast was represented in the study. No attempt was made to contact potential respondents multiple times as this study was largely exploratory. A second or third follow up email may have generated a larger pool of respondents, but the pool of 27 is large enough for a qualitative analysis that focuses on identifying themes that might lead to instruments, models or questions that would require much larger data sets for analysis.

There could be some bias in the findings due to the researcher’s perspectives. When reviewing the results of any research, but especially with qualitative research, the researcher’s perspective must be taken into account. It may be unique and offer insights that may not obvious to other researchers, but it may also reveal bias.

Materials (The Researcher)

The key instrument for the data collection was the researcher. As to help the reader understand where my personal bias might come into play when looking at the findings of this
research here is some information on my background and views on environmental education and outdoor schools.

Over the years I have had many opportunities to both learn and teach in the environmental education field. I cannot recall my very first experience of learning in the outdoors, but I do know it was a large part of my summers as a child. In sixth grade I got my first taste of outdoor school, attending a weeklong program in Oregon. This was followed by becoming a high school counselor for outdoor school my senior year through the same program. In my undergraduate program I jumped at the opportunities to focus my environmental science studies in the education arena. Through the Science Education & Outreach program at Oregon State University, I had the opportunity to develop my own science lessons and teach them in a rural elementary school. After graduation I worked at an outdoor science school as a program leader. My experience with other types of environmental education come from my time spent as a park ranger on the Oregon coast and working at other various informal science education institutions.

Much of what I have learned and experienced has shaped my views on education and what I feel are best practices for learning science. Hands-on and inquiry science lessons, I believe, are some of the best ways to get people excited and interested in science. Students should have the opportunity to test their own knowledge and find answers through questioning and discovery. Learning about the natural world is best done in it. I would stress the importance of being able to see, touch, hear, smell and even taste what it is students are learning about. I would argue environmental education is best done in the field with opportunities for students to explore and discover. Other disciplines can be addressed in the field, not just science or the natural environment.
Claims

This section is organized into a set of 8 claims about outdoor schools as seen by respondents to the surveys and interviews. In this section, each claim is listed, followed by a brief description of what the claim means. That, in turn, is followed by examples drawn from the data. Each claim ends with a brief description of how respondents’ beliefs fit or do not fit with the literature outlined in the literature review section.

1. Participants believe outdoor schools provide a place for hands-on learning, inquiry lessons and natural discovery that is not always present in the traditional classroom.
2. Participants believe that students who attend an outdoor school program increase their science knowledge as well as their environmental awareness.
3. Participants believe students who attend an outdoor school program have the opportunity to socialize in a new environment and from that gain new and important social skills and grow as an individual.
4. Participants believe that teachers who attend an outdoor school program gain teaching and leadership skills to aid them in teaching when they return to the traditional classroom.
5. Participants believe that outdoor school experiences need to be incorporated into the student’s classroom experiences and not be isolated for students to benefit even more from them.
6. Participants believe that attending an outdoor school program is a transformative experience for both students and teachers.
7. Participants believe that there are barriers and limitations for students to participate in outdoor school programs and they need to be addressed because the future of outdoor schools depends on it.
8. There is a lack of evaluation being done by the people who operate and run outdoor school programs on their impacts on students, and what is being done is not being published or distributed widely.

Figure 2: List of claims
The claims themselves were developed as the researcher’s perspective on ideas that emerged from the iterative analysis of the participants’ responses to the online survey and phone interviews as indicated in the analysis part of the methods sections. In essence, the claims are organizing ideas for the set of responses in the surveys and interviews. They do not represent any one participant’s point of view, but an amalgamation of all of their views. Figure 2 outlines the claims in whole.

The participants in this study ranged in age and experience, but all have been involved with outdoor schools or other environmental education programs for five or more years, some as many as 33. The majority of participants are people who are directors of their programs or are the education coordinators for specific sites. Some participants have worked as educators, directly working with the students at various sites around the nation, but all are currently located in the west.

Claim #1. Participants believe outdoor schools provide a place for hands-on learning, inquiry lessons and natural discovery that is not always present in the traditional classroom.

In many of the surveys the participants talked about how important the idea of learning in the natural environment with “hands-on” activities is for students. Several noted that this type of learning can be done in the classroom, but is not always incorporated into the curriculum by the teachers. They listed their goals as an outdoor school and how they focused around giving students the opportunity to experience the natural world through hands-on lessons. The term “hands-on” can have many meanings. The participants describe it in respect to outdoor school as the activities the students do, the environment they are in, and as the type of science they are learning. They also noted that many classroom teachers may not have the resources or time to do as much hands-on or inquiry science as they would like with their students, and the outdoor school setting is a way to increase that opportunity for students as well as for teachers.

Examples from participant’s surveys:
“Students get exposure to unique learning opportunities that they don't have access to in their schools/community.”
“Our primary focus is teaching science and environmental education in an outdoors setting and in a hands-on exploratory fashion.”

“[S]tudents are immersed in a natural environment and given the opportunity to interact with that environment in authentic ways.”

“It's EXPERIENTIAL and a much deeper way of learning!”

“Giving students an opportunity to participate in hands on learning is beneficial to everyone involved, we are able to focus on things that teachers no longer have enough time to do in the classroom.”

“The OEE [outdoor and environmental education] program has over 30 years of experience, and is famous for engaging students in hands-on activities that get them excited about nature, science, and recreating in the outdoors.”

“It gives students the opportunity to learn science in a new way. They are immersed in the environment that they are learning about and gaining an appreciation for it.”

“Our goals are to address scientific literacy, sense of place, community skills and healthy and active lifestyles. We use an inquiry-based, experiential curriculum that emphasizes the skills and tools of doing science. We use an 1100 acre state park as our classroom, with access to Ponderosa Pine forests, sagebrush meadows, and marsh ecosystems.”

Like the participants’ responses, research shows that having the experience of learning in the outdoors through hands on activities can be a positive experience for students (Paisley et al., 2008; Smith-Sebasto, 2007).

Claim #2. Participants believe that students who attend an outdoor school program increase their science knowledge as well as their environmental awareness.
Learning about science was not a primary focus of the responses to the interviews. Instead, it seemed to run like an undercurrent in the responses and interviews, as almost a given, too obvious to be mentioned. Some participants noted that outdoor schools have positive effects on student’s science understanding and knowledge. Most of the programs as described by the participants are based around teaching the students’ science and environmental literacy based on their specific state or federal standards. Science can be shown to the students in real time and in real form right in front of them, which is drastically different than learning about it in an indoor classroom setting. Many described the idea that learning science in a residential setting becomes more than just what is in the textbook or what students can see on television, but rather what they can see and understand right in front of them.

The majority of the survey responses mentioned an increase in environmental awareness that students leave with after attending outdoor school. Many noted that not all students have the opportunity to really explore and discover the natural world for themselves in or even out of the school setting.

Examples from participant’s surveys:
“EE programs make science real for students and gives meaning to why understanding is important. It helps students see why it is important that they care about the earth; how the little parts make up the whole.”

“They learn about the environment and become inspired to make changes. They have the opportunity to develop an appreciation for nature and outdoor activities.”

“One of the things that we really see is that the kids get pretty excited about science and understand that it’s a living breathing thing.”

“For many, the experience is life-changing giving them new coping skills, a life-long connection to nature, and new perspectives on future academic pursuits and career paths.”
“EE programs are very good at:

capturing participants' interest and excitement
promoting a positive attitude toward learning, nature, science, social learning
encouraging participants to connect with their surroundings (place-based learning)"

As described in the methods section above, research supports participants’ beliefs by showing how these experiences can improve test scores (American Institutes for Research, 2005) as well as increase scientific knowledge (American Institutes for Research, 2005; Knapp & Benton, 2006; Stern et al., 2008). Studies have also shown these experiences can change attitudes and behaviors of young people about and towards the environment (Dettmann-Easler & Pease, 1999; Emmons, 1997; Paisley, Furman, Sibthorp, & Gookin, 2008; Rebar, 2005; Smith-Sebasto & Semrau, 2004; Stern et al., 2008).

**Claim #3. Participants believe students who attend an outdoor school program have the opportunity to socialize in a new environment and from that gain new and important social skills and grow as an individual.**

In the residential design students spend time with fellow students and teachers 24 hours a day for multiple days. This gives the students a chance to interact with others in different social situations than they would otherwise have in the traditional classroom setting. For many students this experience may be their first time away from home, overnight, without their parents around to help guide them or tell them how to act. Many participants noted that much of what the students take away from their experiences comes from the times in between the lessons; meals, campfires, doing general duties to help keep the camp functioning. These socializing moments are part of outdoor school and are not always possible to replicate in the classroom or on a one-day field trip.

Examples from participant’s surveys:

“Students are taken out of their normal environment and able to focus on not only academics but also on social learning. They are forced to learn how to work as part of a
team and how their contribution to society is vital to the success or lack of success of said community.”

“Community building and social living is a major cornerstone of the experience for students and volunteers.”

“EE programs are really intense programs where students become very quickly immersed in a very different environment than they are used to--w/in a day’s time they may be looking at distant stars and nebulae, snorkeling and seeing undersea creatures, summiting a mountain, etc... This is very powerful, emotional, and creates bonding between students and each other, students and their leaders, and students and their teachers. They often involve an element of a lot of personal growth because the students are more independent than usual (w/o parents) and they are in a new environment.”

“Building community in a shared experience is far more effective than day or classroom programs.”

“Students are challenged in a residential environment that stretches their comfort zones and helps them gain independence and responsibility.”

Studies show that there are some unintended positive outcomes of residential experiences on students, many of those being social and personal growth (American Institutes for Research, 2005; James & Bixler, 2008; Pace & Tesi, 2004; Paisley et al., 2008). This is also consistent with the theme of sociocultural approaches that stress the social and cultural context of learning.

**Claim #4. Participants believe that teachers who attend an outdoor school program gain teaching and leadership skills to aid them in teaching when they return to the traditional classroom.**

Students are not the only ones who benefit from attending outdoor school. Teachers can gain valuable teaching and student management skills by watching educators in the field working
with their students. Participants also noted by being involved with this type of experience it gives the teachers the opportunity to see their students in a new environment and really get to know them.

Examples from participant’s surveys:
“Teachers have opportunity for collegial sharing and working with their students in a discovery approach.”

“[Outdoor school] is a fun way to teach science curriculum, a way to interact with their students outside the formal classroom setting that can improve and enhance relationships, access to technology/exciting ways to teach hands-on science that they don't have access to in their classrooms, a way to have fun with and enjoy being with their students, renewed sense of enthusiasm for teaching, connections to classroom standards based curriculum.”

“For teachers, being at camp extends their classrooms and provides a hands-on learning environment to which they can refer back to when they return to school.”

There is little research to show what teachers gain from their time spent at outdoor school. What is out there in the research field are findings from studies whose main focus was not on the teachers but rather the students. With that being said some researchers have found that teachers who attend outdoor schools are affected and do take knowledge with them back to the classroom (Hammerman et al., 2001; Smith-Sebasto, 2007).

**Claim #5. Participants believe that outdoor school experiences need to be incorporated into the student’s classroom experiences and not be isolated for students to benefit even more from them.**

Many teachers take their students to outdoor school, but fail to connect them to what the students are learning in the classroom. This can be a missed opportunity to really establish a base for science and environmental education in the school curriculum. Many participants in the
survey commented on the issue of the outdoor school experience being an isolated experience and not tied into the curriculum developed in the regular classroom. All who mentioned this felt it was doing a disservice to the students and said it would greatly benefit the students to have a stronger connection to what they are already learning in school to their experience at outdoor school. Some touched on the idea of better collaborations between the two fields to improve on this situation.

Examples from participant’s surveys:

“So much of what happens at camp is at the mercy of what a teacher does with it back at school. Anything we do at camp can be built upon once the students have returned to their schools. Teachers who use the camp learning as a starting point . . . reference point can really be effective with the kids. Some, however, have a nice week with their kids and then go back to their classrooms as though nothing happened . . . not using the experience to further language arts instruction in which almost every lesson could involve the camp experience, not checking out nearby resources that could further the kid's learning.”

“Outdoor schools could collaborate better with the teachers and administrators they serve to ensure that curriculum and instruction is aligned tightly with school and district goals; this is so Outdoor School is understood to be an important part of the core curriculum, not just a fun way to end the school year.”

“The experience needs follow through with the regular classroom teachers to help it meet the full potential. The teachers need to care about what comes next for the students. Too often we see teachers who attend the program with their students who see it as a short vacation. They do not interact with their students during the program and have little investment in doing any kind of follow-up after. They see the program as complete within itself. We compensate by making the program that way, but it can be so much more.”
“[Outdoor schools] often are disconnected experiences from classroom learning and other learning experiences. This disconnect happens in many ways: (1) teachers do not always (often?) integrate these experiences into their curriculum; (2) the experience takes place in a foreign and unfamiliar environment thereby limiting the transfer that takes place (e.g., a student who learns you need to protect nature by doing XX and XX may see that as important in a seemingly pristine location such as the EE site, but not apply that when s/he returns home.”

“I think [outdoor schools] will need to be well connected to schools, will need to model sustainable practices and integrated learning in order to continue to be relevant.”

“Again, I feel we could do a better job of working on how to support and compliment outdoor based learning upon return to the non outdoor based environment. There needs to be more pre and post learning opportunities.”

“Residential EE programs could be improved with more contact between teachers and the programs. If there was more pre-trip and post-trip collaboration this could really enhance their experience and provide a "bridge" between the two worlds. It is such an intense experience, and students gain so much, yet there is often not enough time for reflections on how much they learned/grew.”

“Outdoor school is the greatest place to apply knowledge that you learn in the classroom setting. The problem is that the way it’s taught in the classroom usually sucks the life out of it before they go to outdoor school.”

Research does show that students who have pre and post trip activities incorporated into their visits to outdoor school benefit more and retain more information from their experience (Smith-Sebasto, 2007; Smith-Sebasto & Cavern, 2006; ).

**Claim #6. Participants believe that attending an outdoor school program is a transformative experience for both students and teachers.**
Most participants told of how the outdoor school experience is a life-changing event for those who attend; the students and the teachers, as well as high school counselors/volunteers. Many stated this was due to putting the students into a new environment and taking them out of their comfort zones. They described how outdoor schools can be a platform for establishing lifelong friendships, creating new memories, developing a sense of stewardship and environmental awareness, and can even influencing future goals or choices in student’s lives.

Examples from participant’s surveys:
“For many, the experience is life-changing giving them new coping skills, a life-long connection to nature, and new perspectives on future academic pursuits and career paths.”

“Especially for young people who may never have spent extended time in the outdoors, we find that lives are changed forever by these experiences. I have countless testimonies from students, teachers, and parents that have attended our program.”

“[Outdoor school] provides an intensive experience that is "away" and usually different from what students are exposed to in school -- everything from learning outdoors, to living in a small community, to working as a team and experiencing some different food options.”

“The thing that is most amazing to me, I walked into a class a couple of years ago and I looked at the class. I was recruiting for camp staff and I looked at them and said ‘how many of you went to outdoor school?’ And I could scan the room and see in their eyes who had been to outdoor school. You just watched this wave of memories going though the room. And it was amazing. So here they are, they’re college students, they’re 22 years old and outdoor school was at least 10 years ago, maybe more, and here they have this wave of memories, and I thought, now that’s important. And if it’s that good why do we stop it?”
“EE programs typically take place in new and stimulating settings for the participants. They often involve a degree of choice (with respect to what they get to do as well as who they get to do it with).”

“I hear good things all the time from teachers, and they’ll say, that new kid that came to school or someone who was struggling, wasn’t doing good at academics or sports, but then they came to camp and they made friends and he had a good time and he turned a corner, and a lot of times we’ll hear these kids that struggle a bit will get inspired at camp and they do really turn around and do well for the rest of the school year.”

“Fun way to teach science curriculum, a way to interact with their students outside the formal classroom setting that can improve and enhance relationships, access to technology/exciting ways to teach hands-on science that they don't have access to in their classrooms, a way to have fun with and enjoy being with their students, renewed sense of enthusiasm for teaching, connections to classroom standards based curriculum.”

“There is incredible power in any overnight program. Somehow when students are out of their comfort zone at home they seem to soak up things they learn. And, of course, learning can be real hands-on learning not just something out of a textbook.”

Some research has looked at what influences student’s choices and what experiences transform their lives in terms of career choices, educational goals and views on environmental stewardship, and found that outdoor school programs have played a factor in that transformation (American Institutes for Research, 2005; Arnold, Cohen & Warner, 2009).

Claim #7. Participants believe that there are barriers and limitations for students to participate in outdoor school programs and they need to be addressed because the future of outdoor schools depends on it.

Not every student has the opportunity to attend outdoor school, but from the online surveys and the phone interviews it is clear from the people who run and work at such sites that
this needs to change. There are many factors that the participants feel are impeding student involvement with these types of programs, lack of funding being the most frequent answer. Other barriers include socio-economical background of the students or their families, language barriers, unwilling teachers or administrator as well as students with disabilities.

Examples from participant’s surveys:
“If we’re missing a chunk of the population due to their socio-economical background, or their language barriers, or disabilities, then we can never truly be effective if we are not reaching every student”

“Most [outdoor schools] are far too expensive for local schools to attend.”

“…funding (at least here in WA.) is a huge problem. Virtually all residential EE programs are offered by private organizations, not through school districts. If [we] could somehow find it possible to help support these efforts, it would make all the difference in the world!”

“I see a future in which every student in Oregon has the chance to attend Outdoor School for a week, regardless of their hometown, school setting, disability, ethnic background, family income, etc. I see these programs being relevant to the local community and supported in such a way that families do not have to bear the financial burden.”

“We are in dark times. No money = no programs. Until EE (at least this is true in California) is made part of the schools and receives funding through the schools, we are at the mercy of the economy. We operate when parents can afford to pay, when grants can be secured, and when the money can be made available. For the next few years, times are tough!”

“Not all of these programs are accessible to all students. In order for this programming to be truly transformative, all students need the opportunity to participate, regardless of
income, where they live, how committed their teachers or principals are or any disabilities they may have.”

Research has not focused directly on how accessible outdoor school programs are for all students, but some studies have noted who (demographic data) is attending specific sites that were looked at in their studies (American Institutes for Research, 2005; Andrews, Tressler, & Mintzes, 2008; Athman & Monroe, 2004; Smith-Sebasto & Cavern, 2006; Smith-Sebasto & Semrau, 2004; Stern, Powell, & Ardoin, 2008).

**Claim #8. There is a lack of evaluation being done by the people who operate and run outdoor school programs on their impacts on students, and what is being done is not being published or distributed widely.**

Evaluation and assessment are not high priorities at most outdoor schools. The majority of the participants in the study said they would like to do more in-depth evaluations of what the students are taking away with them from their experiences, but are limited by time, resources, etc. of what they can actually do. All of the participants who stated that they do evaluations acknowledged that they are involved with gathering information about the impacts of their program on the visiting groups, but some only do superficially; rating the quality of the accommodations, food, and sometimes the educators and their skills. Several of the evaluations mentioned were limited to only gathering information from the teachers, chaperones, or other adults involved with the program rather than from the students. For those participants who mentioned doing more in-depth evaluations with the students they stated they are done solely for the benefit of the program and very rarely publish or share their findings with others.

Examples from participant’s surveys:
“It is difficult to assess learning outcomes of students when they participate in Outdoor School programs. Developing strategies to understand the learning that takes place and how to increase that achievement is one way we can improve.”
“Teachers and chaperones completed a written survey at the end of the program to determine several things including but not limited to, if they observed cognitive and behavioral changes in the participating students. We ask several questions about program, food, safety, and facilities / equipment. They are effective and we learn a lot from them.”

“We do a multiple choice post-test on the academics and a survey with open ended questions about the students' feeling toward the various aspects of the program. We also talk with students and informally interview them about their experience on the last hike we take before they depart. All those different measures give us a good picture of what is going on. We learn lots each week and use the information to make the program and ourselves stronger and better.”

“We have all the visiting teachers and parent chaperones fill out an evaluation before they leave. We mainly learn little ways we can tweak our program. As a general I would say we are also reaffirmed that what we do is effective and important.”

“For the first 5 years, we used a post-program questionnaire to evaluate, as well as get feedback. In the past 2 years, we have revamped that tool and now offer a pre-program survey and then the same survey post-program to compare and contrast. The post program also has a few open ended questions regarding their experience. We provide evaluations for teachers, high school leaders, and parent chaperones, as well. These have been very effective, helpful in continued curriculum development, as also useful in grant applications.”

“Teachers fill out evaluations of their experience which cover many aspects of the program. I feel these are very helpful, when taken as a whole across the season. I have learned about ways to make the program better and have many changes in daily operations as a result of teacher feedback. We also do occasional (twice a season) pre- and post- tests with students in order to track their learning while on site. These generally show a lot of improvement in student’s knowledge, but would be more effective if they were more integrated into the rest of the student’s science education.”
The National Research Council agrees that more evaluation of informal science learning needs to be done. “Greater investment in an era of widespread accountability has brought greater scrutiny of whether and how science learning experiences in informal settings reach their goals” (National Research Council, 2009). Research that is currently being done at these outdoor schools is also not being published. One reason for that is the lack of incentives for people in the nonacademic world to publish their findings (National Research Council, 2009). The National Research Council (2009) also points out that there is a missed opportunity because research done on informal sites rarely ever build on findings from schools and vice versa.

There is also some research which points towards best practices on how to document, assess and evaluate what students learn and gain from residential (Andrews, Tressler & Mintzes, 2008) as well as nonresidential environmental education programs (Cachelin, Paisley & Blanchard, 2009).
Conclusions

This study is about understanding the impacts and outcomes of outdoor school programs on students, teachers, and the community as seen from the perspective of people who work at these sites. The first seven claims emerged from the participants’ answers from the online surveys and follow up phone interviews. The final claim became apparent to the researcher throughout the study and during the investigation into current research on outdoor school programs.

Outdoor schools have many impacts on students through the education of students in an informal environment and inquiry, hands-on lessons. These impacts as seen by the participants include greater science knowledge and understanding of the natural world, as well as an appreciation and concern for it. Students are also impacted socially, by being in a new social setting, away from their parents and familiar places they have to learn how to be a part of a community. This experience can be a transformative one for both students and teachers. Teachers can leave with new teaching ideas and subject matter. The participants also noted the importance of connecting the outdoor school experience back to the classroom with lessons and activities for increased learning and retention. Barriers and limitations to students attending outdoor schools were also mentioned by the participants. The researcher also noted the lack of formal evaluation being done at these outdoor school sites and the need for sharing of what evaluations are currently being done among the outdoor school community at large. These findings show how people working in the field perceive effects of outdoor school programs on students as well as teachers.

The findings from this study show that students are affected greatly and in multiple ways from attending an outdoor school. The experience can increase a student’s science and environmental knowledge as well as change their behavior towards the environment. Outdoor schools can be a tool to increase science test scores or creating a more environmental literate generation. The experience can also change the teacher’s perception of their students by seeing them learning and working in a new environment. Teacher should not view outdoor schools as a “vacation” from teaching, but an opportunity to better understand their students. Outdoor schools should make clear to teachers this opportunity prior to their visit. Teachers also benefit from taking part in outdoor schools. They can learn subject matter as well as teaching techniques that they can then take back with them to the classroom. It is important to understand that students
are affected socially by this type of experience and that outdoor schools should take that into consideration when developing lessons. Team building activities are a part of some outdoor school experience, but could be incorporated more to enhance this positive impact on students. The participants noted some barriers that prevent all students from attending outdoor school. These barriers need to be addressed if the environmental education field wants to have an impact on all students. All of these impacts can be documented by outdoor school through evaluation, however not every program does this. To increase knowledge about the impacts of outdoor schools the programs and sites themselves should make it a priority to document what affects they are having on students and teachers that attend. For the one that are already do so, they need to find an outlet to share their findings with others in the environmental education field as well as in formal education.

The information gathered in this study can help guide future research. While this research presented some interesting findings it does not show a complete picture of all outdoor school programs. The information gathered through the surveys was valuable, but only when coupled with the follow up phone interviews did it really show the true nature of the experience that students and other participants of outdoor school programs had.

Questions for Future Research

- What are the specific effects on the community due to students attending an outdoor school program?
- What are the long-term effects of students attending an outdoor school program?
- Can other programs benefit from site-specific research?
- How much and what type of collaboration is needed between outdoor schools and K-12 schools to increase students’ benefits from these experiences?
- How accessible are outdoor school programs? Who is attending, who is not, and why?
- In what ways are outdoor school programs being funded? Are those funding agencies collecting data on the impacts of the programs?

Outdoor Schools and Informal Science Education

This study shows how formal (traditional classroom learning) and informal (outdoor school learning) education can be combined to benefit students as well as teachers. Knowledge is
something that is built up over time, based on the learner’s prior knowledge and experiences (Falk & Dierking, 2002). By participating in an outdoor school program a class can have a shared prior experience on which to take back with them to the classroom and continue to gain knowledge about science and the natural world. Learning in the formal classroom has its benefits and so does learning in informal environments, but when the two areas are brought together through an experience such as outdoor school students receive the best of both worlds. This study shows the importance of looking at how informal and formal education can work together as well as learn from each other.
References


Rebar, B. (2005). *Children’s conceptions of nature as influenced by a residential environmental education program* (Master’s thesis). Oregon State University, Corvallis, OR.


Appendices

Appendix A: Online Survey Questions

Survey: “Outdoor Schools: Learning Impacts and Outcomes”

The purpose of this study is to look at the learning impacts and outcomes of Outdoor Schools and Residential Environmental Education programs for a graduate student's thesis. We believe there is a connection between the outdoor experience and greater ability to learn science related topics. Information on the individual’s experience and evaluations of Outdoor schools and their programs is being sought for the use in a student thesis at Oregon State University. We are studying this because the impact of residential outdoor education is needed to understand value and importance of it.

You are being invited to take part in this study because you have experience working with or at an outdoor school or residential environmental education program.

Start Survey

This is an area where you can describe the outdoor school or environmental education site that you currently work at or have worked at in the past. Please use as much detail as you can.

1. Please describe the outdoor school or environmental education site you work at. (location, residential?, lesson taught, etc.)

The next few questions will ask you about your programs effectiveness and ways you think they are working and how they might be improved.

2. In what ways do you see your program being effective? Why?

3. In what ways do you see your program not being effective? Why?

4. How do you think your program could be improved? Why in that way?

The next few questions are about your programs outcomes, impacts and evaluations.

5. What are the goals or outcomes of your program? Are they related to any standards?


7. What types of evaluations does your program do? Are they effective? What have you learned from them?

The next two questions give you the chance to describe where you see outdoor schools and environmental education programs going in the future as well as any other information you
would like to share about your experiences working with outdoor schools and/or environmental education programs.

8. Where do you see the future of outdoor schools and environmental education programs headed? Why?

9. Any additional thoughts or ideas about outdoor school learning impacts or outcomes?

Providing personal information is completely optional and voluntary.

10. If you are willing to be contacted for an optional phone interview please provide your contact information in the fields below. If you wish to not be contacted please put (N/A) in all fields.

Name:
Company:
Zip Code:
Email Address:
Phone Number:

Thank you for your time! You have completed all questions for the online survey.

If you have provided your contact information for a phone interview, you may be contacted in the next few weeks to set up an interview time.

If you have any questions about this research project, please contact: Robyn Anderson at (541) 829-9140 or anderrob@onid.orst.edu

If you have questions about your rights or welfare as a participant, please contact the Oregon State University Institutional Review Board (IRB) Office, at (541) 737-8008 or by email at IRB@oregonstate.edu
INFORMED CONSENT FORM

Project Title: Outdoor Schools: Learning Impacts and Outcomes
Principal Investigator: Shawn Rowe, Science and Mathematics Education
Student Researcher: Robyn Anderson, Science and Mathematics Education
Co-Investigator(s): N/A
Sponsor: N/A

1. WHAT IS THE PURPOSE OF THIS FORM?

This form contains information you will need to help you decide whether to be in this study or not. Please read the form carefully and ask the study team members questions about anything that is not clear.

2. WHY IS THIS STUDY BEING DONE?

The purpose of this study is to look at the learning impacts and outcomes of Outdoor Schools and Residential Environmental Education programs for a graduate student’s thesis. We believe there is a connection between the outdoor experience and greater ability to learn science related topics. Information on the individual’s experience and evaluations of Outdoor schools and their programs is being sought for the use in a student thesis at Oregon State University. We are studying this because the impact of residential outdoor education and experiences is needed to understand value and importance of it.

Up to 100 adults will be invited to take part in this study.

3. WHY AM I BEING INVITED TO TAKE PART IN THIS STUDY?

You are being invited to take part in this study because you have experience working with or at an outdoor school or residential environmental education program.

4. WHAT WILL HAPPEN IF I TAKE PART IN THIS RESEARCH STUDY?
The study activities include an online survey to be taken, as well as a voluntary phone interview to be conducted within a month after the online survey has been completed.

If you agree to take part in this study, your involvement will last for one online survey and possibly a phone interview taking less than one hour for each, the phone interview following, within a month of the online survey. Interviewees will be selected from those participants who have substantial experience working with outdoor schools or residential environmental education programs and those who choose to provide their contact information.

5. WHAT ARE THE RISKS AND POSSIBLE DISCOMFORTS OF THIS STUDY?

There are no foreseeable risks to participating.

The security and confidentiality of information sent by email cannot be guaranteed. Information sent by email can be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses.

The security and confidentiality of information collected from you online cannot be guaranteed. Information collected online can be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses.

6. WHAT ARE THE BENEFITS OF THIS STUDY?

This study is not designed to benefit you directly.

7. WILL I BE PAID FOR BEING IN THIS STUDY?

You will not be paid for being in this research study.

9. WHO WILL SEE THE INFORMATION I GIVE?

The information you provide during this research study will be kept confidential to the extent permitted by law. Research records will be stored securely and only researchers will have access to the records. Federal regulatory agencies and the Oregon State University Institutional Review Board (a committee that reviews and approves research studies) may inspect and copy records pertaining to this research. Some of these records could contain information that personally identifies you.

If the results of this project are published your identity will not be made public.

10. WHAT OTHER CHOICES DO I HAVE IF I DO NOT TAKE PART IN THIS STUDY?
Participation in this study is voluntary. If you decide to participate, you are free to withdraw at any time without penalty. You will not be treated differently if you decide to stop taking part in the study. If you choose to withdraw from this project before it ends, the researchers may keep information collected about you and this information may be included in study reports.

10. WHO DO I CONTACT IF I HAVE QUESTIONS?

If you have any questions about this research project, please contact: Robyn Anderson at (541) 829-9140 or anderrob@onid.orst.edu

If you have questions about your rights or welfare as a participant, please contact the Oregon State University Institutional Review Board (IRB) Office, at (541) 737-8008 or by email at IRB@oregonstate.edu
Dear Outdoor School/Environmental Education Administrators;

My name is Robyn Anderson and I’m a graduate student at Oregon State University in the Science Education department. Along with Dr. Shawn Rowe, I am doing research on outdoor schools and residential environmental education programs.

The focus of the research is on what you, the outdoor school staff and administrators, see as the learning impacts and outcomes while working at outdoor school sites.

If you choose to participate you will be asked to fill out an online survey. The survey will take about 20 minutes. At the end of the survey, if you agree and leave contact information, we may contact you by phone for an interview that would take no more than one hour.

Participation in the study is completely voluntary and all personal information will be kept confidential. You may choose to drop out of the study at any time. There are no foreseeable risks to you as a participant in this project; nor are there any direct benefits. However, your participation is extremely valued.

If you are interested in the study and agree to participate, please follow this link to the online survey.

http://www.surveymonkey.com/s.aspx

If you have any questions about the survey, please contact me at (541) 829-9140 or by email at anderrob@onid.orst.edu or Shawn Rowe at (541) 737-0190 or by email at shawn.rowe@oregonstate.edu If you have questions about your rights as a participant in this research project, please contact the Oregon State University Institutional Review Board (IRB) Human Protections Administrator at 541-737-8008 or by email at IRB@oregonstate.edu.

Thank you for your help. We appreciate your cooperation.

Sincerely,

Robyn Anderson
Masters Student, Science Education
Oregon State University