

Hamline University

DigitalCommons@Hamline

School of Education and Leadership Student
Capstone Projects

School of Education and Leadership

Fall 2020

Using Informational Websites to Foster a Connection Between Outdoor Education and State Park Preservation

Amanda Eckart

Follow this and additional works at: https://digitalcommons.hamline.edu/hse_cp



Part of the [Education Commons](#)

Recommended Citation

Eckart, Amanda, "Using Informational Websites to Foster a Connection Between Outdoor Education and State Park Preservation" (2020). *School of Education and Leadership Student Capstone Projects*. 582. https://digitalcommons.hamline.edu/hse_cp/582

This Capstone Project is brought to you for free and open access by the School of Education and Leadership at DigitalCommons@Hamline. It has been accepted for inclusion in School of Education and Leadership Student Capstone Projects by an authorized administrator of DigitalCommons@Hamline. For more information, please contact digitalcommons@hamline.edu.

USING INFORMATIONAL WEBSITES TO FOSTER A CONNECTION BETWEEN
OUTDOOR EDUCATION AND STATE PARK PRESERVATION

By

Amanda L. Eckart

A capstone project submitted in partial fulfillment of the requirements for the degree of
Masters of Arts in Education: Natural Science and Environmental Education.

Hamline University

Saint Paul, Minnesota

December 2020

Capstone Project Facilitator: Trish Harvey

Content Expert: Jaime Souza

Peer Reviewers: Heidi Hanson and Stephen Watkins

“The best education does not happen at a desk, but rather engaged in everyday living - hands on, exploring, in active relationship with life.”

- Vince Gownon

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION

Introduction.....	6
Relevance.....	8
Personal History:	
Childhood.....	9
Professional Journey:	
Working as a	
Naturalist.....	11
Graduate School.....	12
Conclusion.....	14

CHAPTER TWO: LITERATURE REVIEW

Introduction.....	16
Benefits of Outdoor Education.....	16
Academic Promise.....	17
Promotes.....	19
Testing.....	21
Science Learning.....	22
Subject Diversity.....	23
Teachers Aid.....	24
Text to Tree.....	27

Outdoor Preparedness and Physical Activity.....29

Preparedness.....30

Activity.....33

Respect for Nature.....35

Stat Park Conservation.....37

Leave No Trace: Introduction.....39

Application.....40

Results.....41

Preservation and Restoration.....42

Community Support.....43

Education Restoration.....43

Connection to Nature.....44

Outdoor Education Barriers.....45

Educator Concerns.....46

Lack of Confidence and Support.....47

Location and Knowledge.....48

State Standards.....49

Possible Solutions: School Support.....50

Community Support.....51

Links to Standards.....52

Experience and Communication: Practice.....53

Communication.....54

Summary.....	56
CHAPTER THREE: PROJECT DESCRIPTION	
Introduction.....	57
Project Overview, Audience and Implementation.....	57
Reasoning.....	58
Setting/Audience.....	60
Timeline.....	60
Summary.....	61
CHAPTER FOUR: CONCLUSION	
Introduction.....	62
The Learning Curve.....	63
Revisiting The Literature Review.....	65
Looking Towards The Future.....	67
Summary.....	68
REFERENCES.....	70

CHAPTER ONE

INTRODUCTION

Introduction

As the social, economic and natural world continue to change, it becomes increasingly apparent that students should have access to nature. As Quay and Seaman (2013) and Vanderloo et al. (2013) have discussed, the type of environment we expose young children to has a tremendous impact on their academic and physical growth, as well as their mental well-being (Guardino et al., 2019). In recent years, there have been many studies published showing that instilling a love of nature in students can help them become more well-rounded individuals.

I wish I could say that I have consistently maintained a deep love of nature throughout my life, but that would be far from the truth. Today, I am a nature advocate and aspiring environmental educator, however, during my teenage years I could not have cared less about nature. Many children and teens throughout the United States feel similarly about nature and wildlife. This unfortunate sentiment starts to make sense when you look at just how little time students spend outside when attending school all day. In 2018, the National Physical Activity Plan found that only 1.7%, 7.5%, and 2.2% of elementary, middle and high schools, respectively, provided physical activity breaks beyond physical education and recess (Guardino et al., 2019). These findings are

shockingly low considering that many students, especially students in urban areas, are only able to experience safe outdoor exploration at school.

I was able to become passionate about nature as an adult because I spent my childhood outside exploring nature. Many students are unable to explore nature spaces as a child due to a multitude of reasons. Barriers that prevent students from spending time outside include social barriers like their friends being unwilling to spend time in nature or a lack of free time due to homework and after school commitments. Even parents own unwillingness to be outside can create an understanding for children that if their parents do not want to be outside then they shouldn't either.

Researchers and educators alike have also explored the barriers preventing outdoor exploration as part of the school day. Some of these barriers include lack of funding and transportation, pressure to fulfill state curriculum requirements and inability to access nature areas and obtain resources (Reese, 2018). One of the largest deterrents is children's and teenager's proximity to nature spaces. If young people are unable to explore nature in their free time why are there not ample opportunities for young people to spend time in nature spaces during school hours? While not all schools have green space, school gardens or school forests, schools are located in communities with municipal parks, and many schools are in close proximity to state or National Parks. The purpose of this capstone project is to explore how schools and state parks could have a mutually beneficial relationship. My research and project focus on the question: *How can websites and blogs help educators foster a connection between outdoor education and state parks? How can this connection benefit students and state parks?*

Chapter one will review personal experiences that inspired this capstone project. Chapter two will review the literature regarding the challenges and successes of teaching outside as well as state park and nature area restoration and conservation. Chapter three will outline creation and implementation of this capstone project; a resource website/blog for the benefit of educators across the United State. Finally, chapter four will discuss and analyze the results and make predictions about the future of the U.S. education and state park system.

Relevance

In recent years there have been many studies focused on the positive outcome of outdoor recreation and learning in k-12 students. In 2012, Humberstone and Stan found that in addition to child learning outcomes, children's physical and emotional health and well-being are improved through exposure to outdoor environments (as cited in Guardino et al., 2019). Through outdoor education, students are able to build upon prior knowledge through hands-on experiences to achieve a greater understanding of the subject (Anna, as cited in Reese, 2018). These findings are encouraging for teachers wishing to learn more about teaching outside of the classroom. As we will explore in chapter two, outdoor education does not come naturally for most educators. Being outside for more than ten minutes in any weather can be difficult for many adults. Throw in a handful of students and a lesson plan and even an experienced educator would feel the need to 'play it safe' and teach indoors. This capstone will showcase past findings of outdoor education studies while confronting educator's fears and limitations that prevent them from taking their education outside.

While outdoor education is very important when considering the future of education, it is also important for us to consider the future of our state parks. Outdoor learning can be just as beneficial for natural areas as it is for students. By engaging in restoration work, students obtain a sense of agency in the work they have accomplished, encouraging ongoing interest and a stronger bond with nature (Hansen & Sandberg, 2019). Introducing students to the Center of Outdoor Ethic's Leave No Trace principles, along with other restoration behaviors, encourages students to help state parks heal from deterioration. Ideally, the students carry these principles of positive change with them everywhere they go.

Personal History

Childhood.

My father introduced me to the Leave No Trace principles long before I knew the movement behind them. The seven principles of Leave No Trace provide easy to understand guidelines for creating minimal impact while exploring the great outdoors. The seven principles are: 1) plan ahead and prepare, 2) travel and camp on durable surfaces, 3) dispose of waste properly, 4) leave what you find, 5) minimize campfire impacts, 6) respect wildlife, and 7) be considerate of other visitors (*The 7 principles*, 2018). When we were playing at the playground, camping or even just taking a walk, my father would always tell me and my brother to leave a place cleaner than how we found it.

In fact, my parents were always advocates for spending time outside. I lived in a subdivision right next to a little lake where my friends and I would often fish, and rarely

catch anything. My mother was a school teacher so my family was able to have at least one vacation every summer. We often used these summers to go camping. One of our favorite places to camp was Table Rock Lake in Branson, Missouri. I have fond memories as a child of catching crawfish in streams and naming them. Even when I was at home, my backyard on a summer night was the perfect place for wonder and exploration. I would see how many lightning bugs I could catch before I had to go inside for the evening. As a child, I had no idea that not every child was afforded the same nature exploration that I was.

The summer after I graduated eighth grade, my family took a cross-country road trip to Yellowstone National Park. This trip was memorable to me for so many reasons. We visited Mt. Rushmore, hiked through the Badlands and even watched Old Faithful erupt. However, one thing that was solidified in my mind from that trip was how boring my home state of Illinois now seemed. As I stood in awe of Old Faithful, all my young mind could think was, "We don't have this back home." For many years after that adventure, all that came to mind when I thought of my home state was rows and rows of corn. I started to believe that the only natural areas worth exploring were National Parks. I did not have the mindset or the know-how to research and discover the state parks and nature preserves in my own state. And, I certainly didn't know about the Department of Natural Resources (DNR) and how they help connect people with nature every day. As I grew up I became less interested in being outside. I, like so many students, believed my own backyard no longer held any natural beauties for me to explore. Catching crawfish was for little kids and I had TV to watch, books to read and the internet to get lost in. It

would take me years to discover just how amazing and beautiful my home state is. Even after discovering this beauty, I am still a child of the internet. However, now that I am older I know that the internet can be used as a tool to help educators communicate and explore these natural wonders for themselves.

Professional Journey

Working as a Naturalist

After I graduated from Southeast Missouri State University in 2015 with a Master's of Science Degree in Marine Biology, I was desperate to find a job remotely close to my field of study. I stumbled upon an opening for a naturalist position at the Audubon Center of the North Woods (ACNW) outdoor education center. I applied and got the job thanks to my personability, leadership background and my memories of exploring outside as a kid. Before working at ACNW I had never experienced teaching outdoor and environmental education. The middle school and high school I attended growing up offered little to no outdoor education and exploration. I had to learn how to teach subjects like team building, Minnesota native species, and survival skills for any and every weather forecast imaginable. Learning how to teach outside was a scary and challenging experience. Luckily, I had a solid support team of outdoor educators who helped me every step of the way.

As I taught K-12 students from urban and rural schools from across Minnesota and Wisconsin, I was shocked to discover just how many students hated spending time outside. Growing up in Illinois, I had this grand disillusion that everyone who lived up north loved being outside. I quickly discovered that most of the students visiting the

outdoor education center lived and went to school in large cities like Minneapolis and St. Paul where they had little to no experience with safe, natural areas. This realization helped me to adjust my teaching to be more inclusive and accepting of those students' concerns while in nature. I had to remind myself that even though I spent most days outside in rain or shine due to my job, most of the students I taught did not.

I learned how to gently encourage students to step outside of their comfort zone and join me in a world of nature discovery. I knew that, for some students, this was their first time learning outside and I wanted it to be fun and filled with personal and educational growth. My greatest joy was observing students open up to nature and outdoor learning. I would see a group of girls complain about rain on Monday only to see them jumping into puddles on Wednesday. Or I would have to beg a shy student to participate in *Capture the Flag*, a game where two teams try to capture the opposing team's flag, at the beginning of their stay at the center, but then see them cheering on fellow classmates, unprompted, during high ropes just a few days later. This teaching position allowed me to become a better person, educator and naturalist. It also reconnected me with nature all over again. I went from reminiscing over my childhood adventures to exploring, learning and teaching outside every day. I was able to experience the outdoors and education with fresh eyes thanks to those students' curiosity and discovery.

Graduate School

During my time as a naturalist, I was able to take several classes through Hamline University leading to a Master's of Natural Science and Environmental Education. At the

time I had no intention of completing my degree. I thought that after I left ACNW I would continue to pursue a career in marine biology. After my internship ended at ACNW, I struggled once again to find a job that I was passionate about. All I knew was that being a naturalist was the best job I had ever had. I thought that I would be happy in a career of research, however, helping those students at ACNW to discover the wonder of nature was the most rewarding thing I had ever experienced. I understood now that those Hamline classes were the start of a new chapter in my career, so I decided to complete my Master's Degree.

My graduate education was going smoothly until my first summer semester which happened to be Biomes taught by my former ACNW boss Bryan Wood. For this class, we were enlisted to explore the different biomes our state offered. Even though I had discovered the beauty of Minnesota, I was still under the impression that Illinois was a boring place with nothing to offer me, naturally speaking. Bryan assured me that there was plenty to discover in every state, I just had to go out and find it. Thus began my summer of Illinois State Park exploration.

I explored Illinois' State Parks located in the Eastern Deciduous Forest, Southern/Gulf Coastal Plain, the Western Great Plains and the Ozark Uplift. I was overjoyed to discover the unique natural areas that Illinois has to offer. I visited the Wildlife Prairie State Park in northern Illinois and discovered the effort that park employees went through to create and maintain new prairies. Seeing a fully functioning prairie with actual bison roaming it was eye-opening. I was so happy to have such beauty so close to home, however, I was also sad that I had spent so many years not realizing

these wonders existed. I knew right then and there that I wanted every student to experience the wonders of state parks.

If I was introduced to state parks at a younger age I may have embraced nature and outdoor education earlier on in my education. There are state parks scattered all over the United States that could use some much needed love and restoration. Many state parks could greatly benefit from small scale restoration projects like invasive plant species removal. These small restorations could go a long way towards keeping state parks safe and beautiful areas where students can learn and explore nature. In addition, connecting young people with these parks could ignite their ethic of care for our land and water resources.

Conclusion

As we have explored in chapter one, my childhood nature experiences have led me to pursue a master's degree in environmental education. My path to this pursuit has been long and winding. As a teenager, I wanted nothing to do with nature. Unfortunately, most students feel the same way I once did about nature. Through my experience as an outdoor educator, I discovered just how important being outside is for students. It provides both mental and physical benefits for students even if they are unaware of them as they play and learn outside. As I pursued my Master's Degree through Hamline University, I discovered just how important state parks are for people of all ages wishing to be closer to nature; as well as the state park's need for constant restoration. It is because of these discoveries that I am creating this specific capstone project.

My background in environmental education and passion for the natural world has led me on this path of educational research and exploration. In chapter two, I will review the literature on outdoor education as well as works on state park restoration and conservation. Chapter three introduces my capstone project creation and implementation. Chapter four will conclude with a reflection on my project as well as my hopes for the future of state parks and the U.S. school system. My childhood wildlife exploration is the reason I am passionate about nature and wildlife today. I wish to introduce that same discovery to every student in the U.S., and I believe a partnership between state parks and the surrounding school districts is just one way to create that natural connection.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter reviews influential literature in an attempt to answer my research question: *How can websites and blogs help educators foster a connection between outdoor education and state parks? How can this connection benefit students and state parks?*

The first section of this chapter offers insight into the many benefits of outdoor education. Review of current outdoor education literature points to an increase and improvement in student curiosity, problem solving skills and academic promise; subject diversity; outdoor preparedness; physical activity; and respect for nature.

The second section of chapter two investigates state park conservation. Topics include: Leave No Trace principles; how students can and have positively influenced nature sites; how ecological restoration has increased students' respect for nature; and how educators can create their own restoration project for their students. This chapter also reflects on the barriers to outdoor education and addresses concerns that educators have towards outdoor education; possible solutions to setbacks; and how teaching outside gets easier with practice and communication with other outdoor educators.

Benefits of Outdoor Education

One definition of outdoor education is a teaching method used to achieve educational objectives in an outdoor environment with the use of teaching aids provided by nature (Kida, 2019). Educators are constantly adopting new teaching methods to

benefit their students, but why use nature as a teaching tool? Soga and Gaster (2016) explained how a decrease in contact with “the more-than human world” (nature and wildlife) is associated with deteriorating mental and physical health, as well as reduced emotional connection towards nature (Hansen & Sandberg, 2019). We are discovering that reduced time in nature can have a negative influence in a person’s mental and physical state. However, outdoor education is not simply a preventative measure. Outdoor education increases students’ academic achievements, understanding in any school subject, outdoor preparedness and physical activity, and respect for nature (Dieser & Bogner, 2015; Finn et al., 2018; Guardino et al., 2019).

Academic Promise

Researchers have been studying the effects of outdoor education for many years. These results are well published and some school districts have noted the need for outdoor education and have started to integrate it into their curriculum. Outdoor education is often introduced to school curriculum for two key reasons: to increase students’ connection to nature and to positively influence their learning abilities. Outdoor education does this by allowing students to discover, observe and interpret natural settings (Hammerman, 1980, as cited in Dieser & Bogner, 2015). These are just two of the factors that schools look at when considering adding outdoor education to its curriculum. Connection to nature and increased learning ability in students are two of the most influential benefits offered by outdoor education, but they are by no means the only positive outcome to be observed. Outdoor teaching models boost personal and social development in students. For example, they gain an understanding that team building and

exploration activities are not just for fun, but serve an educational purpose (Kida, 2019). Many educators and parents subscribe to the idea that outdoor education is students mindlessly running wild through the woods. If only there was a broad understanding that outdoor education promotes discovery and exploration, vital running and movement, and increased mindfulness and awareness; an awakening of the body, mind, and spirit connection.

The activities and lessons offered by outdoor educators help to grow interpersonal relationships between classmates in a new and exciting environment. Outdoor education is often seen as a “lesser” form of education because it is categorized as non-formal education. As Eshach (2006) explained, non-formal education includes all organized types of intentional education outside of the formal school system (as cited in Pérez et al., 2019). As this definition clearly states, organized, structured education is still occurring in outdoor education even though it often looks very different from classroom learning. Outdoor and other non-formal forms of education are often characterized by their adaptive and flexible design, student focused, participatory approach, and locally relevant content (Pérez et al., 2019). Though outdoor education may look unstructured from an outsider’s point of view, seasoned outdoor educators praise outdoor teaching models for their flexibility in subject matter and student focused learning opportunities. Outdoor education also allows students to apply knowledge learned in the classroom to real world experiences. Subjects like population density and watershed formation are no longer just information in a textbook but lessons that students can witness and study in the real world close to home.

Promotes. In my experience, I have observed that the best foundation for promoting outdoor education is for educators to witness the many benefits created when students are out in nature. Some cognitive outcomes of outdoor education include: skill building, environmental understanding, and academic development. Personal developments include: increased self-esteem, self-determination, and self-awareness (Kida, 2019). In 2015, Chawla expressed that regular exploration and exposure to natural environments was fundamental to children's development; Amoly et al. (2014) added that physical and mental health increased in children who spent time outside (as cited in Grimwood et al., 2017). All three of these studies focus on different categories all shown to be results of outdoor recreation and education.

Though the effects of outdoor education on special needs students is not my focus for this study, I thought the information I found in one study would be helpful for special educators wishing to try outdoor education. During a 2019 study of outdoor learning, reading lessons for children with special needs were held in an outdoor classroom; when interviewed the children in this study reported "liking" the outdoor classroom (Guardino et al., 2019). This was a fascinating finding for both myself and the educators participating in the study. As one of the special educators is quoted, "[...] When the lesson took place outside, these children were more engaged and focused" and "off-task behaviors occurred less often" (Guardino et al., 2019, p. 122). Both special and regular education teachers fear that when their students are able to have even the smallest amount of freedom they will lose interest in learning. However, this study and others demonstrate

that children are able to focus on specific tasks and lessons when they are placed in new and outdoor environments.

This paper focuses on these new environments being state parks close to schools. However, these new learning spaces do not necessarily need to be state parks. Morag and Tal (2012) assure that out-of-school learning environments like museums, planetariums, aquariums, science centers, which are typically categorized as field trips, have been shown to have significant influences on students' cognitive, affective, social and behavioral achievement (Dieser & Bogner, 2015). Many of these locations have built-in activities that help promote students' curiosity and motor skills. Both Rickinson et al. (2004) and Dillon et al. (2006) emphasized that field trips, especially ones that take place outside, provide hands-on and direct experiences of nature, enhancing students' interest and motivation to learn about the world around them (as cited in Dieser & Bogner, 2015).

All too often a child's world consists of their neighborhood and school. Parents and educators do their best to shield young people from a sometimes unsafe world. Exposing youth to a safe, natural space, like a state park, close to their school and home allows students more freedom to grow and learn. Outdoor and environmental education programs constructed to be relatively open with many hands-on activities can evoke positive feelings towards nature and education (Fröhlich et al., 2013, as cited in Dieser & Bogner, 2015). Students are more likely to retain information if they have a positive experience tied to the learning process. It is true that outdoor education has a more flexible and open format than a typical classroom setting. This flexible format can be intimidating or even concerning to educators who are used to having lessons planned

days in advance. However, outdoor educators report that this openness allows students the time they need to absorb any new information provided to them in a natural setting.

Academic testing. The flexibility of outdoor education can seem completely separate from the rigidity of standardized testing. Standardized testing has become almost unavoidable in the American education system. Because of this, several researchers have begun to study the effects that outdoor learning has on student's testing results. In 2014, Ewart and Siphorp studied some of the long-term outcomes that evolve from outdoor education and witnessed an increase in students' school and work performance, psychological well-being, as well as overall mental and physical health (as cited in Kida, 2019). These benefits are encouraging for any educator, though outdoor education becomes far more appealing to educators and school boards when we examine how outdoor education directly affects student test scores.

In 2003, the Office for Standards in Education (OFSTED) acknowledged that educational initiatives that are environment-based show promise for improving student academic achievement (Finn et al., 2018). This statement was released several years ago and the research for outdoor education achievement has only proved to support OFSTED's statement. In recent years standardized test scores in third graders showed that 15 of the 16 students involved in outdoor literacy and science lessons met adequate yearly progress (AYP) on the high stakes reading tests (Guardino et al., 2019). This is fantastic news for both students and teachers alike. Testing can be a stressful time, however, when students are able to recall positive learning experiences during testing it eases that pressure on the students. Reading is not the only subject we see rising scores

when students are exposed to outdoor education. Students' science test scores based on 20 items increased by approximately 6.5% (Finn et al., 2018).

We are seeing that no matter the subject, students' test scores increase when they are able to explore outside the classroom before a large test. But the question remains, why does outdoor education increase test scores in students? One explanation is that outdoor education has several formal outcomes including: Declarative (spoken or written factual information), Procedural (understanding rules, activities, and their sequence), and Conditional (knowledge about when to use a specific procedure) (Kida, 2019). These formal outcomes are all woven into standardized testing. These are the skills that educators would like to see from students and they just so happen to be skills that students experience in a natural learning environment. As we will explore later in this chapter, outdoor learning can take many forms resulting in students' overall growth. Nature journaling, play writing and spoken show and tell help develop declarative skills. Practicing Leave No Trace and team building activities strengthen procedural skills. And using nets, microscopes and charts help to create conditional understanding in students.

Science learning. Aside from testing, outdoor education often provides opportunities for students to explore STEM (science, technology, engineering and math) subjects. Banilower et al. (2001) showed that children expressed more interest in science learning when they were able to collect and analyze their own data (Finn et al., 2018). This finding is promising for educators looking for ways to engage students in learning experiences. Students are far more likely to be interested in subjects like botany if they

are able to identify and collect their own plant samples rather than complete assignments based on random numbers pulled from a textbook.

A recent study found that young children learning in outdoor classrooms have better attention and focus and less behavioral issues than when learning the same subject in an indoor classroom (Largo-Wight et al. 2018, as cited in Guardino et al., 2019). This is a promising finding and one that has the potential to be studied more in the future. Classroom teachers may shy away from teaching outside due to a fear that student's behavior will get out of hand. However, we are seeing that when students are given freedom during learning they behave better than in a more restrictive setting. This could be a result of students having more control over their own education.

In an outdoor setting, students are encouraged to develop inquiry-based learning skills that support and enable young children's sense of wonder and interaction with the natural world (Green & Dymont, 2018). When students are the ones asking the questions rather than the teacher, students become more invested in finding the answers. The learning dynamic shifts from students retrieving answers from text to a new adventure for every answer posed.

Subject Diversity

The increased interest from students in science is exciting. However, the true strength of outdoor education is that it can be used to help students in every subject offered to them in school. All the way back in 1990, Miles and Priest noted that the outdoor education teaching and learning process is not aimed at passing an exam or getting a grade but realizing that consistency and responsibility for one's actions is the

only key to be successful in life (as cited in Kida, 2019). Though testing does cover most subjects offered in school it should never be the main reasoning behind education. It is important to allow students the opportunity to explore every subject through an outdoor education lens. The outdoor classroom lends itself to inquiry about nature, which provides children with unique opportunities to gather, interpret, analyze and predict information in meaningful contexts (Burriss & Foulks, 2005, as cited in Finn et al., 2018). As we will explore in this section, outdoor education can and should be used to teach every subject from drama and literary arts to chemistry and physics.

Teacher's aid. As we will explore later in this chapter, educators often view the “outdoor” portion of outdoor education as a challenge to overcome. However, as experienced outdoor educators will tell you, nature can be the greatest tool any teacher could ask for. Findings support the notion that outdoor classrooms are a promising tool for teachers and schools to enhance student's learning and well-being (Guardino et al., 2019). Nature should not be seen as just a place students can go to get some fresh air but as a living classroom. One of the outdoor classroom's greatest strengths is the many learning experiences that it enables teachers to create (Quay & Jensen, 2018). Students know what to expect when they walk into a classroom; desks, computers, and maybe something written on a whiteboard. Unlike traditional classrooms, outdoor classrooms are constantly changing. These new environments allow students to explore subjects like weather, animal migration and even lichen growth in the real world. These new environments place everyone on the same level of learning and exploration.

Outdoor education also has the potential to create an environment in which learners with diverse perspectives and backgrounds explore new concepts and co-create knowledge (Gonzales et al., 2019). This is particularly influential for educators teaching in urban school districts. Many students are unable to explore nature on their own so a school trip to a nearby state park may be a huge learning experience. Outdoor education encourages students to work together in these new environments so students can learn, explore and grow with the support of their peers.

When teaching in an urban area it is important to understand that outdoor education is less about the “where” you teach, and more about the “how” you teach. “Outdoors” can mean many things; everything from schoolyards and football fields to local forests and lakes outside of the school's property (Hansen & Sandberg, 2019). As expressed previously in this chapter, outdoor education is not ‘forests or nothing’. There is a lot of flexibility for educators when it comes time to selecting an outdoor classroom. For educators wishing to add more outdoor learning to their curriculum, it is important to understand that any new teaching strategy is a learning experience for both teacher and student.

Many outdoor educators would argue that regardless of a teacher’s educational environment (e.g., urban, rural, metropolitan, subject discipline, online or face-to-face), any educator interested in improving and deepening students' learning can find ways in which their pedagogy might be brought into an outdoor education setting (Green & Dymont, 2018). There is no shortage of articles, blogs, websites, podcasts and videos that offer educators ideas and insight into creating outdoor experiences for their students.

Often the hardest part of outdoor education is taking that first leap into actively integrating it into the curriculum. For example, many educators are deterred from outdoor education because it is new and unfamiliar to them. The fear of mistakes for both the teachers and students are very. However, Hattie (2009, 2012) suggested “mistakes are the essence of learning” (p. 26). For Hattie, the role of mistakes within the learning and education process needs to be seen as positive because mistakes, when accompanied with effective feedback, create opportunities for students and teachers to learn and improve (as cited in Cure et al., 2018). Though the aim is never to make mistakes, outdoor education allows mistakes to be made by everyone in order to promote learning experiences and personal growth.

When I was an outdoor educator at the Audubon Center of the North Woods (ACNW), I learned that it was okay to say “I don’t know” to a student’s question. When I did not know something I wrote it down and let the class know that I would research the question and come back with an answer at a later time. After researching the question I would gather the class and inform them of the new information I had gained. This served two functions; first, I was able to gain new information as an educator that I previously did not know, and secondly, I was able to bring up a topic previously talked about in class in a new and meaningful way which increased the students’ ability to recall that information after they left the center.

Outdoor education is about creating space where children are encouraged to learn, explore, and make meaningful relationships on their own terms and in their own backyards or neighborhood parks. Providing safe nature spaces is necessary to spark

authentic interest among children. Effective mentoring practices like “questioning” (as opposed to “telling,” which renders participants passive recipients of knowledge) can light embers of curiosity for extended learning (Grimwood et al., 2017). These embers of curiosity are crucial for outdoor education. As long as educators can spark that curiosity about nature in their students the great outdoors can be found even in the most concrete of jungles.

Text to tree. Not only can outdoor education create a spark of curiosity for general nature subjects and team building, it can be used to transfer specific lessons learned in the classroom into real world application. The direct link from classroom topics to hands on experience helps students understand and connect with new learning material. Outdoor and environmental education provides students with the opportunity to reinforce and strengthen their understanding of topics previously discussed in the classroom (Reese, 2018). Revisiting topics allows students to voice what they remember learning in class, as well as allowing those students who still have questions about the topic to ask them. Bell et al. (2009) stated that connecting prior knowledge to new experiences is an “essential learning behavior” in informal environments (Zimmerman & Land, 2013). The process of recalling familiar knowledge gives students a sense of familiarity when they are exploring new environments. Nature exploration can be a stressful time for some students. Any method that educators can use to reduce this stress will ensure that students are able to have fun while learning.

One of the most rewarding aspects of outdoor and adventure programs is the ability for text to come to life; allowing students to experience firsthand science concepts

in their own communities and schoolyards (McKinney, 2020). Students who are able to form a connection between what they learn in school and their surroundings are much more likely to feel a connection to nature and the community. Nature provides students a setting to become acquainted with flora and fauna, geology, landscape formation, and helps them to understand important biological processes such as succession (Dieser & Bogner, 2015). At best, pictures and diagrams in textbooks can add a two dimensional visual aid; at worst they can cause confusion or be misleading to students learning a new subject. Students can better understand ecological succession if they visit an area that was once devastated by natural disaster, and see how new plant species start to grow on the barren earth. Outdoor education is a vital tool for any educator wishing to help their students understand and become passionate about new information.

Science-based curriculum is not the only field of study outdoor educators rely on. An arts-based approach to outdoor education is appealing to children's individual passions and curiosities, which leads them to create personal connections to learning and nature (Grimwood et al., 2017). In a time when the arts are so rarely funded in a traditional school setting, outdoor education offers teachers a chance to expose their students to a more arts-focused curriculum. This could include nature journals, storytelling around a campfire, or even students performing a play where they are adventurers exploring a wild prairie. It is through storytelling that people both young and old convey meanings, perceptual experiences, knowledge, morals, and memories (Grimwood et al., 2017). When students are able to share what they are learning or experiencing they are able to convey to the rest of the class how they feel and why this

experience is important to them. Storytelling and small dramas help to create a safe space for students where they can build public speaking skills in a fun and meaningful way. Short plays and song creation encourages students to add their own interests to the subject they are learning and work with their peers to create something new and unique; a creative experience that is often lacking in more rigid, “one-size-fits-all” approaches to education (Grimwood et al., 2017).

Outdoor activities that may seem like pure fun are tying learning opportunities and nature exploration to positive memories for children. Not only can outdoor education tie classroom learning, exploration, appreciation of the arts and nature together; but it does this by using a bow called physical activity. Integrating physical activity and classroom learning in an outdoor education program creates a possible solution to some of the many challenges students have to face in the ever growing world of indoor education and free time (Finn et al., 2018).

Outdoor Preparedness and Physical Activity

In addition to academic and interpersonal development, outdoor education has been shown to increase children’s outdoor preparedness and participation in physical activity. From a school perspective, programs that involve outdoor and adventure education can create opportunities for students to grow, not only in their local environment, but also in new kinds of experiences and learning opportunities. (Hansen & Sandberg, 2019). Outdoor education turns physical activity into exploration and allows students to feel more prepared to leave their comfort zone.

Preparedness. Outdoor education has been shown to increase student's participation in challenges that they may not have otherwise participated in, in a traditional classroom setting. Outdoor educators encourage students to move out of their "comfort zone" and into the "learning zone" where they overcome fears and participate in challenging and rewarding activities. The three goals of outdoor and adventure education were: to enhance the educational process through first hand experiences; to promote personal growth and the development of moral values; and to develop student's readiness to take risks (Rubens 1997, as cited in Kida, 2019). In a traditional classroom setting, risk-taking is either not an option or highly frowned upon. Students are encouraged to study new information so when it comes time for a test students are prepared and know what is expected of them. The fear of mistakes leads students to eliminate risk as much as they can during class. However, as previously mentioned, mistakes and risk is not something to shy away from but rather embrace and learn from.

A key component of outdoor education is that success is achieved when students are placed in risky situations and feel outside of their comfort zone (Cure et al., 2018). Students and traditional classroom educators can have a hard time leaving their comfort zones when introduced to outdoor education. This is to be expected, human beings like to feel safe in what they are doing. Outdoor educators are well-versed in encouraging children to take small risks, like petting a box turtle, before introducing students to greater "risk" (i.e. petting a snake). These baby steps out of comfort zones enable students to participate in calculated risk more often. Gustafsson et al. (2011) believed that this risk-taking allows students to increase their physical activities, self-esteem,

collaboration, socializing, de-stressing, tolerance and joy (as cited in Hansen & Sandberg, 2019). School can be a very stressful time for children. Preparing them to take risks allows them the confidence to talk to new people and try new extracurricular activities. An understanding that failure is okay and normal helps students continue to grow and learn without fear.

The easiest way to help children learn to move out of their comfort zone is by introducing them to new environments. An outdoor classroom, which can be unpredictable, gives students new opportunities to make decisions and overcome challenges (Kida, 2019). As previously argued, an outdoor learning space is far more versatile than most indoor classrooms. Its unpredictable nature encourages students to become aware of their surroundings. Elements such as wind, rain and temperature, which has very little effect on an indoor learning space, matter greatly to an outdoor learning environment. Falk (1983) indicated that the more familiar students are with new environments, the more they are able to learn and retain during their time in nature (Dieser & Bogner, 2015). It only takes one rainy day without a jacket for children to remember their rain gear next time they go outside. The ability to dress for the weather is an ongoing challenge for children and adults alike. Adults will see clouds in the sky but still forget their umbrella at home. Children will wear their nice shoes to a muddy park and cry when they get dirty. The more students are exposed to the elements the more they learn to accept and prepare for them.

Many schools encourage this preparedness in students by hosting outdoor education activities like “Fun Mud Day”. Activities that make up Fun Mud Day

encourage students to try new challenges presented to them. This includes carrying leaky buckets or water, crawling in mud and even sliding into cold soapy water all while wearing their everyday school clothes. Dr. Ferrer mentions that once the initial shock of getting wet has passed, students are more prepared to participate in other challenges because the initial fear of being dirty has passed. (The Center for Early Childhood Education, 2019). From an early age, children are well aware that getting their clothes dirty is a “bad thing”. When they are allowed to get dirty there is that initial fear that they will be punished. However, once children see that they won’t get reprimanded they are free to enjoy and explore without fear.

In an outdoor classroom, students are encouraged to fully immerse themselves in the dirtiness of outdoor life. Such experiences “bring them out of their comfort zone” and help children stretch their boundaries, engage confidently when faced with uncertainty, and develop resilience (Grimwood et al., 2017, p. 212). Dirt happens, and sometimes students get hot or cold when exploring nature. However, when students are having fun these minor inconveniences seem to matter less. Student preparedness to the elements may enable them to wear more appropriate clothing, but it also arms them with the knowledge that no soggy socks or dirty sweater is forever. At the end of the day students get to return home and change into comfortable, clean and dry clothes. We will discover later on in this section that children’s resilience goes hand-in-hand with their appreciation for nature (Grimwood et al., 2017). Student’s resilience allows them to look at the rain for the life that it brings and not the mud in their socks.

Activity. Even though outdoor education encourages students to take risks, student's health and wellbeing are always top priorities for outdoor educators. With the increased awareness in physical ailments that comes with a sedentary school and home life, educators have started exploring physical activity opportunities during the school day. Where physical activity can be difficult to achieve in a classroom setting, physical activity goes hand in hand with outdoor education. Physical inactivity in children can increase their risk of stroke, high blood pressure, diabetes and obesity later in life. It is recommended that children and adolescents participate in physical activity for at least 60 minutes every day (Finn et al., 2018). During a traditional school day it is difficult to fit in a physical education (P.E.) class for 50 minutes three times a week.

Even with the data supporting physical activity, many school districts opt out of implementing P.E. into their required curriculum. Seeing school as a space for academic achievement and after school as a time for play and physical activity. Unfortunately, this view is detrimental to students' health and academic potential. It often seems like there are not enough hours in the day for students to attend school, complete homework, get 60 minutes of activity and the recommended 8 hours of sleep. This isn't even mentioning the students who, outside of school, do not have access to safe areas to run and play.

Outdoor education is able to create a safe space for students to be regularly active while continuously learning. In 2005, Strong et al. found evidence suggesting that children who are physically active outdoors have a lower risk of developing a form of chronic illness. Moreover, it has been shown that participation in activities in nature during childhood, such as hiking, camping and gardening, is associated with more

positive attitudes toward outdoor activities later in life (Wells & Lekies, 2006, as cited in Finn et al., 2018). Outdoor play and exploration is fun for students but it is also increasing their cardio, stamina and strength. Keeping students active in nature will grow their respect for nature while encouraging them to carry on the practice of outdoor activity as they grow older.

In 2018, Finn et al. created a study that showed children were significantly more active in the outdoor environment compared to the traditional school environment. Steps per hour increased approximately threefold from the baseline to the posttest (Finn et al., 2018). In an outdoor classroom there are no desks. There may be mats or logs to sit on and discuss learning material, but students spent most of the class period walking around in nature discovering new things. Even schools that implement one, 50 minute time period per day for outdoor education greatly increase students' activity and preparedness.

Ferrer, a participant in Fun Mud Day, supported outdoor physical activities and education. She mentioned that, while exploring and playing outside, children are able to experience new things and learn how to overcome physical challenges that are not typically presented to them in a school setting. (The Center for Early Childhood Education, 2019). Many schools are not outfitted with a fully functioning area where students can play and exercise outside. Finding space to afford students the ability to be active may be challenging but it is worth it for the student's health benefits. Robert, mentioned previously, explained that students are experiencing fun while participating in outdoor challenges, but they are also showing bravery when faced with daunting tasks like going down a water slide or swinging on a rope swing (as cited in The Center for

Early Childhood Education, 2019). Many children do not enjoy the physical activities offered in a traditional school setting. Track and field, dodgeball, and tennis can be intimidating to students that are not competitive or athletically inclined. Outdoor education offers teambuilding and low risk activities that can promote fitness while growing respect for nature in students.

Respect for Nature

Possibly the most important outcome of outdoor education is an increased respect for nature. Many of the benefits that have been highlighted so far in this chapter can, in a small way, be created in a classroom. However, it is almost impossible to create a respect for nature without actively being in nature. Outdoor education allows students the opportunity to learn and explore natural areas that they often do not get to experience. Louv (2008) used the compelling metaphor “nature-deficit disorder” to depict how Western society’s increasing disconnection from nature is creating a range of behavioral and health problems, especially among children (Grimwood et al., 2017). The U.S. is particularly prone to this “nature-deficit disorder”. As young children are being exposed to more technology and a growing urban landscape they are experiencing nature less. An improved understanding of the relationship between humans and nature is an important measure that should be prioritized in schools (Hansen & Sandberg, 2019). As we have seen in the previous section of this chapter, adding some elements of nature study is so important to student’s health and well-being that it should be integrated into the curriculum. Luckily for school districts there is already a wealth of outdoor education curriculum in existence. Facilitating meaningful and healthy, human–nature relationships

is a long-standing aim and legacy of outdoor education (Grimwood et al., 2017). In addition to physical and mental health benefits for students, outdoor education aims to create a healthy relationship between students and their local nature spaces to promote a healthier community for people and wildlife.

According to Ernst and Theimer (2011) outdoor and environmental education has been associated with increased nature connection, and increased attitudes towards the environment and pro-environmental behaviors (Otto and Pensini 2017; Stern et al. 2008, as cited in Reese, 2018). Outdoor education doesn't simply teach students what they can find outside. It helps children understand how all things in nature are connected, even humans. This understanding allows students to take a closer look at how a specific action could affect the natural areas in their community. Place-based strategies encourage students to see the biological life embedded within a state park or nature reserve, along with its aesthetic value (Zimmerman & Land, 2013). There is no doubt that trees, flowers and butterflies are beautiful. However, each one of these organisms play a crucial part in nature. Place-based learning uses local outdoor spaces, local history and students' interests as tools to create interesting nature based lessons. A place-based educator may see the small strip of grass between the school and a road as an opportunity for students to observe Red-tailed Hawk activity, since Red-tailed Hawks hunt small rodents in these edge habitats. A place-based focus on outdoor education can help students understand connections like food webs in a more meaningful way.

Children who are presented with opportunities to experience, enjoy, and learn about the natural world will likely be more inclined to engage in activities to benefit the

environment they have come to love (Cordell and Tarrant 2002, Louv 2008, as cited in Larson et al., 2011). The first step in encouraging a nature ethic in students is to get them out in nature. As previously mentioned, the positive effects of nature exploration builds off of previous experiences in nature. When students have the opportunity to regularly visit nature they can form their own opinions on how to care for nature. As Kals et al. (1999) claims, nature connection has proven to motivate or predict commitments to nature protection (Grimwood et al., 2017). A connection to nature could prevent students from stepping on wildflowers during a nature hike or convince an entire community to revitalize a forest habitat. Students' ability to protect local state parks could be the future to outdoor education and state park preservation.

State Park Conservation

The research clearly demonstrates how outdoor education can positively impact and shape the U.S. education system. This next section will investigate state park conservation methods in order to answer the research question: *How can websites and blogs help educators foster a connection between outdoor education and state parks? How can this connection benefit students and state parks?* In the first section, Leave No Trace principles will be introduced, along with research indicating why state park conservation is so important. The second section explores how students can and have positively influenced state and local parks. The final section reviews past programs and studies focusing on ecological restoration that have increased student's respect for nature, along with examples and ideas of how educators can create their own restoration project for their students.

As Negra and Manning (1997) emphasize, parks and nature preserves, in particular, have been important centers of outdoor education (Johns & Pontes, 2019). Most school districts are located relatively close to at least one Department of Natural Resources (DNR) funded park. According to the National Association of State Park Directors (NASPD) (2015), annual visitation to state parks is approximately 730 million, and is projected to significantly increase over time (Lawhon et al., 2017). This means that these parks are well attended and regulated often to keep them safe for visitors.

Additionally, nearly 90 percent of outdoor recreation in the U.S. occurs in frontcountry settings (Marion, 2014). The frontcountry is defined as areas that are easy to access by vehicle and predominantly visited by day users (Leave No Trace Center for Outdoor Ethics, 2016, as cited in Lawhon et al., 2017). Most state parks and nature preserves are categorized as frontcountry because they are easy to access even by school buses.

However, there are some down sides to state parks being so popular. Leung & Marion (2000) and many other researchers have stressed the concerns that resource degradation due to inappropriate visitor behavior continues to be a significant concern for state park managers (Lawhon et al., 2013). Resource degradation can happen even when all park visitors are following park rules. However, it is more likely to happen when visitors purposely ignore or are unaware of state park rules. Some examples of this are: visitors hiking off of designated trails, visitors not keeping their pets on leashes or even visitors taking branches off of trees to use as walking sticks. These examples may seem

harmless enough but these little actions can cause serious damage to the park through the years.

A particularly complicated challenge for park and protected area managers is influencing visitor behavior to minimize the impacts on nature (Lawhon et al., 2017). Park managers have a difficult job of wanting to impose the importance of minimal impact while still encouraging visitors to the park. State park managers should not have to bear the brunt of educating other about nature restoration. Ecological Restoration Education (ERE) is an amalgamation of “ecological restoration” and “outdoor education.” (Hansen & Sandberg, 2019). ERE was developed in 2018 by the Swedish restoration project Skolbäcken. When schools teach ERE, students enter into nature knowing how to prevent degradation and promote restoration in their local communities.

Leave No Trace

Introduction. State park conservation and protection has made great strides in recent years. One of the most influential techniques that state park managers have embraced is Leave No Trace. The Seven Principles of Leave No Trace (LNT) provide an easily understood framework of minimum impact practices for anyone visiting the outdoors (*The 7 principles*, 2018). The term LNT may seem familiar to you even if you do not frequent state parks. The seven principles that are most well-known and widely accepted are: 1) plan ahead & prepare, 2) travel & camp on durable surfaces, 3) dispose of waste properly, 4) leave what you find, 5) minimize campfire impacts, 6) respect wildlife, and 7) be considerate of other visitors (*The 7 principles*, 2018). Though that may

seem like a lot for a visitor to remember, most parks have these principles posted at trailheads for visitors to read before they start exploring the park.

According to Marion (2014), LNT is the most frequently used approach to inform visitors about minimizing recreation-related impacts (Lawhon et al., 2017). LNT principles are relatively easy to understand and are often presented in a passive manner to visitors. According to multiple researchers including Hammitt & Cole (1998), indirect management approaches, such as visitor education, have become a primary and effective method used by park managers to minimize depreciative behaviors (Lawhon et al., 2013). LNT can be categorized as an indirect management approach because it sets out to educate visitors even without the presence of a park employee.

LNT's overarching intent is to raise awareness, reduce depreciative behaviors, increase knowledge, influence attitudes, and enhance the visitor's experience (Vagias, 2009, as cited in Lawhon et al., 2013). As we will discuss later on in this section, LNT is trusted by state parks because, when visitors are informed of the principles they act to uphold them. However, there is research that supports the fact that many visitors are either unfamiliar with or simply misunderstood some Leave No Trace practices (Lawhon et al., 2013). This section will explore why LNT principles are still not widely known and how educators can prevent disruptive behaviors in state parks.

Application of Leave No Trace. LNT and restoration projects are still being studied to see how they can be improved. Leung & Marion (2000) and many others have made it fairly clear that one of the most important causes of visitor-created impacts is improper visitor behavior (Lawhon et al., 2017). Visiting state parks is not a bad thing, in

fact, park managers want visitors to benefit from time spent in nature on their own and with others. It's when park visitors start pushing over rocks, disturbing wildlife, and hiking off the designated trails that people get hurt and degradation occurs. When this happens state parks need help from local communities to restore the parks back to their former glory.

Restoration in both the frontcountry and backcountry inevitably involves human values, ethics, priorities, and most importantly, actions in their local landscape (Hansen & Sandberg, 2019). Park managers with limited budgets and staff rely heavily on the help of volunteers. One of the recent developments regarding state park restoration is the urgent need to focus visitor education efforts on the effectiveness of LNT practices (Lawhon et al., 2017). If visitors are trained to practice and believe in the effectiveness of appropriateness of LNT, there will be less need for restoration efforts.

Results following Leave No Trace practices. One of the best ways to illustrate the impact LNT has on a state park is to display before and after pictures throughout the park. Visitors are able to see that their minimal impact is creating a better park for tomorrow. If visitors are unaware of the LNT principles, information displayed throughout the park, along with well-informed park employees are great places to start. Results indicate that park education and interpretive staff should focus on teaching the effectiveness of recommended Leave No Trace practices in order to influence positive behavior in park visitors (Lawhon et al., 2013). Promoting the positive outcomes of LNT in state parks is key to nature preservation.

Preservation and Restoration

While Leave No Trace is the primary environmental education message being shared in state parks, it is far from the only strategy being utilized. There are especially a number of preemptive, minimal impact approaches being used that involve small group/local community restoration projects.

In 2004, the Society for Ecological Restoration (SER) defined ecological restoration as “the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed” (Fox & Cundill, 2018). A natural area can be damaged naturally (storms, floods, fires, etc.) or man-made (invasive species spread, littering, pet defecation, etc.), regardless of the cause, human assistance is needed for timely and sustained restoration. Even though restoration requires help, outdoor education traditionally does not (or at least very rarely) involve children actively and systematically participating in the restoration of landscapes and ecosystems (Hansen & Sandberg, 2019). Outdoor educators typically abide by LNT principles which prohibit park visitors from changing an environment. The preservation of state parks is a noble one, but often requires months or years of planning, budgeting, and contracting with expert agencies that specialize in restoration of ecosystems.

Ecological Restoration Education (ERE) is defined as a pedagogical idea and approach with a strong emphasis on active participation of students in ecological restoration. These restoration activities are deliberately promoted as a method to teach about ecosystems and the role of humans in affecting them (both positively and negatively) (Hansen & Sandberg, 2019). Though there may not be a constant call for

educators to teach ERE, it is still an important subject that should be taught alongside outdoor education. As Gardner & Stern share, environmental problems are frequently attributed to the public's reluctance to engage in pro-environmental behaviors (PEBs) or other actions that encourage natural resource protection (Larson et al., 2011). The teaching of outdoor education and ERE would go a long way to supporting student's PEB and inspire an ethic of care for natural resources.

Community support. Community support is essential for any restoration project's sustainability and success (Fox & Cundill, 2018). Active participation in restoration projects offers local people a meaningful role to play (Fox & Cundill, 2018). When people (including students) actively participate in conservation activities in their community they feel more connected to nature and their community. This kindred sense of community and connection to nature can be very important to students growth and understanding of self worth. ERE inspires citizens both young and old to understand not only how to restore land, but also how to reduce degradation and increase biodiversity (Pérez et al., 2019). Students may conceptually understand what degradation is after learning about it in school, but if they participate in the process, their passion for conservation will influence their future, including their career decisions, how they vote, their civic engagement, and their support of conservation organizations and initiatives.

Education Restoration

State park conservation and restoration is a worthy cause in and of itself. However, educators can use restoration projects as a form of outdoor education. As Schaefer et al. (2013) explains, restoration is a place-based, practical, interdisciplinary,

and nuanced field of study and practice (Gonzales et al., 2019). Place-based education (Sobel, 2004) advocates design curriculum to make school-based learning more relevant to everyday life through a focus on local issues (Zimmerman & Land, 2013).

Place-based learning can be used as a link between outdoor education and state parks. It can make topics like erosion, migration and population density, which are all common topics in outdoor education and apply them specifically to state parks. After all, improving education programs at parks and nature preserves is critical to improving a community's understanding of nature (Johns & Pontes, 2019). Students are excellent educators in their own right. They take what they have learned in school and share them with their parents and siblings when they get home. This creates a ripple effect until everyone in the community knows about ecological restoration. This is why many adopt the view that place-based learning can best connect people of any age to their communities (Zimmerman & Land, 2013). Nothing brings a community together like a desire to achieve a common goal.

Connection to nature. As discussed earlier in this chapter, outdoor education tends to lead to students' connection to nature. ERE offers students and local communities the same opportunity to connect to nature. Efforts must be made to connect children with their micro-scale environment, as these small steps may turn into larger, but mindful ecological footprints later in life (Hansen & Sandberg, 2019). These micro-scale environments are backyards, playgrounds and even local parks and gardens. They are even smaller than state parks and nature preserves but they still lead to a greater appreciation for nature. In an outdoor education setting, most learners embrace

collaborative knowledge construction, setting the stage for them to become ecological restoration practitioners (Gonzales et al., 2019). The almost constant flow of knowledge between students helps them develop their own opinions on important topics like habitat protections and restoration. It is through this deeper understanding of the role humans play in modifying the world around them, that allows students to adjust their own action to impact the environment less (Johns & Pontes, 2019).

Though it might not seem like much, a student's decision to turn off the light when they leave a room or turn off the faucet as they brush their teeth has a big impact on the decisions they make as they grow older. What unites all the previously mentioned topics is the hope that by engaging in restoration work, children will obtain a sense of agency in the work they have done and feel a stronger bond between themselves and nature (Hansen & Sandberg, 2019). Even students with limited natural exposure can still feel the benefits in small, local restoration. For many people with limited access to large nature preserves, everyday settings may be just as instrumental for establishing positive relationships with local environments (Larson et al., 2011). Though state and local parks may be small and have limited funding, they are still worth protecting. And who better to protect those parks than the people proud to claim them as part of their community.

Outdoor Education Barriers

The positive outcomes of outdoor education in regards to student well-being and achievement as well as state park restoration are numerous. This brings up the question; if outdoor education can help students connect to nature why are so few schools using this method of education? The answer is that there are many barriers that prevent

educators from exploring outdoor education as a curriculum solution. Barriers are defined in this context as any intrapersonal, interpersonal, institutional, or policy-related factors preventing the use of outdoor programs (Reese, 2018). This definition may be a mouthful but it does an excellent job in showing just how many different obstacles can hinder outdoor education from occurring.

Classroom educators and school boards across the United States lament how our highly urbanized, sedentary, time-constrained, and risk-averse society prevents opportunities and access to nature connection (Tam, 2013, as cited in Grimwood et al., 2017). For years now, there has been a push to increase outdoor education in schools. However, after nearly four decades of attempts to strengthen outdoor and environmental education in the K-12 setting, as well as attempts to develop non-formal opportunities for outdoor education at parks, nature preserves, and other sites such as zoos and aquariums, environmental literacy in the U.S. remains shockingly low (Kempton et al., 1995; Coyle 2005, as cited in Johns & Pontes, 2019). The push to increase outdoor education and ERE participation for students should not stop, but it is necessary to recognize the concerns of educators to eliminate the barriers that prevent environmental literacy and learning.

Educator Concerns

Powers (2004) noted in their study that some of the most common elements cited as barriers include lack of time to cover outdoor and environmental education related material, perceived relevance, and curricular priorities (Reese, 2018). Throughout my literature review, I saw this to be true and readily communicated by educators. This suggests that these barriers should be given great thought when searching for solutions.

Fägerstam (2012) stated that another barrier identified by teachers is the lack of confidence in teaching outdoors (as cited in Hansen & Sandberg, 2019).

Lack of confidence and support. Though most educators are highly skilled in a classroom setting; there are hardly any training programs that offer them experience teaching outside. Teachers often question their own sense of competence when contemplating teaching outdoor education (Reese, 2018). When undertaking a new challenge it is natural to have doubts. This does not make an educator with this fear a bad teacher, it simply means they need to encourage themselves as well as their students to step outside of their comfort zone. Green and Ma (2018) found that many new outdoor educators have expressed concerns about leaving the confines of the classroom to teach outside, which is an unfamiliar experience for many of them. Their fears range from losing control of their students, insufficient knowledge about a complex learning setting, and not meeting curriculum outcomes (Green & Dymont, 2018).

The fear of losing control of students was a common theme throughout my literature review. When students can outnumber educators and chaperones; sometimes four to one it is easy to recognize why educators fear losing control of a class or losing a student. The student to teacher ratio may vary depending on grade, school district, and whether or not it is a public or private school.

Acknowledging the will of children in an educational situation resulted in the perception, for many teachers, as a conflict between themselves and their students (Quay & Jensen, 2018). This conflict that can occur between students and teachers in a classroom setting very rarely happens in an outdoor setting. Outdoor education allows

teachers to learn alongside students so the entire classroom is working towards the same goal.

Teachers also reported obstacles such as state standards, standardized testing, transportation, funding, and lack of time (Reese, 2018). Even if an educator has no qualms with teaching outside there is still a long list of barriers that prevent them from participating in outdoor education. Bill, a principal at a non-outdoor education school, stated that one of his biggest concerns is that there is not enough time to get students out of the classroom and back during one class period; “things are very scheduled around reading, writing, and math. Where do you fit in [outdoor education]?” (Reese, 2018, p. 29). Scheduling can be extremely difficult for teachers trying to integrate outdoor education into their curriculum. Though we will discuss possible solutions in the next section, scheduling outdoor time is going to be tricky no matter how many solutions are presented. In addition to lack of time, many schools share concerns regarding the lack of funds for transportation (the major field trip expense) to free outdoor locations (Reese, 2018). Many schools throughout the U.S. don’t have enough money to fix ceiling tiles let alone bring students to state parks and nature preserves. This is a difficult barrier to cross when schools don’t want to ask parents for additional funds. However, no barrier is impossible to overcome.

Location and knowledge. Looking past educator's personal fears towards teaching outside; research supports that barriers involving unfamiliarity with state parks and other available outdoor learning areas have even stopped educators who are confident in their abilities from bringing their lesson outside. Schools have reported difficulty

locating many state park and outdoor education center's contact and website information. Teachers have highlighted an interpersonal communication barrier from outdoor education centers in regard to their location and price ranges (Reese, 2018). This barrier stops countless educators before they are even given the chance to try outdoor education. Improved communication and marketing from state parks and outdoor education centers would go a long way towards growing outdoor education. A nationwide barrier towards outdoor education is the lack of state support for the field, which manifests in the lack of state environmental literacy plans and lack of state-level coordination between various stakeholders (Johns & Pontes, 2019). Many of the solutions I pose in this paper are too small scale for this barrier. That being said, it is always an excellent idea to contact state representatives and encourage them to update their state environmental literacy plan.

State standards. This last barrier I want to discuss affects educators of all subjects and skill levels throughout the United States. Standardized testing has become an unavoidable concern for educators. Even outdoor education is not exempt from state standards. Many educators state that participating in anything outdoor education-related activities are largely outside of the individual school's hands, given the school district's focus on the core curriculum (Reese, 2018). The fact that outdoor education aligns with many state standards often gets overlooked by school boards. While writing the curriculum for several Audubon Center of the North Woods (ACNW) classes, I was required to record every state curriculum standard that aligned with a particular outdoor lesson. Most classes had at least ten different state standards that applied to them. These

standards could breathe new life into old requirements if schools started using outdoor education.

Possible Solutions

School support. These barriers can seem impossible to overcome, however, the positive benefits of outdoor education and state park restoration highlighted at the beginning of this chapter should drive educators to pursue solutions, bridges, to these barriers. Bridges are defined as any intrapersonal, interpersonal, institutional, or policy-related factors enabling the use of outdoor programming (Reese, 2018). In this section, I have cited many possible bridges to overcome the barriers to increasing outdoor education in our schools. Administrators who are most supportive of an integrated outdoor education approach were those willing to provide significant effort, financial resources, and time to integrate outdoor education throughout the school curriculum (Reese, 2018). This may seem like a lot for one person to oversee, however, when multiple educators become passionate about outdoor education the work becomes easier and bridges are more frequently discovered. Findings suggest that one teacher has the potential to help a school overcome policy and marketing-related barriers related to accessing outdoor education (Reese, 2018). Those frustrations that educators posed earlier can be eliminated with one educator who knows how to navigate and communicate important information regarding outdoor education centers.

Bridges that lead to the teaching of outdoor education strengthen with practice. By utilizing the collective knowledge of the teaching/learning group everyone in the group can grow and learn from the same teachable moments (Green & Dymont, 2018).

The best advice you can receive as an outdoor educator is that you don't have to know all the answers. You can use nature as a learning tool to discover new things alongside your students. Outdoor education requires teachers to be open to: learning alongside their students, posing questions as a way of seeking answers, appreciating that answers might not yet be known, working with open-ended and collective problem-solving approaches, and remaining sensitive to the phenomenon of place (Green & Ma, 2018, as cited in Green & Dymont, 2018). These are all good things to remember when teaching outside.

Possibly, one of the most important bridges an educator can remember is that making mistakes should not be something feared by both teachers and students, but an opportunity to learn and form a deeper level of comprehension (Cure et al., 2018). Fear is what holds teachers back when nothing else is in their way. It is important for educators to tell themselves the same thing they tell their students; 'mistakes are okay'.

Finally, for educators who are unable to travel far from school, Humphreys (2014) suggested "microadventuring". These adventures take a place-based approach to learning, stitched in to the historical framework of adventures (Roberts 2018). These microadventures utilize a place-based curriculum that allows students to explore their school grounds in a new and exciting light.

Community support. Sometimes schools need more help to participate in outdoor education. When this occurs a community must come together to support students' connection to nature. Some schools have to ask families for money for outdoor education experiences, but provide some financial assistance by hosting fundraising events (Reese, 2018). Educators never like asking parents for financial assistance,

however, the added funds from fundraising ensures that even families unable to pay for school trips can still have their students engage in outdoor learning. Some outdoor education centers cover all the expenses for the schools. In addition to free materials and educator training, DNS (an outdoor education center in Missouri) offers a grant program for trained teachers and districts to purchase field equipment such as investigation tools, field guides, and other materials necessary to implement the curricular units. The DNS grants also cover transportation costs for school districts who conduct field experiences (McKinney, 2020). This outdoor education center is offering educators the needed tools and knowledge to become great outdoor educators. Unfortunately, not all outdoor education centers have the same resources as DNS. There are still bridges that all outdoor education centers can offer to participating schools. A first step is to offer clear and concise information regarding the cost of programs and whether or not transportation is provided in an easy-to-find location on the outdoor education center's website (Reese, 2018). Sometimes the most important bridges are the simplest. An easy to understand website can go a long way in getting schools interested in outdoor education.

Links to standards. State standards are very important to a student's growth and development. Outdoor education programs across the country embrace these standards and align their curriculum activities with standards to create fulfilling outdoor learning opportunities. Schools using outdoor education emphasize the way they justify access to outdoor education centers is through making explicit links to standards (Reese, 2018). All too often, schools use the exact opposite reasoning to discourage the use of outdoor education. However, when schools see the benefits of outdoor education in their students

they request to see the validation of those standards. Dettmann-Easler and Pease (1999) suggested that the influence of outdoor education is most effective when paired with a follow-up and in-class reinforcements (Dieser & Bogner, 2015). Because outdoor education courses align with state standards they should be easily implemented into the rest of the in-class curriculum.

Experience and Communication

Practice. True confidence in an educator's abilities can only come from experience. Acknowledging that a broader understanding of wild pedagogies must include the idea that the world does not revolve around humans – an idea not easily practiced (Quay & Jensen, 2018). Embracing the wilder parts of outdoor education can be difficult. One can only take so many mosquito bites before they want to call it quits. However, if educators are able to move past minor discomforts they find that nature will always come to their aid. The role of nature as co-teacher is to encourage educators to encounter the natural world in ways that de-center the human presence and re-centers the wilder voices (Jickling et al., 2018, as cited in Green & Dymont, 2018).

It takes practice for educators to let nature show them the way to outdoor teaching. It does not come easy but the more comfortable an educator is in nature, the more likely they are to rely on nature as a co-teacher. In outdoor education it is nearly impossible to separate what is a planned objective from what is a hidden educational objective (Kida, 2019). For an educator who is used to asking for exact answers for questions this can be hard to accept. It is important to make sure students are achieving the state standards outlined for a specific outdoor lesson. However, some students will

gain more knowledge from an activity than other students. It is important to let learners enjoy the moment and assess their knowledge later during a follow up. Learning that even the smallest spaces are teeming with nature and encouraging students to utilize all types of schoolyard environments affords outdoor educators the flexibility to teach anywhere (McKinney, 2020). It can be hard to think of outdoor activities when living in urban areas. Imagination and creativity are skills that educators can grow and expand upon as they become more comfortable teaching outside.

Communication. Many educators are interested in outdoor education but have no source that can answer their questions regarding actively pursuing this form of education. Studies show that schools with even one educator who is passionate about outdoor education can increase the entire school's likelihood of implementing outdoor education into their curriculum. A successful dialogue between educators aims to deepen understanding of outdoor education while constructing new knowledge and ideas (Isaacs 1999, Riis et al., 2006, as cited in Gonzales et al., 2019). Communication is required for a school to function correctly. Outdoor education is the same, it requires a constant communication between educators to share ideas and create a better learning experience.

If a school is planning on visiting a state park or outdoor education center, communication is required between the school and staff to ensure that everything goes smoothly. State parks have limited budgets and staff, so it is important to recognize that they likely cannot be the sole source of educational opportunities aiming to further develop environmental literacy for the public of a region. Studies recommend a more coordinated effort, so that park staff and schools can work together toward common

goals, provide assistance and assure consistency across the state (Johns & Pontes, 2019).

This communication can save time and energy for both park staff and educators. A smooth outdoor experience can be influential in an educator's decision to return to a particular outdoor location.

Trust may not seem like an important characteristic for outdoor educators to possess. However, an educator must have trust in themselves that they have supported student learning; and trust in the students that they are ready for whatever might come their way (Green & Dymont, 2018). This trust can scare any educator when they leave the classroom. Practicing letting students take control of their own education is the only way to increase outdoor educators' trust in their students. Outdoor education allows students and teachers to communicate without the formality of a classroom setting. Using outdoor education allows students the freedom to write, draw or verbalize their answers making assessment an easier task for educators (McKinney, 2020). For students on the spectrum or with speech and hearing impairments, outdoor education allows them to communicate more freely. Hattie (2012) expressed that the creation of a learning environment where students can trust each other and the teacher, where they feel supported and safe, whilst at the same time challenged, is crucial to positive learning (Cure et al., 2018). Through the entire process of taking education outside, the most important communication connection is between an educator and their students.

Summary

Throughout chapter two we explored the benefits of outdoor education in students. We expressed the importance of state park restoration and discussed some of the barriers and bridges for outdoor educators. Up next in chapter three I will discuss my plans to create a website that will help educators start exploring outdoor education. Above all else, educators must emphasize the importance of children simply being and spending time outdoors (Grimwood et al., 2017).

CHAPTER THREE

PROJECT DESCRIPTION

Introduction

After performing an extensive search on the barriers and bridges of outdoor education; I created a website in order to further investigate my research question: *How can websites and blogs help educators foster a connection between outdoor education and state parks? How can this connection benefit students and state parks?* A website or blog containing helpful outdoor education information will reach far more educators than any other project type or study. The website highlights works from my literature research, contains links for every U.S. state park website along with several nature centers that may be close by, and displays my email address (stateparksandschools@gmail.com) so educators are able to share their success stories. This website is meant to be easy to navigate and understand. Educators' time is precious, and I wanted to make sure when they are researching state parks to bring their students they can access the information they need easily and efficiently.

Project Overview, Audience and Implementation

I used Google Sites to create my own website. This website was created to become an easy tool for educators across the U.S. to use when searching for state parks and nature centers close to their school. The website's Home page offers a brief reasoning behind the website and links to the other pages on the site. From there viewers can access the Find Your Parks page which contains each state listed in alphabetical order and links which lead directly to the state park website for each state along with the map

showing state supported parks and nature preserves. I included a few outdoor education and nature centers located in the state as well. Research shows that one of the main barriers in outdoor education is lack of knowledge of natural areas close by and no time to research potential areas. This website clearly shows that the great outdoors are easier to access and learn in then ever imagined. In addition to the state park information, the website contains information about the benefits of outdoor education and how visitors can protect the state parks that they visit. It also contains a blog section where educators can use the email listed above to share their outdoor education experiences with other website viewers. I will be monitoring the traffic on my website thru Statecounter (<https://statcounter.com/>). I will be able to judge the success of the website based off of the number of people visiting the site.

Reasoning

I decided a website would reach far more educators than any other form of media. As Reese (2018) explained, the difficulty in accessing nature as a learning setting was the strongest factor influencing outdoor education use in schools. The two most common barriers reported by educators included the inability to walk to outdoor spaces and lack of transportation. (Reese, 2018). If educators are able to easily locate state parks close to their schools, they will be able to cut down on transportation time and cost so they can focus on educating in exciting new environments.

My research brought to light several barriers educators experience towards outdoor education centers, as well. One of these barriers being the lack of state support for environmental literacy plans and lack of state-level coordination between outdoor and

nature centers and school districts (Johns & Pontes,2019). This is why I felt the need to include listings of nature centers for most states. Easy access for educators is the first step in creating a culture of outdoor learning. Schools looking for outdoor education centers emphasize the severe lack of marketing strategy of many centers, highlighting a communication barrier regarding how a particular education center could be accessed by schools (Reese, 2018). Many outdoor education centers have outdated or confusing websites so finding information like rates, travel and even classes they provide can be difficult to find. My website will act as a mediator between many of these websites and educators. My literary research has opened my eyes to just how complicated many state park websites are to navigate.

When educators see how easy it is to access state parks and nature they will be encouraged to bring their students to nature. Enabling teachers to have encounters with their local places – such as state parks, museums, rivers, preserves, etc. - allows them to feel more at ease and ready to teach there in the future (Green & Dymment 2018). This website can absolutely be used by teachers looking to find local nature areas. Once educators visit their local parks to familiarize themselves with the area, they will realize that they do not have to travel much further than their own county to find nature.

Finally, I included a blog in my website in hopes that teachers share their outdoor education experiences with me, so that I can share their stories with others through the blog portion of the website. Just one teacher, armed with the knowledge of how to access natural areas, has the potential to help a school overcome policy and marketing-related barriers related to accessing outdoor education (Reese 2018). Communication is so

important for encouraging outdoor education in schools. I want my website to be easy to share from teacher to teacher. A website can easily be forwarded in an email compared to a pamphlet or seminar.

Setting/Audience

My website can be accessed by anyone with internet access, and is simple to navigate. I want educators both young and old to have no issues understanding where they need to click to get the information they are searching for. The addition of my email address will allow them to reach out for help if they are still unsure about teaching outside. I have family and friends who are educators and I plan on emailing my website to them first for input and feedback. The ultimate goal is that my website will be forwarded to many other educators. I also plan on posting it on Facebook to page how the general public views my website. I created this website for educators, however, I think it could benefit anyone wishing to explore nature close to home.

Timeline

I completed all of the state park information needed for the website in September. It took quite some time to accumulate all of the sources needed for this site but it was well worth it in the end. In October and November I created and launched the website. By December I had feedback from multiple sources regarding what worked or needed adjusting regarding my website. I know the end of the year is not the best time to be encouraging outdoor education, however, I believe my website will encourage more teachers to explore outdoor education in the new year.

Summary

After researching the barriers that teachers struggle with regarding outdoor education, I have decided to create my own website in order to help educators find state parks and preserves close to their schools. Only time will tell when it comes to how many educators this website will help. This website will continue to exist as I continue growing as an outdoor educator myself. Coming up in chapter four I will look back on the creation of this website as well as the results that have come from launching the website.

CHAPTER FOUR

CONCLUSION

Introduction

My capstone paper and project were created in an attempt to answer the research question: *How can websites and blogs help educators foster a connection between outdoor education and state parks? How can this connection benefit students and state parks?* My website was designed to act as a stepping stone for the success of outdoor education in the U.S. school system. Though my website may not include direct action for changing school curriculum; it does aim to encourage educators to take their already well-established curriculum outside. My website has the ability to help educators for years to come. There are many ways to judge the success of this website, however, I believe the greatest sign of success would be if other educators and researchers used my project as inspiration to continue to study the benefits of teacher-to-teacher communication and the benefits it can have on outdoor education.

In this chapter, I review the drive and inspiration for this capstone project. As well as, the “growing pains” I experienced while learning how to create an easy to use website. I also reflect on the literature that I built my capstone on and some of the striking information I found that inspired my website. This chapter ends with a look towards the future and how communication and technology could help the growth of outdoor education across the country.

The Learning Curve

When I was advised to create a website for my capstone project, I knew it was going to be a new and challenging opportunity. After all, I had created a research question that revolved around the virtual world: *How can websites and blogs help educators foster a connection between outdoor education and state parks? How can this connection benefit students and state parks?* I had never used Google Sites before and knew that, even though it was fairly user friendly, I would still need to work hard and learn a lot about website creation in order to create a helpful website and blog.

Throughout the course of my capstone creation, I grew as a researcher, writer and academic learner. Before embarking on this project I had only minimal experience as a researcher. The last large research project I had created was back in high school. What I learned when creating my literature review was that there are so many new sources other than literary articles. Though literary articles have been reviewed and carry more reliability than many websites, blogs, videos and even podcasts; the world of information is ever-changing and all sources are worth venturing into. Blogs, videos and podcasts can offer fascinating interviews and visual aids by leading experts far faster than a published article can. This project has taught me to explore these sources of media in a mindful and cautious way.

This project has also helped me to view myself as a writer. Before I started this paper I considered myself as an educator and even a student but not as a writer. I have written papers and outdoor education curriculum and I have even written a research paper or two in the past but I never believed they contributed to my identity as an educator.

However, now, as I look back through this paper and my website, I do realize I have become a writer capable of creating works that can benefit my field of outdoor and environmental education. Though I would not call myself a great writer, I now have a newfound appreciation for the craft. One that I intend to carry with me as I continue to grow in my career.

I have always considered myself a learner even when I am not in school. I try to learn something new every day in order to become a more well-rounded person and educator. Through this capstone project, I have learned how to create a website and format my first blog post. As I have mentioned before, every step of creating a website was a new learning experience for me. However, now that I know how to use Google Sites I am far more inclined to use it in the future. I now see how helpful customized websites can be for education and communication. Dedicating an entire page of my website to a blog about outdoor education success stories is vital to the attempt at answering my research question. I was not sure how to format my blog so I had to go out and observe how other bloggers were posting and connecting to their audience. At the beginning, I did not know what I was doing. But, I worked hard and did my research so I could create a website that would help others experience the joy of outdoor learning. This was a completely new experience for me and a skill I am now proud to claim. I have now doubt that I will continue to create websites as I continue my career as an educator.

This project has also helped me to understand just how communication is; not just as an educator but as a person wishing to make the world a better place. Before embarking on this project I had now idea how detrimental lack of communication is to

outdoor education. It stops educators from sharing about their own trials and successes of outdoor education. Lack of communication and Internet presence also prevents state parks from properly showcasing the education opportunities they offer to local communities. I have grown so much while working on this project and my passion for outdoor education and preservation burns brighter than ever.

Revisiting The Literature Review

Though all of my sources built a strong foundation for my paper and work to promote the growth of outdoor education and the preservation and exploration of state parks; there are three particularly important pieces of literature that sparked the inspiration for my website. The first being that Fägerstam (2012) stated a common barrier identified by teachers is the lack of confidence in teaching outdoors (as cited in Hansen & Sandberg, 2019). Though there are many factors stopping educators, also called barriers, from participating in outdoor education; the lack of self-confidence in their own skills as outdoor educators is the reason most often cited. I knew my project had to include a way for educators to share their questions and concerns as well as their success stories and encouragement for other educators to see.

Possibly the most influential finding I discovered was that studies suggest that one teacher has the potential to help a school overcome policy and marketing-related barriers related to accessing outdoor education (Reese, 2018). All it takes to overcome many of the barriers that prevent outdoor education is one passionate educator. I knew as soon as I read this that I had to create something that would increase the chances of one educator sharing outdoor education with the rest of their school. My website can be easily shared

through email or message boards. My website is also designed to be easy to navigate so educators spend less time frustratedly scrolling through a website and more time exploring their local parks.

My last project influencing source was a barrier that I found a bit shocking. I found that, in the past, teachers have highlighted an interpersonal communication barrier from potential outdoor learning locations in regard to their location and price ranges (Reese, 2018). This finding led me to create links to every U.S. state park website as well as listings for state's nature centers. I know how precious an educator's time is. Frustration and confusion over where to have outdoor class time and how to get there can deter even the most passionate educators. I knew I had to create a website that would bridge the divide between school districts and state parks that was also easy to navigate and time efficient for educators.

A new connection I made while researching for my literature review was that too often teachers view asking for help as a weakness, when in reality, communication is their greatest strength (Meador, 2019). I knew that I wanted to increase communication between teachers, but I never knew that many classroom educators were afraid to ask for advice from other outdoor educators. Because of this finding, I made sure to encourage educators to email me. This way educators do not feel like they are being put on the spot or shamed by asking questions. If an educator wants to share their experiences for all to see that is certainly encouraged but the understanding of my website is that everyone is welcome and encouraged to participate in outdoor learning at their own pace.

I am proud of the website I have created. Though I do acknowledge that, because it is my first website, it is not perfect. There are a few implications and limitations that were going to occur no matter how I built this website. The implication for this website is that it will encourage educators to actively participate in outdoor education and state park preservation. That is my capstone's focus, though I can not change anyone's actions through a website or paper if they do not want to make the change themselves. I also acknowledge that my entire project required internet connection. I know for many schools and educators this is a hard resource to obtain. Without the internet, sharing my project becomes difficult. However, any website created using Google Sites has a "mobile viewing option" built into it. So even if a school does not have Wifi educators can still access the website as long as they have cell service.

Looking Towards The Future

I have no intention of taking my website down after I complete my Master's Degree. I created it using an email dedicated solely to the website so when I lose access to my Hamline email I will not have to fear about losing my website. Other than state parks changing their web addresses, my website is fairly timeless.

I hope that more people incorporate educator communication into research papers. I found almost no previous research regarding teacher to teacher communication through blogs and websites. Not to mention, there was virtually no research regarding how teacher communication can encourage educators to participate in outdoor learning. I hope that the sources I have shared through this paper and my project serve as the inspiration for many more case studies and research papers in the future. I would recommend future

website creators diversify how they share their websites. The internet is a vast ocean and a website can easily become lost or buried before reaching its target demographic.

I am using a “visitor tracker” to track viewer traffic on my website as result data. If I can see steady or increasing traffic on the site I will at least be able to infer that whoever visited the site looked at the information. Though I can not gauge if my website changed educators’ actions, the blog activity will allow educators an outlet to share their own stories. This experiment in website creation is a giant step towards my own growth as an educator and I hope other educators view it the same way. This website has the potential to be a powerful tool for educators wishing to participate in outdoor education but do not know where to start. It offers opportunities to see what worked for other educators while encouraging them to create their own outdoor education experiences. Not only can educators benefit from the communication aspect of the website but state park employees would appreciate the teaching of proper visitor behavior. Teaching students the Leave No Trace principles long before they reach their outdoor destination leads to healthier nature areas that everyone can enjoy.

Summary

In this chapter, I reviewed some of the major challenges and achievements I have experienced during my capstone creation. I grew as a researcher, writer and learner. I reflected on a few of the most impactful findings within my research review. Sources that shaped my capstone paper and project into what it is today. These past case studies were the foundation of my project and will continue to be the sturdy foundation on which many future projects and papers are based on. Looking towards the future of outdoor

education, it is hopeful to see a general understanding in research and personal opinion that students benefit from outdoor learning and that state parks and nature areas are worth preserving.

REFERENCES

- Cure, S., Hill, A., & Cruickshank, V. (2018). Mistakes, risk, and learning in outdoor education. *Journal of Outdoor and Environmental Education*, 21(2), 153-171.
<https://doi.org/10.1007/s42322-018-0012-y>
- Dieser, O., & Bogner, F. X. (2015). Young people's cognitive achievement as fostered by hands-on-centred environmental education. *Environmental Education Research*, 22(7), 943-957. <https://doi.org/10.1080/13504622.2015.1054265>
- Finn, K. E., Yan, Z., & McInnis, K. J. (2018). Promoting physical activity and science learning in an outdoor education program. *Journal of Physical Education, Recreation & Dance*, 89(1), 35-39.
<https://doi.org/10.1080/07303084.2017.1390506>
- Fox, H., & Cundill, G. (2018). Towards increased community-engaged ecological restoration: A review of current practice and future directions. *Ecological Restoration*, 36(3), 208-218. <https://doi.org/10.3368/er.36.3.208>
- Gonzales, E. K., Long-Raymond, L., & Kehler, D. (2019). From monologue to dialogue: Creating a community of inquiry in online ecological restoration courses. *Ecological Restoration*, 37(1), 34-42. <https://doi.org/10.3368/er.37.1.34>
- Green, M., & Dymont, J. (2018). Wilding pedagogy in an unexpected landscape: Reflections and possibilities in initial teacher education. *Journal of Outdoor and Environmental Education*, 21(3), 277-292.
<https://doi.org/10.1007/s42322-018-0024-7>

- Grimwood, B. S., Gordon, M., & Stevens, Z. (2017). Cultivating nature connection: Instructor narratives of urban outdoor education. *Journal of Experiential Education, 41*(2), 204-219. <https://doi.org/10.1177/1053825917738267>
- Guardino, C., Hall, K. W., Largo-Wight, E., & Hubbuch, C. (2019). Teacher and student perceptions of an outdoor classroom. *Journal of Outdoor and Environmental Education, 22*(2), 113-126. <https://doi.org/10.1007/s42322-019-00033-7>
- Hansen, A. S., & Sandberg, M. (2019). Reshaping the outdoors through education: Exploring the potentials and challenges of ecological restoration education. *Journal of Outdoor and Environmental Education, 23*(1), 57-71. <https://doi.org/10.1007/s42322-019-00045-3>
- Johns, R. A., & Pontes, R. (2019). Parks, rhetoric and environmental education: Challenges and opportunities for enhancing ecoliteracy. *Journal of Outdoor and Environmental Education, 22*(1), 1-19. <https://doi.org/10.1007/s42322-019-0029-x>
- Kida, P. (2019). Competences and qualifications in outdoor education. *Journal of Education Culture and Society, 10*(1), 79-92. <https://doi.org/10.15503/jecs20191.79.92>
- Larson, L. R., Whiting, J. W., & Green, G. T. (2011). Exploring the influence of outdoor recreation participation on pro-environmental behaviour in a demographically diverse population. *Local Environment, 16*(1), 67-86. <https://doi.org/10.1080/13549839.2010.548373>

- Lawhon, B., Newman, P., Taff, D., Vaske, J., Vagias, W., Lawson, S., & Monz, C. (2013). Factors influencing behavioral intentions for Leave No Trace behavior in National Parks. *Journal of Interpretation Research*, 18(1), 23–38.
- Lawhon, B., Taff, B., Newman, P., Vagias, W., & Newton, J. (2017). Understanding and Influencing State Park Visitors' Leave No Trace Behavioral Intent. *Journal of Interpretation Research*, 22(1), 53–71.
- McKinney, S. S. (2020). Lasting Footprints: Discover Nature Schools Sets a Path For Future Conservationists To Follow. *Missouri Conservationist*, 81(5), 16-21.
- Meador, D. (2019, July 22). *The power of communicating with other teachers*. ThoughtCo.
<https://www.thoughtco.com/the-importance-of-effective-teacher-to-teacher-communication-3194691>
- Pérez, D. R., González, F. D., Araujo, M. E., Paredes, D. A., & Meinardi, E. (2019). Restoration of society-nature relationship based on education: A model and progress in patagonian Drylands. *Ecological Restoration*, 37(3), 182-191.
<https://doi.org/10.3368/er.37.3.182>
- Quay, J., & Jensen, A. (2018). Wild pedagogies and Wilding pedagogies: Teacher-student-nature centredness and the challenges for teaching. *Journal of Outdoor and Environmental Education*, 21(3), 293-305.
<https://doi.org/10.1007/s42322-018-0022-9>
- Reese, R. F. (2018). A qualitative exploration of the barriers and bridges to accessing community-based K-12 outdoor environmental education programming. *Journal*

of Outdoor and Environmental Education, 22(1), 21-37.

<https://doi.org/10.1007/s42322-018-0019-4>

Roberts, J. W. (2018). Re-placing outdoor education: Diversity, inclusion, and the Microadventures of the everyday. *Journal of Outdoor Recreation, Education, and Leadership*, 10(1), 20-32. <https://doi.org/10.18666/jorel-2018-v10-i1-8152>

The Center for Early Childhood Education. (2019, June 27). *Outdoor Physical Activity: Fun Mud* [Video]. YouTube. <https://www.youtube.com/watch?v=ZUom3cqdfZc>

The 7 principles. (2018, October 5). Leave No Trace. <https://lnt.org/why/7-principles/>

Zimmerman, H. T., & Land, S. M. (2013). Facilitating place-based learning in outdoor informal environments with mobile computers. *TechTrends*, 58(1), 77-83.

<https://doi.org/10.1007/s11528-013-0724-3>