PERCEPTIONS OF USING SCHOOL GROUNDS TO PROVIDE OUTDOOR EXPERIENCES IN WISCONSIN’S GREEN AND HEALTHY SCHOOLS

By

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Abstract

Outdoor experiences have been found to positively benefit schools by increasing student health, improving academic performance, and supporting behavior management. However, when trying to decide the best way to approach outdoor experiences, schools face a myriad of barriers, such as financial cost or time commitment, to get their students outside. One resource available to schools is the use of their own school sites as areas for outdoor learning. However, using school sites is not without barriers itself and it is important for schools to understand the challenges that the schools’ staff may face in utilizing their grounds. A qualitative multicase study was designed to examine how different school staff positions viewed the barriers and support for outdoor experiences in schools. Three public elementary schools that demonstrated a commitment to green school grounds were chosen for the study by reviewing application data collected from the Wisconsin Green and Healthy Schools program. Administrators, teachers, and site managers from these schools were then interviewed to determine what barriers and supports impacted the school in providing outdoor experiences. Data was analyzed using an open-coded process to develop an emergent coding framework of themes and subthemes. The results showed that the three staff roles shared similar views of the benefits, barriers and supports to outdoor experiences. Even in green school programs, barriers such as time and limits of the curriculum were found to impede outdoor opportunities. The findings of this study suggest that there are ways schools can improve their school sites and outdoor instruction to maximize their students’ opportunities to be in nature. To help reduce barriers and encourage supportive actions, recommendations based off of the paper’s findings, such as encouraging green projects that involve the students, are suggested.
Dedication

I dedicate this to my wife, whose unwavering support and endless patience made this graduate experience possible.
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Chapter 1: Introduction

Purpose of the Study

Thomas Berry, in his book *The Dream of the Earth*, wrote that, “Teaching children about the natural world should be one of the most important events in their lives” (2008, p. 131). It seems that children today have fewer opportunities to interact with nature directly and spend more time in virtual realities (Hudson, 2001). One area of their life that could provide children with more experiences in the natural world is school. Because children in the United States spend on average over 35 hours a week at school during the traditional school year (Kena et al., 2016), there may be an opportunity to get students in the outdoors during the school day without leaving the confines of the school property. Outdoor experiences, educational and recreational, can occur by bringing students out to their school grounds to learn. Outdoor education has been shown to benefit students in many ways, such as improving academic success and personal wellness (Bell & Dyment, 2008). To take advantage of these benefits, schools need to be able to find ways that they can get their students outside to learn.

Taking students outside to experience these benefits, however, is not always an easy task. With increasing barriers, such as time constraints and requirements of school curriculum (Dyment, 2005) that prevent teachers from teaching their students out in nature, one of the options schools have is to use their own school grounds to provide outdoor experiences. The purpose of this research was to explore how teachers, administrators, and site managers perceive their school grounds in the context of outdoor experiences. This study focused on the perceived barriers and supports that accompany using school grounds as an area for outdoor experiences at three schools that are registered with Green and Healthy Schools Wisconsin.

Green and Healthy Schools Wisconsin (GHS) is a recognition program for Wisconsin PK-12 schools that are striving to reduce their environmental impact and to help improve health,
wellness, and environmental literacy for students (Environmental Education in Wisconsin, 2016). The application to become a GHS recognized school gives schools the option to list their school grounds as an environmental asset. To better understand how schools are using their school grounds for outdoor experiences, this study examined schools that had fully completed the outdoor site focus area on their Green and Healthy Schools application.

**Theoretical Framework**

This study examined how the affordances of green school grounds impact school staffs’ perceptions of providing outdoor experiences for their students. Affordances are positive or negative clues in the environment that indicate possibilities for actions (Gibson, 1977). The affordances of green school sites can affect the barriers and supports that school staff may face in using the outdoors with their students during school day.

**Research Questions**

This research hoped to discover the answer to three overarching questions:

1. What barriers do school staff face when providing outdoor experiences?
2. What supports have staff found to alleviate barriers when providing outdoor experiences?
3. How do teachers, administrators, and site managers differ in how they perceive barriers and supports to outdoor experiences?

**Limitations**

Throughout the research process, limitations of the study became apparent. These limitations stemmed from choices of the research design, necessary to keep this project focused and applicable:
1. There may be many schools in Wisconsin utilizing green school grounds. Schools chosen for this study were elementary schools that were enrolled in the Green and Healthy Schools program during the timeframe of 2015-2017.

2. Data in this study was self-reported by the research participants and may only represent the individual’s own opinion and not the opinions of their entire school.

3. Findings of this study may not be transferrable to other school situations.

4. Since the principals chose the teachers, the teachers interviewed might view the principal as supportive.

5. For this study, site managers interviewed were the head custodians of the school. Depending on school staffing, the head custodian may not be the person in charge of school grounds.

**Definitions and Abbreviations**

- **Environmental Education (EE):** A learning process in which people become knowledgeable about the environment and its associated problems, how to contribute to solving these problems, and motivated to help solve the problem (Stapp, 1969).

- **Green School Grounds:** Outdoor grounds at a school that are designed with a natural focus in mind (LEAF, 2017).

- **Green and Healthy Schools Wisconsin (GHS):** A program which provides recognition to Wisconsin PK-12 public and private schools working to decrease their school’s environmental impact while improving overall the health and wellness of that school’s community (Environmental Education in Wisconsin, 2017).

- **Outdoor Experiences:** Any outdoor recreation or outdoor education opportunity (Ewert, Place, & Sibthorp, 2005).
Outdoor Education: Any opportunity to educate children in an outdoor setting (Adkins & Simmons, 2002).

Outdoor Grounds: Land which is connected or nearby a school building which is available for use by a school and its students (LEAF, 2017).

Outdoor Recreation: Activities done for leisure in an outside setting (Clawson & Knetsch, 2013).

Wisconsin's K-12 Forestry Education Program (LEAF): Program created to help promote forestry education in the state of Wisconsin (LEAF, 2017)

Assumptions
To complete this research study, the following assumptions were made:

1. Schools that list green outdoor spaces in their Green and Healthy School application utilize their school grounds for outdoor activities.

2. Each school staff member who is interviewed would answer the interview questions honestly.

3. The administrator will provide the name of an appropriate staff member to interview.

Methods
This research consisted of a multi-case study method as described by Bogdan & Biklen (2007). Three GHS elementary schools that fully filled out the outdoor site focus area of the GHS application were chosen for the study. Interviews with teachers, administrators, and site managers as well as site observations were then conducted at these schools to determine how school staff perceives barriers and supports towards the outdoor experiences on their school’s
grounds. A look at previously collected data from LEAF and the GHS program helped to provide background of school ground usage in Wisconsin. Further detail can be found in Chapter 3.
Chapter 2: Literature Review

The purpose of this study was to gain a better understanding of the barriers and supports school grounds provide for outdoor experiences by exploring how teachers, administrators, and site managers view their school grounds. This chapter reviews literature from the outdoor education, outdoor recreation, and environmental education (EE) fields that legitimize the need for the present study by explaining the theoretical framework and providing evidence of (1) the benefits of outdoor education; (2) the benefits of outdoor recreation; (3) the barriers to outdoor experiences at schools; and (4) what outdoor education looks like in Wisconsin.

Theoretical Framework

Gibson’s Theory of Affordances (1977) is a concept stemming from psychology that explains how the possibility for action stems from the physical environment and the objects within that environment. These affordances can have either positive or negative outcomes depending on how they are experienced (Gibson, 1977). Peoples’ perceptions of the environment around them are impacted by affordances, which can provide an infinite number of possible opportunities.

Kyttä (2004) expands further on this theory by explaining how there are two types of affordances: potential and actualized. Potential affordances are limitless possibilities that could happen for any diversity of people in any environment. Whether these affordances are perceived or not, they still exist in that setting and can be taken advantage of in the right circumstances. Actualized affordances are affordances that are based on personal actions and abilities to realize the affordances of the environment (Kyttä, 2004). Understanding this concept can help in the realization of the affordances of an outdoor space.
Natural environments can provide various affordances for outdoor experiences, whether recreational or educational. A study on urban green spaces led by Hadavi (2015) used affordances to find that residents preferred green spaces that allowed socializing and growing plants (Hadavi et al, 2015). Gardens can provide both recreational and educational affordances that allow positive learning outcomes. Gardens were found to be a child-friendly environment that provided children affordances such as, space, availability of materials, and biodiversity (Laaksoharju, Rappe, & Kaivola, 2012). Spending time in the garden allowed students to learn social manners, work ethic, trust, and affection (Laaksoharju et al., 2012). The benefits of these outdoor spaces in an urban environment can also translate to other situations as well.

Just as urban outdoor spaces can provide positive affordances, school grounds can likewise be a place that can utilized to achieve positive outcomes. These outdoor grounds can influence the physical activity of children. A study by Storli and Hagen (2010) compared the affordances of traditional playgrounds versus natural environments and how the type of space impacted play. They found that in older children, the traditional playground took more effort to begin play as the affordances of the structures had already been explored (Storli & Hagen, 2010). The researchers also found that it was not only the physical environment that impacted affordances but also the changing seasonal characteristics which could either encourage or inhibit outdoor activities. Affordances impact how people can experience the outdoor world, including allowing for activities such as outdoor education.

**Benefits of Outdoor Education**

Outdoor education, or the “use of resources outside the classroom for educational purposes” (Swan, 1975, p. 4), can be utilized to integrate the natural environment into students’
learning. Improved student learning, increasing students’ motivation and problem-solving ability are all benefits of infusing curriculum with environmental topics (Hall-Kenyon & Smith, 2013). Doing so provides an opportunity for students to learn through interdisciplinary experiences in real world settings (Dolan, 2016). One way to introduce children to nature is by having them partake in outdoor education activities. Schools can have students go outside to learn through travel on field trips to places such as zoos, aquariums, and parks (Silverman & Corneau, 2017). Outdoor experiences do not have to be limited to taking students on field trips as outdoor education can also occur at the schools themselves. A way to build the capacity for outdoor education at schools is through use of locally available outdoor spaces (Thorburn & Allison, 2012). These spaces can be utilized by classroom teachers to integrate the outdoors with various subject matters or into existing curriculum.

One benefit of utilizing school grounds for outdoor education is that it can increase environmental awareness at the school. Schools can instill positive environmental attitudes by educating students, and serving as a model of positive environmental behavior. Ozsoy et al. (2012) believes that as places of learning, “schools can become places where sustainable living and working is demonstrated to young people and the community” (p. 3). Planting trees in their school garden was beneficial for students by providing them with an opportunity for active involvement in environmental action which helped lead to a positive increase in their environmental attitudes and contributed to greater environmental knowledge (Ozsoy et al., 2012).

Utilizing school grounds has benefits beyond simply increasing environmental literacy. Bell and Dyment (2008) explored school grounds and their benefits to the health of the students and staff. The schools that they studied all had movements that resulted in a collaborative effort
to bring nature back to the school grounds. This “greening” of school grounds can make
significant contributions to physical, social, mental, and spiritual health of school bodies (Bell &
Dyment, 2008). Research has shown that schoolyards with trees, gardens, or different types of
vegetation benefit children’s motor coordination and cognitive skills (Strife, 2010). Activities
such as gardening, observing and feeding birds, hatching and releasing butterflies, capturing and
releasing animals, building shelters, sketching, art and generally studying and exploring nature
have all demonstrated these physical and cognitive benefits (Dyment & Bell 2008).

As schools increase their utilization of outdoor spaces, they can also likely reduce
discipline and classroom management problems (Liebermann & Hoody, 1998). A national study
on children’s ADHD, found that outdoor activities can result in reduced ADHD symptoms in
children compared to activities conducted in other settings (Kuo & Taylor, 2004). Researchers in
Sweden found that preschoolers who spent time during their school day in a green outdoor
environment had a higher attention span (Mårtensson et al, 2009). Outdoor education programs
have also been shown to increase student attendance (Price, 2013). The positive behavior
changes from outdoor education can benefit the students in the classroom and the overall
educational experience.

Outdoor education can have measurable academic benefits for students. Learning outside
can provide a space for children to develop a broader range of understandings, skills and
attributes while pursuing the ‘normal’ content-based learning (Maynard & Waters, 2007). This
style of learning has measurable benefits on academic achievement. Students that learned
through the Environment as an Integrating Context (EIC) framework, as described by
Liebermann and Hoody (1998), demonstrated better performance on standardized measures of
academic achievement. This higher performance was shown in a variety of subjects including reading, writing, math, science, and social studies (Liebermann & Hoody 1998).

These advantages are highlighted through a case study conducted by Irvin (2007) in Louisiana. Oil City Elementary Magnet School in Oil City, Louisiana, was once targeted for closure but now thrives due to a focus on the environment (Irvin, 2007). As the school, integrated environmental education into their curriculum, they found that test scores went from dismal to above the state average. The students could learn outdoors through projects such as creating butterfly gardens and using the year-round greenhouse. By reimagining how their education could look by incorporating the outdoors, the school was able to re-energize as a school community.

To make this outdoor education accessible to students, a commitment towards outdoor education into schools is necessary (MacQuarrie, 2016). To reach their students with an environmental message, some schools throughout the world are trying a different approach to outdoor education. In Denmark, some schools have been defined as ‘udeskole’ which is a school with an outdoor focus. At these schools, activities are characterized by teachers making use of the local environment when teaching specific curriculum subjects, such as illustrating mathematical concepts by measuring and calculating the volume of trees in math (Bentsen & Jensen, 2012). By providing outdoor experiences to students, the teachers in Denmark can integrate the environment within their standard curriculum requirements.

**Benefits of Outdoor Recreation**

Outdoor recreation is utilizing the outside environment for leisure activities (Clawson & Knetsch, 2013). Children can benefit from having unstructured time to recreate outdoors. One of the ways this can happen is through play. At the core of play is the feeling of pleasure which can
be lost when play is over structured (Singer, 2013). Play is a child’s means of connecting to nature and learning to cope with it by understanding how it works (Laaksoharju et al, 2012). Outdoor environments allow for this by providing a space for innovative, creative, and child-directed play (Staempfli, 2009). Through outdoor recreation, fascination with the natural world is developed, which is part of a restorative experience which can aid in reducing stress (Kaplan, 1995).

One source of unstructured play during the school day can come from recess. These scheduled breaks during the day can provide students chances to be able to play in an open setting (Jarett, 2002). Having recess has been shown to have positive impacts on students’ behavior and performance which has been shown to lead to an increase of attention in the classroom (Brez & Sheets, 2017). Recess can also have a positive effect on student health as it gives children a chance to be physically active. Having recess before lunch has also been shown to increase students’ consumption of fruits and vegetables over lunch (Price & Just, 2014). During recess, there is also a social development benefit, as recess gives students a chance to interact with each other in ways they may not be able to in the classroom (Jarrett, 2002).

In addition to recess, teachers have also been adopting additional breaks for their classrooms. These “brain breaks” are short periods of physical activity organized by the teacher as a classroom intervention (Carlson et al, 2015). These breaks can lead to overall positive effects for both teachers and students, especially when compared to sedentary breaks (Howie et al, 2014). Brain breaks provide teachers with the opportunity to have students be physically active within the school day, which was a significant contributor to students’ overall physical activity for the day (Holt et al, 2013). This also allows teachers the opportunities to help manage behaviors as teachers who implemented classroom physical activity breaks reported fewer
students who lacked effort (Carlson et al, 2015; Setaro, 2016). Academic benefits have also been noted, as a study on how exercise breaks impact math achievement showed that taking breaks led to higher test scores (Howie et al, 2015). In all, whether unstructured or structured, having time for recreation during the school day can have multiple positive impacts on student wellbeing.

**Barriers to Outdoor Education at Schools**

Hudson (2001) stated that one of the biggest challenges that 21st century teachers would have to overcome was reaching student audiences. This challenge is by no means a recent development. Hudson mentions a 1992 survey by Nabham and Trimble (1994) that showed that 31 percent of 5th and 6th graders in the United States learned environmental values from school. Research conducted by Hofferth (2009) found that in 2003, 9–12 year olds spend half the amount of time recreating outdoors as they did in 1997. Lack of outdoor experiences for children have contributed to what Louv (2005) coined as “Nature Deficit Disorder”, or a lack of contact with nature. Contributing to this is a rise in children spending time behind screens as almost half of U.S. 6- to 17-year-olds exceed recommended screen time guidelines (Gingold, Simon, & Schoendorf, 2014). Within the 21st century, there has been a decrease in children’s contact with the outside world.

In a school setting, multiple barriers have traditionally blocked opportunities to connect students to the environment. Many of these barriers are highlighted in an assessment of Illinois elementary schools conducted by Young and LaFollette (2009). In 2005, a survey was distributed to one thousand Illinois grade level teachers assessing the amount and manner of how they implemented environmental education. Of the 256 respondents, researchers found that 47% excluded environmental education due to lack of class time (Young & LaFollette, 2009). They found that most Illinois elementary school students were only exposed to an average of 22 to 100
minutes of environmental education during the whole 2005-2006 school year, in part due to both lack of time and the perception that environmental education was unrelated to the topics that teachers were expected to teach. The researchers believed that this amount of time may be too little classroom time committed to environmental education (Young & LaFollette, 2009). These barriers faced by environmental education are some of the same faced by outdoor education as both fields share similar goals, which are described by Johnson (1977). Outdoor education and environmental education both can take place in an outdoor context. Two major differences between outdoor education is that outdoor education is not limited to teaching environmental concepts and that environmental education can be taught indoors (Adkins & Simmons, 2002). However, even with these differences in mind, the two can complement each other when done in conjunction.

Barriers such as the lack of class time listed by Young and LaFollette have long been noted and research has explored how school grounds could negate some of these barriers. The review of outdoor education by Rickinson et al. (2001) also looked at barriers schools faced in providing outdoor education opportunities. The five major barriers discovered were:

1) Fear and concern about young people’s health and safety
2) Teacher confidence and expertise in teaching and learning outdoors
3) The requirements of school curricula
4) Shortages of time, resources, and support
5) Wider changes within the education sector and beyond

While Rickinson et al. noted barriers as well as the benefits of school grounds in their research, they did not directly compare the impact that school grounds may have in removing barriers.
Dyment (2005) focused on barriers facing outdoor education on school grounds by examining how school grounds affect the barriers to outdoor education that were described by Rickinson (2001). To discover how school grounds affected these barriers, a survey was given to over 400 schools in Ontario, Canada, with a 37% response rate. This survey was followed up with a multicase study of five schools which were determined by the socioeconomic status of the community. The researcher examined barriers such as fear of losing control of the class, requirements of school curriculum, and push back from educational reform. More than 50% of respondents reported that less than 10% of their teachers at their school utilized school grounds for outdoor education. Results show that only a small percentage of teachers surveyed in Ontario, Canada used school grounds as an outdoor classroom. Interestingly, the results of the case study interviews showed that teachers who are using the school grounds for learning actually found fewer barriers than for other environmental education experiences that did not use the school grounds. The teachers interviewed said that they did not have issues with concern for health and safety, time shortages, resources, and administrative support when using school grounds (Dyment, 2005). These interviews showcase the untapped potential of school grounds as outdoor education sites.

Other barriers to outdoor education include inclement weather and the impression that outdoor education is an ‘add-on’ to traditional teaching (Dyment 2005). A study on learning outdoors in Wales also found additional barriers not listed by Rickinson (2001). In agreement with Dyment’s results, this study found that teachers viewed weather as a barrier and would only take students outside in good weather (Maynard & Waters, 2007). Expanding on this, the researchers found that this may have been because of a lack of appropriate supplies for the students, like access to appropriate weather gear. An additional barrier that was found was that
schools lacked easy access to the outdoors, which would limit the fluidity between indoor and outdoor activities. These additional barriers existed even with the presence of green school grounds.

Outdoor Education in Wisconsin

School ground usage in Wisconsin has been studied by multiple surveys conducted by the Wisconsin Center for Environmental Education (WCEE), one of the organizations that helps orchestrate the GHS program. This is done mostly through the Wisconsin's K-12 Forestry Education Program (LEAF), a subsection of the WCEE that promotes forest education in Wisconsin, but also helps manage Wisconsin’s school forests and outdoor classrooms. LEAF has conducted multiple surveys that help give valuable insight into how Wisconsin schools are utilizing outdoor education. These assessments can assist LEAF in better providing the appropriate support for outdoor education that schools need.

LEAF registers school forests throughout Wisconsin. While school forests are not necessarily physically next to schools themselves, school forest usage can indicate some of the barriers and supports that schools may face in getting their students outside. In 2015, LEAF sent out a survey inquiring about the usage of school forests. It was sent to 231 school districts and 81 districts responded. The districts were asked what they viewed as indicators of success for the school forest and most reported that signs of success were: increase in student learning (>80%), students enjoyed learning at the school forest (>80%), and the lessons improved students’ knowledge of natural resources (~80%). Science, physical education, language arts, and social studies were found to be the four most commonly taught subjects at these school forest sites (Marshall, 2015). These findings demonstrate the potential for outdoor education as something that can be integrated with the curriculum to improve the school experience. Additional support
requested by teachers using school forests included: funding, curriculum development, professional development, opportunities for networking between school forest educators, and site visits.

In 2009, LEAF conducted a survey that assessed the number, type, and need of outdoor classrooms in Wisconsin. This survey was sent out to elementary, middle and high schools across Wisconsin with 285 responses. Of the three types of schools, elementary schools reported the highest outdoor school ground usage. Most schools (58%) surveyed had some sort of outdoor classroom. Of the schools that did not have an outdoor classroom, 85% wished that they had one. Of those that had outdoor classrooms, woodlands (48%) and prairies (32%) were two of the most commonly listed types of green school features that schools had designed for outdoor education. Schools were asked to report how often their school grounds were used and 51% reported using them often (more than 7 times a year) while 21% reported less than 3 times a year. Regarding the subjects that were reported to be taught outside, science, language arts, and art were listed as being taught the most often outdoors. The top four additional resources needed to help improve the outdoor classroom experience were money, help with new curriculum, planning assistance, and facility improvement (Gilbert, 2009). These surveys shed some light on what issues schools may be facing in terms of outdoor education, especially funding and new curriculum requirements.

**Conclusion**

As children are spending less and less time outside, schools have the potential to bring students back to nature. Evidence shows that to do this, schools must integrate outdoor education into their curriculum to help eliminate barriers such as time constraints and perceptions of environmental lessons as an add-on (Young & LaFollette, 2009). School grounds can help infuse
outdoor education into their curriculum, as well as provide a myriad of other benefits. What the
literature does not show is how the relationships between teachers, administrators, and site
managers impact the use of school grounds as outdoor education sites. This is important because
in order for there to be adequate sites for outdoor education, these three groups must interact and
work together. By examining differences in staff perceptions, this study can provide a starting
point for schools looking to implement an outdoor education site of their own. The next chapter
provides an overview of the methods used in this qualitative study to determine how school
grounds are utilized by schools and the perceptions surrounding them.
Chapter 3: Methodology

The purpose of this study was to explore teachers’, administrators’, and site managers’ perceptions towards using their school grounds as learning environments, as well as how barriers and supports affect different staff members. This chapter will cover the methods of the research including (1) the research design; (2) participants of the study (3) data collection (4) instrumentation and (5) data analysis.

Research Design

This project utilized a qualitative research approach to sample a population of teachers, administrators, and site managers from three GHS elementary schools. A multicase study approach as described by Bogdan and Biklen (2007) was chosen to allow for more data to be collected to help bring more generalizability to the data. By choosing to look at three schools, there was a larger pool of subjects to draw data from, which helped reduce the risk of data being biased towards a small number of subjects (Bogdan & Biklen, 2007). This study design also allowed for a bounded system, or a system that sets up boundaries to focus the scope of the research project (Creswell, 2013). A bounded system was implemented by placing restrictions on the schools that were selected for the study. This was part of the study design and allowed the research to focus on schools that were committed to having green school grounds.

Participants

GHS is a sustainability-focused recognition program for Wisconsin K-12 public and private schools. On the application to become a GHS school, schools can fill out a section describing how they are using their grounds and forests for educational opportunities. This focus on green school grounds made GHS schools a logical population of schools to sample from.
To select which schools would be sampled, I first reviewed the GHS applications to find schools that reported having green school grounds. Of the 357 GHS listed as of September (2016), 53 schools filled out at least a portion of the section that focused on school site sites. To narrow this list, private and charter schools were eliminated as they have more room for variability in their structure than traditional public schools. Of the remaining sixteen schools, three public elementary schools had fully filled out the school site section. These three schools were selected for the study.

This study examined three GHS public elementary schools that were located across central Wisconsin. Two schools were in a more urban setting with enrollments of approximately 400 students, grades K-6. One of these schools had their green site features located close to the school while the other school had green features located approximately two blocks from the building. The third school was set in a more rural area and had a school enrollment of just over 200 students, grades K-5. They were located on a larger acreage of land than the other two schools and had green school features located both close to the school and a bit further away.

The schools that were selected to be interviewed were first contacted by phone through calling the principal to ask permission for participants within the school to be interviewed. Follow up emails were then sent to the principals to schedule interviews and site visits, containing a description of the research as well as the requirements for interviewees. All three schools agreed to participate in the study. At each school, an administrator, four teachers, and a site manager were interviewed:

1) The administrator selected to be interviewed was the principal of the school, as they were the head of the school’s administrative team. The principal represented the administrative side of the school’s views on how their school grounds are being used.
2) For the four teachers, an assortment of teachers was requested based on the students that they taught. The different types of teachers interviewed were a teacher that taught between grades K-3, one that teaches between grades 4-6, a specialist teacher (music, art, physical education, etc.) and one additional teacher at the discretion of the principal.

3) The site manager interviewed was defined as the person in charge of maintenance at the school level, not the district level. This was to get insight on day-to-day maintenance and upkeep of the school grounds.

The staff interviewed were chosen by the principal of each school. This was to ensure that the staff being interviewed had some perceived connection to the school grounds and outdoor education. The principal was selected to make these decisions as they would have the best insight into which member of the staff would fit each definition of the role. Principals could further suggest more staff to be interviewed at their own discretion. One school supplied additional teachers and site managers to be interviewed. This additional data was added to the pool of data collected and included in the results.

Data Collection

In the fall of 2016, once the schools and interviewees were selected, the researcher went to each of the schools to conduct interviews and make observations of the condition of the grounds. Interviews were conducted as the staff was available, depending on the school. Each interview had a time limit of 30 minutes to be respectful of the school staff’s time. The amount of time spent at each school depended on the school and the availability of their staff. One school located further away from the researcher chose to complete all interviews and site observation in a one-day span. Two of the schools more locally based to the researcher chose to schedule interviews
with two teachers during the hour before classes began for the day. The researcher made multiple
trips to both schools to complete the interviews over a few weeks’ span for each school. For one
of these two schools, the initial plan was to have an open period at the beginning of the day
where teachers could volunteer to be interviewed. After the initial trial of that process which only
resulted in one interview, the principal decided to switch to scheduling the remaining interviews.

The interviews were primarily conducted inside the school. The option for outdoor
interviews was given, though usually not accepted due to either convenience of indoors or
inclement weather. Interviews were recorded with an audio recorder, with additional notes being
taken by the researcher. Tours were requested from each school to allow the researcher to
examine the school site and potentially determine how the grounds are being used by the school.
A photograph of each site feature was taken and incorporated into the data set.

**Instrumentation**

During the interviews, open-ended questions were used to determine viewpoints of
administrators, teachers, and site managers regarding the use of school grounds. These questions
explored the individual participant’s perspective on school grounds, as well as how that
individual interacts with others who are connected to school grounds. Depending on the role of
the participant, interview questions varied slightly to maintain relevance to the participant.

Interview questions were developed by reviewing previous literature. Existing databases
at the University of Wisconsin-Stevens Point library were utilized to gain access to research
papers that contained pertinent information (O’Leary, 2010). To validate the interview questions,
questions were sent to several individuals for review including a practicing teacher, a principal, a
site manager, a LEAF staff member, GHS program administrator, and a Department of Public
Instruction consultant. The feedback that was received was reviewed and adjustments were made as necessary. Interview questions can be found in Appendix A.

**Data Analysis**

Interviews from the staff at the three schools were recorded and transcribed from audio to text in Microsoft Word 13 with the assistance of a transcription foot pedal. To ensure accuracy of the transcription, any discrepancies were clarified by listening to the recording multiple times (Bogdan & Biklen, 2007). Transcripts were then uploaded into NVivo 10 to be coded. Photographs that were taken at each of the sites were also uploaded into NVivo 10 to be included in the transcribing process. These photographs helped to serve as a reference for what participants were discussing in the interviews. By examining both the interview and the photographs, the researcher could find common themes as they emerged among responses from the various participants.

Qualitative data were open-coded to find the themes within the data. The open-coding process involved the researcher reading through each of the interviews and attaching codes, or categories of information to the data (Creswell, 2013). By going through an open-coding process, the researcher was not limited to preexisting ideas and could group together information as it was presented in the data. This allowed the data to “speak” for itself. Codes were further grouped together based on shared themes that appeared during the coding process. Coding through each interview using NVivo 10 allowed the researcher to categorize the data and then determine the frequency with which each of the codes appeared. These codes could also be grouped by the role of participant to determine how each staff role viewed the theme.
Emergent Coding Framework

An emergent coding framework developed from the open-coding process. Three main themes: benefits, barriers, and supports emerged directly from coded data. Themes developed from sub-themes which developed from emergent codes. For example, the theme “Lack of Prior Experience” was developed by a combination of two codes “Staff Apathy” and “Prior Experience”. The sub-theme “Breaks” was created from three original codes; “Outdoor Breaks” “Brain Breaks” and “Recess”. The sub-theme “Getting Students to Engage with the Grounds” was created from two original codes “Student Involvement” and “Student Participation”. Due to similarities of the data, overlap between data frequently occurred and some data points appeared in multiples codes.

Trustworthiness

The overall reliability of the study was evaluated throughout the research process. Transcriptions were verified for consistency and accuracy by the researcher. For all coding procedures, intra-coding reliability tests (Olsen & Williamson, 2015) were conducted to ensure that the data are coded consistently throughout the research process. The data collected were organized by core themes and subthemes that appeared throughout the coding process. As the data analysis went on, the researcher periodically reviewed the codes to determine if the codes were accurately represented by the data under each category. Reliability testing was done approximately a couple of weeks after the data were initially coded to look through the codes for consistency and correcting any inconsistencies that arose (Creswell, 2013). Codes were consistent if they could be replicated when coding through the same data on different occasions. If this additional coding resulted in codes that were different from the original codes, the data was reevaluated to determine why the differences in coding took place. Construct validity was
determined by comparing coding from the case study interviews to the constructs that emerged to see how they aligned (Creswell 2013). Codes would be evaluated to ensure that they were included into the appropriate subtheme. For example, the initial of code “Weather” was generalized, but through reevaluation it became apparent that “Weather” was being viewed as either a positive or a negative. Codes were rearranged accordingly when adjustments to the appropriate sub-theme were necessary. Validity was also examined for both how the answers varied depending on the role of the participants and how answers varied by school (Weiss, 1994). For example, this was done by sorting frequency sub-theme references by school and by staff role to determine if the sub-theme was biased by unusual circumstance. Guba and Lincoln (1994) laid out criteria for trustworthiness in qualitative data which includes: credibility, dependability, confirmability, transferability, and authenticity. Connelly (2016) goes further into each of these criteria and the explains how each of these criteria may be met in qualitative research. Trustworthiness was demonstrated throughout this project as the study was designed to establish the criteria for trustworthiness as explained below.

To establish credibility, prolonged engagement occurred by having multiple visits to two of the schools and developing a relationship prior to visiting all three. Communication started with each school well before the interviews started and gave a baseline idea of how the school was run. To complete the interviews, multiple visits occurred, providing the researcher with a familiarity with the schools. For the school that was only visited once, it was over a longer period and the researcher interviewed more staff to get a better idea of the school culture.

Dependability and confirmability were established through careful note taking throughout the research process. Descriptions aided researcher recall in the data and facilitated analysis. In this study, the researcher was very conscientious about writing thorough descriptions when
observing programs so that as much detail would be included as possible. Observations in the form of pictures of the different sites were also taken to help provide context to the data during the analysis.

Authenticity of the study was established through triangulation of the data. Triangulation was conducted at many levels by having three schools to look at. It also happened by interviewing multiple people at each staff position. This helped to ensure that each school’s situations were authentic by getting a variety of perspectives on the same topics.

One potential limitation of this study is in transferability of the findings. Considering that the research was set up in a bounded system there is the possibility that the findings were due to specific factors from the schools participating in the GHS program. To help in being transparent, the situations at each school were described to allow readers the opportunity to make their own judgements on how the findings at these schools may be applicable to their situation.

Conclusion
What emerged from the data collection process was a series of themes revolving around the various barriers and supports that teachers faced related to outdoor education. Overarching themes from the data analysis appeared even though data came from different schools and circumstances. The next chapter will explore these themes as it goes into the results of the data analysis.
Chapter 4: Results

The purpose of this research was to evaluate how teachers, administrators, and site managers perceive their school grounds in the context of outdoor experiences. This study focused on the perceived barriers and supports that accompany using school grounds as an area for outdoor experiences at three schools that are registered with Green and Healthy Schools Wisconsin. This research is focused on discovering how green school grounds impact the barriers and supports to outdoor education. Specifically, this study focused on three research questions:

1. What barriers do school staff face when providing outdoor experiences?
2. What supports have staff found to alleviate barriers when providing outdoor experiences?
3. How do teachers, administrators, and site managers differ in how they perceive barriers and supports to outdoor experiences?

Interviews were conducted to address these questions and results were analyzed through open-coding of the data. This open-coding process involved breaking down the participants’ answers into codes that could be further organized into themes. The results of this study found three major themes that emerged from the data: the benefits, barriers, and the supports of utilizing green school grounds. Each of these themes are also further broken into the subthemes that created them. The views of the different staff roles were established by separating out the frequencies of subtheme occurrence by staff role. To help protect the anonymity of the research participants, quotes used in this paper are simply identified by the staff role that the participant fell under. These identifiers are as follows: Administrators (A), site managers (SM), and teachers (T). This chapter will look deeper into the research questions by examining how the different roles handled barriers and supports as well as discuss some additional observations gathered
during the data collection. First, the study participants will be discussed. Then, the themes will be described by looking at each subtheme and how those subthemes were viewed by participants from each of the three staff roles.

**Study Participants**  
**Staff roles.**
From analyzing the interviews, it was apparent that each type of staff member saw themselves fulfilling a role in helping provide outdoor education within the school. Referenced throughout the interviews were the various benefits that the staff saw in getting students outside and learning. However, even though it was agreed that going outdoors was good for the students, there were still barriers in place preventing outdoor education from happening more frequently. The impact of the barriers on interviewees was different based on their position in the school.

Administrators provided a leadership role for the school when it came to green school grounds and saw themselves mainly as encouragers to getting students outdoor experiences. This support that administrators provided varied from giving staff encouragement to providing financial support for green programs. As the success of the teacher was important to the success of the school, administrators tended to share many of the same thoughts of barriers and supports as the teachers did. However, as they were usually not directly working with the students, these thoughts were more sympathetic than personally actualized.

With teachers being the provider of the learning experiences, they felt pressures of barriers more so than the other staff roles. Teachers directly influenced how often students could have outdoor experiences. These outdoor experiences were sometimes in addition to everything that was required of teachers to accomplish within the span of a school year as some experiences were integrated in the curriculum and other experiences were not. Teachers did experience the barriers and supports differently depending on what subject they were teaching. These
differences were especially apparent between specialty teachers and classroom teachers. Specialty teachers, such as art or physical education teachers, reported taking their students outside more often. This was done through integrating their curriculum with the outdoors. However, they were only focused on one subject and for one class at a time, reducing some of the constraints that classroom teachers felt as they taught multiple subjects in a day. Overall, teachers influenced what outdoor experiences their students had and the variability between teachers demonstrated how barriers and supports affected individual teachers differently.

Of the three groups, site managers were the least connected with the daily education of their students. Of any of the staff roles, the site managers were the most likely to not be aware of what the teachers and administrators were working on to provide students with outdoor education experiences. Site managers reported witnessing teachers taking students outside but only as an outside observer. The site manager’s role was the broadest category to define of the three because there was more than one kind of position that could take care of school grounds. With that, site managers sympathized with the barriers they perceived the teachers and administrators had to manage but in most cases, they did not experience those barriers for themselves.

**School leadership.**

One observation was how the leadership for green outdoor initiatives at each of the different schools varied. While these schools had green school grounds, each of the schools had a different management style for the school ground initiatives. By examining these types of leadership, different models of ways to run a green school site can be examined and emulated.

**Principal-led/school culture.**

In one case, the principal was at the head of the school’s green initiatives. Although this administrator was relatively new to the school, there was a precedent of administrative leadership
for green school grounds at this school. This legacy helped to encourage the principal to continue efforts and encourage teachers to participate in school ground usage. The principal inherited a green school culture and felt that part of their role as an administrator was to help continue this trend. At this school, the feeling of the school being a family was often referenced. The GHS program was a big reason for this feeling as it rallied the staff around trying to build a sustainable school for their students. When talking with members of this school, the staff was more willing to go to further lengths to help others provide outdoor education experiences. Awareness for what initiatives were happening around the school was more uniformly reported than at other schools.

**One primary teacher.**

At one school, it was one of the teachers that helped to push forward the green initiatives at the school. This teacher was key to many of the projects at the school and motivated other teachers to get involved. One thing that was noticeable with this school was how many of the other teachers would follow that teacher’s lead and follow through with programs if the teacher asked. This teacher was also aided by a parent volunteer that could provide extra resources to the school. Both the teacher and the volunteer were knowledgeable about green school programs and put in extra hours to help develop projects. They also had the backing of the administration to run with green initiatives.

**Green school committee.**

One school’s green initiatives were led through a GHS committee that would meet monthly to help run various green site programs. Individual teachers would lead programs on their own accord, such as a nest box monitoring program. One participant in this committee was a parent that worked with a local university who would bring ideas to the school to see if they
would like to participate. Events and site improvements were instigated by this committee with the assistance of parent volunteers.

**Themes**

**Benefits.**

One of the findings of this study is that having green school grounds provides many different benefits for the school. The main benefits of green school grounds cited by school staff include raising environmental awareness, engaging students, and providing an area for breaks from the rigors of the classroom. While each of the school staff might have different roles in helping provide the outdoor school grounds, the benefits listed by each of the different roles (teacher, administrator, or site manager) were all very similar.

*Raising environmental awareness.*

One of the most cited benefits of green school grounds was that getting students outside could help raise their awareness of environmental issues. This was accomplished by utilizing the green outdoor spaces to provide students with an area they could experience nature. This benefit was cited by administrators, teachers, and site managers across the board. In some cases, simply being outside with the students could allow the students a chance to better appreciate the outdoors. For some teachers, this was a natural connection that they could make just by taking the students out of the classroom. These opportunities could present themselves through the year and be used to provide the students with experiences that they may otherwise not have. This could help combat nature deficiency as one teacher discusses:

> These kids have such a great need for instant gratification because everything they do is just instant, whether it’s on an iPad or they are playing games at home, everything is just so spontaneous and so instant for them that they don’t have time to just center themselves, breathe in the fresh air and reflect upon natural sounds and things going on around them in
the environment so that’s why I think it’s really important to get these kids out of the classroom. Away from so much technology, away from all the social things that happen, and disrupt their daily lives and just be in that space where they can reflect upon their day. They can listen to trees blowing in the wind, things that sound so mundane they are not able to do. So when we bring them out in those spaces, it just opens a whole new world of learning for them. -T

Administrators and site managers also noticed how school grounds could be a catalyst for getting environmental messages across. One site manager believed that having a green focus raised environmental awareness in the school by demonstrating environmental friendly practices. As one site manager mentioned, using school grounds “teaches the kids or the students and the adult a better way of learning and doing things. How we do things different.”

For teachers, this educating could happen on a day-to-day basis as they could have more of a direct impact on the students’ views towards the environment through the lessons they taught. Integrating environmental messages into existing lessons allowed the teachers the chance to get students outside and connecting with nature. One teacher explains why they felt that time outside for the students was important:

I think it’s important, it just gets them out of the ordinary setting of the classroom. They are not sitting in their desk all day. It shows them that the environment is important and we need to take care of it. -T

Green spaces gave teachers an area that they would be able to take their students to teach these lessons. The most common subjects taught outside were science, communication arts, physical education, and art. One school incorporated science into outdoor education by taking part in a statewide bluebird monitoring program each spring. The changing seasons
provided another teacher with a chance to engage students in writing about the outdoors. One teacher gave an example of how they took advantage of leaves falling in autumn: “We’ve done a writing activity out there where they hunt for leaves and then they build a leaf animal and then they write a story about their leaf animal.”

Activities like these allow the teacher to connect their students with nature while still teaching the designated curriculum. In many cases, these benefits could be realized through the curriculum as the teachers could connect environment awareness to the lesson. A teacher gave a personal example of how they integrated the environment into a social studies lesson:

I just think it’s important more now than ever that kids are learning about the environment, even with our Native Americans unit now the kids are learning how climate is so very different than when Wisconsin’s first people were here and it’s because of the pollution. So I think you can tie it into anything you teach and I think that’s an important thing to do. –T

Whether through an organized lesson or just allowing students to be outside, green school grounds gave school staff an opportunity to help connect their students with nature. This, in turn, could benefit students’ thinking by getting them to start to think about leading an environmentally conscientious lifestyle.

Getting students to engage with the grounds.
A reason school grounds helped to raise environmental awareness was because of opportunities to get students involved with the school ground greening effort. A benefit of having green school grounds is the opportunity to involve students in projects on the grounds. This was referenced by almost every participant, regardless of role, as one of the biggest benefits of having a green school site. By having a green school site, the school had the
opportunity to give the students a chance for input. One principal gives an example of this regarding creating a sign for the outdoor site: “That would be, well the Green and Healthy Schools and then our art teacher had a contest where they designed a bunch of different ideas for the sign…”

These opportunities for students to contribute and add their input was just one of the ways schools engaged their students with school grounds. Many of the green features at each school also had links to classroom projects. These projects helped to provide the students with the opportunity to take ownership in the land while also having valuable learning experiences. An example of this was how one fifth grade class helped to plant the school’s prairie. As part of this endeavor, the students were instructed to write about the prairie plants, connecting the project to the language arts. One of the ways that schools could help justify student projects was by connecting the curriculum to a school site improvement project. One principal showcased this by explaining what the kindergarten was doing:

I think, when possible, teachers are trying to get kids outside. We just had the kindergarten kids just planted apple trees that they are out in the front here because one of the units is plant cycle, from seed to seed, so the apple trees seasonally they are going to be out when they start to mature. They will use that space to talk about how that changes over time. So they’re building things, what I love is that they are things that are attached to their curriculum so they are naturally doing it. –A

Site managers noticed an additional benefit for students being involved with taking care of the school grounds. Student involvement could include helping the site manager with their duties. This turned maintaining a site from just the responsibility of the site manager to that of the whole school. One of the drivers of these opportunities were the teachers who
could organize student help both in and out of the classroom. In one school, teachers would encourage students to help during their recess time:

Well I think they [teachers] work recess duty and they have a rotation so when they are out there on recess duty I have seen them have kids run around pick up garbage that floats in from neighboring properties and stuff. And again, the teachers when they are on their duties make sure that the grounds are picked up, sticks. If another teacher left some playground activity out, we have the little scooters things like that. If they leave a ball out, they make sure the kids pick them up so the grounds are clean and safe for everyone. -SM

Whether through contests, classroom projects, or helping during recess, school grounds provided schools the opportunity to get their students involved in taking care of the outdoor environment. This engagement of the students led to productive outdoor experiences that could improve the grounds while providing valuable educational experiences.

**Breaks**

While school grounds can help engage the students, they can also leave a big impact on the classroom itself. One benefit that was described in detail was how school grounds can be a valuable resource in giving students a break during the school day. This benefit was seen mainly by the teachers but mentioned by all of the staff roles. The most referenced way school grounds helped with breaks was by giving teachers a space that they could use to provide their students with breaks. These breaks, as well as recesses scheduled throughout the day, helped get the students moving outside, away from the classroom. This was cited to break up the routine of the school day and to help keep behavioral issues under control. One teacher summarized how school grounds helped give crucial breaks in the fresh air for their classroom:

My class this year has a lot of behavioral issues, just a lot of impulsive kiddos who need to
be active and always engaged and moving. The more we can utilize those outdoor spaces with the more fresh air intake they get, the better it is for them to be in the classroom. -T

One advantage of having breaks is that the students got a chance to get outside for physical activity. One area that this was accomplished on a regular basis was through recess. In some cases, organized environmental activities, such as helping work in the garden or picking up the trash, were incorporated into recess time. Recesses could also give the students a chance to have unstructured free time. This unstructured recess provided an important outdoor time that allowed students to not only be active outside but also demonstrate some creativity. In doing so, the students were able to better focus in the classroom to complete the activities that they needed to do. As one principal explained the importance of recess:

We have all read the research on the importance of unstructured time for kids, recess time, it’s astounding good happens. So even if we only did those unstructured play times and didn’t use the grounds for extending our curriculum or creating a different environment for them to be learning at, we would have a purpose to be out there. -A

These respites from the classroom allowed students to clear their mind by utilizing their senses in the outdoors. Breaks were referenced as a way for the students to unwind physically and mentally which allowed them to better focus in the classroom. If a group was too rowdy, going outside for an active break allowed teachers an outlet for getting the students to expend extra energy. Many of the teachers referenced these as “brain breaks” which involved short physical activities such as playing a game. Getting some fresh air allowed the teacher a chance to get the class focused so that they could be more productive in the classroom. Brain breaks were a tool that teachers could use to refocus their classrooms, as a site manager explains: “Sometimes they have what is just called a brain break. The teachers will bring them outside and they’ll just
have a race or they’ll play a quick game of kickball or something.” A teacher expanded on the need to sometimes get outside for brain breaks:

Yes, I think they just need, sometimes, those brain breaks and sometimes that healthy air can just invigorate them and bring them back in and be just that more alert and ready to more of a focused sit down activity. – T

The benefits in breaking up the school routine was an important aspect of having green school grounds. Being able to take the students outside allowed the staff the opportunity to have the students engage in more physical activity while also getting to experience the fresh air of outside. It could even help in classroom management by giving the students a way to expel some excess energy.

**Barriers**

While outdoor school sites have been demonstrated to help reduce barriers (Dyment, 2005), they do not necessarily fully remove all the barriers to outdoor education. Many of the staff roles feel the same constraints relating to outdoor school grounds or could sympathize with the problems of their fellow staff. These barriers include the curriculum restraints, time constraints, weather, lack of prior experience, and limitations to the school site.

**Curriculum.**

The area that put the most constraint on outdoor experiences was having to keep up with curriculum standards and demands. For site managers, many recognized that curriculum affected teachers though the curriculum barriers did not affect them personally. Administrators saw curriculum as one of the biggest barriers that were outside their control as standards are set by the state. Teachers agreed with this sentiment and, to make sure they could fit all the required standards, some teachers would just stick to their usual routine rather
than try new activities outside. Teachers felt the constraints of the curriculum and would have
to take that into consideration when prioritizing classroom initiatives. One teacher described
how it could be difficult to prioritize outdoor experiences into the curriculum:

Finding the time in our curriculum to use, to be able to implement things. We have such
high expectations with meeting the standards and that that sometimes it could be a subject
you would put aside before say I need to focus on this reading and get this child up to level
for reading. Or math. So it shouldn’t be but it is sometimes you know a secondary to that. -T

With these limitations that were placed on teachers, principals had a tough time
justifying why it was important to take students outside. With standards being set as the
measure of success, staff saw that outdoor education was an extension rather than a core
activity. With the demands that were placed on them to reach learning standards, every bit of
time is essential. These pressures to accomplish everything that they needed to do were a
limiting factor for teachers to be able to take their students outside. This left little extra time to
adapt lessons to be taught outside to fit the standards. As part of this, some principals had to
try to fight against the idea that taking students outside was an extra thing:

I think that gone are days where you just take a half hour and play outside because of the
expectations [curricularly] and standards and things like that. Teachers feel like there’s a
lot of work, a lot of accountability, there’s not time to just, you can’t afford to just take off
an afternoon. So that’s my point in saying, if we can find ways it is supplementing what
they are already doing, and it is tying in to what they are needing to meet in terms of
standards, that it’s a win-win. That teachers aren’t feeling like it’s wasted instructional
time but in fact it’s enhancing. -A
Time.
The most commonly mentioned theme that school staff mentioned was the limit of time. With only so many hours in a school day, time was at a premium at every school and a lack of it severely limited the amount that staff could utilize the outdoors. Every staff role listed time as one of the barriers that they faced in providing outdoor education experiences. Other responsibilities could make it difficult to prioritize the outdoors. For one principal, the impact of a busy schedule affected all facets of running the school, even permeating to staff meetings:

You know it’s just, it’s just finding the time for it to engage people and seeing ways they can use it. You know time is so precious, in our school, you know and every school, every business that just finding the time to get people to get some ideas and use it without taking so much time that, you know, they’re going to get frustrated. I don’t have time to be spending a staff meeting outside because I have stuff to do. -A

Time was a barrier that impacted each of the various staff roles. Most notably, curriculum was the frequently mentioned reason for these constraints. For site managers, it was the additional responsibilities and duties of maintaining school grounds that constricted the time as they still had to maintain the inside of the school itself. Overall, time was a barrier that everyone struggled with and it forced schools to prioritize what they thought was most important. In many cases, it was going outside that got pushed to the side.

Weather.
Another barrier that was felt by schools that limited their ability to take students outside for learning was the constraints of the weather. With Wisconsin having harsh winters, the school staff, particularly teachers and site managers, felt that for a good chunk of the year it was difficult to take students outside. Some teachers felt very strongly about this barrier limiting
them from taking students outside. As one teacher deftly described their biggest barrier:

“Weather, for me the only thing is weather.”

Not only was the weather itself an issue, in many cases teachers found that students would not be adequately prepared for the weather. Taking students outside in less than ideal weather meant that the teacher would have to deal with the extra hassle of having to communicate with parents to ensure extra necessary gear was brought. In addition, teachers would also have to take valuable time out of their routine to make sure students were dressed properly. Examples of this include teachers complaining of students not having winter gear when it was cold or boots for the rain. As one teacher said: “Weather can be a factor, especially now that winter is coming. You know some people may not have, some of the kids don’t have the proper clothing. They have to make sure they have boots, and hats and gloves.”

Weather was a barrier that schools had little control over. With being in the climate that they were, it was understood that winters would be cold and springs would be wet which could negatively impact the grounds. Even with this barrier being recognized, it still factored into limiting how schools could utilize their school grounds at different times of year.

**Lack of prior experience.**

One barrier that some teachers felt strongly about was that there was a lack of experience for some when it came to the outdoors. This barrier impacted teachers as they were the ones that were teaching outdoors. One resource that teachers mentioned that could add difficulty to getting students outside was a teacher’s lack of prior experience. One teacher admitted that even with some resources that the school provided there was still a lot they had to learn:

I think just some of it would be for me, a barrier might be what I know and what the extra things I can do to make it more exciting for the kids outside. I’ve been…the book we
got…we got a book this year…it gives us a lot of activities we can do outside. And sometimes I just take them outside, period. But I think that’s just more, just learning more about what I can do out there with them. -T

There were two different kinds of this lack of experience, either from lack of training or lack of influential experience in the outdoors. Teachers may have the desire to take students outside but were unsure how to do it. This lack of knowledge could range from not knowing how to manage class behaviors outdoors to not understanding what was happening outdoors. Without this knowledge, teachers could find themselves at a loss for how they could incorporate outdoor education into their teaching. As one administrator admitted: “Probably, it’s probably their [teachers] base knowledge that’s the biggie, I don’t think they [teachers] have enough understanding of how we could use the space better.”

In some cases, teachers not wanting to take students outside was caused by an apathy towards the outdoors. Multiple teachers mentioned that they thought that some of their fellow teachers were more inclined just to want to teach inside. Some teachers theorized that this could be a product of teachers having conflicting teaching styles or not having positive outdoor experiences of their own. Multiple teachers brought these two reasons up as seen below:

I think it really just depends on the style of teaching you have, not many people, I shouldn’t say not many, not a lot of people are inclined to want to be out in that outdoor space, even though they might know it’s better for their students. So they might tend to stay inside where they weren’t raised in the outdoors. Whether they don’t think it fits their style of teaching, I really can’t speak to what I think they want to do themselves. But there is just a lot of things that come up during the week and during your planning time that make it difficult for many to use those spaces, I think. -T
No, and there are a lot of people that don’t take them out except for recess and so those people often take recess away when their work is not done. So, it’s a mind shift and I think we have to work on how we are going to shift minds into thinking there is as much value in being out there as there is being here. For some folks, and I’m not one of those people, if I could fit it in all the time I would it’s just like I said, it takes planning. -T

If a teacher did not feel comfortable teaching outdoors, they were less likely to take their class outside to learn. Whether through a lack of training or a lack of desire to take the students outside, teachers that did not want to put the effort into taking the students outside would not take their students outside.

Site limitations.
While the schools boasted having green school sites, there were still limitations that went along with what each school’s grounds had to offer. These barriers were generally site specific and could be something that might have been out of the school’s control. One example of this was how one of the school’s site features were harder to maintain as they were beginning to age. Another example was that one school’s outdoor classroom was not frequently used because it was not near their school. Their principal talked about the difficulties their school faces of being limited in space: “Well, we’re limited in our areas. There are only a couple of acres large, so there’s only so much you can do on there.”

One setback that a couple of schools particularly had to face regarding school grounds was vandalism of the school property. While this may impact the site managers’ workload the most, it was not referenced by site managers as a major issue they faced. Administrators and teachers, however, did see this as a source of extra work for their school’s site managers. One teacher viewed vandalism as the biggest issue that their site manager had to deal with:
Right now, with our experience here at our school, we have a few kiddos who, after school, like to utilize those spaces, and that is what it is meant for but what’s happening from time to time we see people dropping off furniture they don’t want to take to the landfills, they’ll dump it in our outdoor space, they’ll tip over materials, log seats are thrown in the woods. So many times, our custodial staff who have a huge job taking care of our grounds already inside of the school and outside of the school, then have to go and take extra time to remove those couches. They have to call other people to come in and take those things out that don’t belong there. -T

Another issue that revolved around school grounds as a barrier would be the lack of supplies outdoors. Teaching outside had different challenges compared to teaching inside because the space was not the same as being indoors. Some teachers thought that going outside was a disadvantage to their teaching because supplies they relied on in the classroom were difficult to bring outside. Setting up a lesson outside could take extra time, which would also contribute to the already mentioned time barrier. One teacher sums up how constantly having to set things up made things difficult for their teaching:

I can do it in small little pieces you know but the problem with that is you take up time marching outside and marching back inside so if you had it setup you wouldn’t be doing that, you wouldn’t be reinventing the wheel every time you came. -T

Another barrier that school grounds provided was that some of the green features were farther away from the school. A lack of proximity could start to expound on the other barriers that schools were facing in providing outdoor experiences. The further away a green site feature was from the school, the more timing was impacted as classrooms had to take valuable time to travel. Teachers may also feel uncomfortable taking students far away from the safety of the
school building, in part because communicating with the office became more difficult. One school came up with a plan to try to help alleviate that barrier by providing an area closer to the school:

I think sometimes supervision makes teachers nervous if they are out and they have a student that misbehaves, has trouble following directions or what have you, sometimes staying in their classroom environment where it is very, you know, the kids know the routines and that sort of thing, it makes them a little uncomfortable to move out of that environment. That’s why I think this closer spot might feel more, I don’t want to say safe, but you know what I mean, kind of controlled, not in that way but it just feels like you have a little bit more of a management aspect when you are closer to the building in maybe a familiar environment of the playground. -A

Having green school grounds comes with its challenges and many of the barriers regarding the grounds themselves were site specific. While each school had green school features that they were proud of, each school also looked to improve on what they already had. In some cases, the barriers involving the site itself could prove enough to limit the use of outdoor space. In many cases, though, it was these small challenges with the school grounds that caused other barriers to become more of an issue.

**Supports**
While barriers decrease use of outdoor grounds, supports were mentioned as ways to alleviate some of those barriers. Again, like with the benefits and barriers, there was a lot of overlap among the staff roles in the most commonly referenced supports. These supports ranged from encouragement that staff had received from administration in getting students outside to
supports that they provided other staff. The most common supports listed included the green school grounds themselves, leadership, communication, and good weather.

**School grounds improvements.**
While some of the negative features of outdoor areas were listed as a barrier to outdoor education, the positive aspects of the sites encouraged getting students outside. The green school grounds were a central part of outdoor education experiences. New initiatives to further improve the school grounds were viewed positively as potential vehicles for change. One example of this was how one of the schools wanted to install a new outdoor classroom close to the school:

And I know that with our new recess committee and the things that are coming in from that, they are going to, the idea is to make an area now that is constructed as an outdoor classroom space so that will even make it better. Just keeping that in the forefront of our planning is probably the ideal thing to do. -T

Having a space to take the students outside was an asset to the educators tasked with student’s learning. By having available space to use, the teachers felt like there was a spot they could take their students outside and teach a variety of lessons. In this green space, some teachers felt that they could take advantage of the opportunity by integrating outdoor activities into their lesson plans. The flexibility of the space allowed teachers the opportunity to be creative in connecting the environment to their lessons. As one teacher described one of their outdoor spaces:

We do have benches and areas out there that can be used to learn, it’s similar to what you have in the classroom, it’s just a matter of picking and choosing the lessons and the content that fits that more free area. -T

One area that the site managers focused on for providing support was making sure that
the grounds were kept up. For the site managers, especially, this is what they viewed as their role in helping provide outdoor education experiences. In keeping the grounds clean and safe, site managers could contribute to outdoor education. This benefit was listed mainly by the site managers and the teachers whose classes the site managers affected. Communication, again, was key in enabling this support. By communicating with the others, it was easier to keep track of what needed to be fixed or taken care of. One site manager explained how they viewed their responsibilities in assisting outdoor experiences:

How do we support the outdoor education experiences? Basically, making sure the grounds are kept up and clean and accessible for everybody as far as, we have a lot of oak trees on the playground. We make sure the branches are safe, if we see something that is potentially dangerous we make sure that we take care of that, regular tree trimming and things like that. And then just make sure that all the grounds are swept and kept up. -SM

By having a safe, appropriate place to take students outside, school staff were more motivated to utilize those resources. This value of having adequate school grounds was recognized as each school had further steps that they wanted to take their school grounds. For one school, that step was building a greenhouse and a walking trail. For another school, it was cleaning up the outdoor classroom by school. Upgrading outdoor features was one of the ways schools showed support outdoor experiences by investing in their green spaces.

Leadership.

Next to having adequate school grounds, leadership was a support all the school staff roles discussed as helping them provide outdoor education opportunities. This leadership could come in many forms, from support of the principal to a teacher taking their students outside to a volunteer helping work on a project. One of the primary benefits of this
leadership was how the leader could serve as a communicator to help move green initiatives forward. Having this leadership could disseminate important information amongst the staff that could open future outdoor education opportunities. In some ways, leadership could be as simple as encouraging others to use the outdoor spaces:

Only that they can, they [administrators] always support us to say that, that feature of our playground is there or school grounds is there and you know, go ahead and take advantage of it and use it. So, we do. -T

One way that administrative teams would help demonstrate leadership was by promoting various features of the school grounds the teachers could use. One principal provided training and additional lesson planning resources for their teachers through a grant to encourage them to become more comfortable with the outdoors. This kind of encouragement could go beyond administrators as well. Teachers could lead by example and seeing other teachers take their students outside would encourage some teachers to try it themselves. One teacher explained that even spreading the message word of mouth could help encourage more outdoor lessons: “So that might be inviting for them but as far as getting them outside, it’s just kind of word of mouth. You know, it’s kind of like hey, we went outside and my kids really enjoyed this or that.”

Part of what allowed these different ideas to happen is financial support. Financial support for the school grounds at these schools came from many different sources such as school budget, PTOs, or from grant writing. These dedicated funds towards improving the outdoor experiences could multiple ways, from improving landscape features to purchasing equipment that could be used outside. To get the necessary funds, someone would have to step in and take the lead for obtaining the money. This money could come from the efforts of the leadership or by
staff that took the lead on projects, whether for the benefit of their class or for the whole school. An example of this mentioned by a principal was how a playground supervisor helped find money for supplies for recess:

You know, so there’s active things, we have one of our playground supervisors is very responsive to what kids are interested in and will find grant money, parent group money to purchase scooters because kids were really excited about that. Sleds, so she’s very good about getting them things. -A

Another example of demonstrated leadership for the green school grounds was through the work of volunteers. These volunteer hours came from a variety of sources. Parents, school staff, and community members from organizations such as the Master Gardeners, donated their time to help improve the school grounds. Volunteers could be involved in numerous ways, from volunteering on workdays to being a part of the greening leadership team. At one of the schools, the principal mentioned that one big project got finished due to that principal’s own family volunteering. Volunteers could even be one of the biggest advocates for green school ground initiatives. One of the schools had a parent with a local university connection who was instrumental in getting staff on board with being green and healthy. This school mentioned how this particular volunteer kept the energy and motivation alive and helped the program move forward substantially.

Overall, leadership took place in multiple forms, and was one of the keys to encouraging improvements for the green outdoor spaces. School staff brought up many examples of how volunteering occurred in their schools. This ranged from helping build a greenhouse to volunteering to take a class outside to learn about a project. Schools also utilized volunteers as a valuable resource and in some cases the volunteers had leadership
roles in pushing forward green initiatives. One of the biggest areas leadership contributed was in helping provide another positive support: communication.

**Communication.**

One of the primary ways in which school staff supported each other was through utilization of communication. This communication manifested itself in many ways and was an important support for each of the different staff roles. For some site managers, good communication was the best way they could help carry out the school’s green vision: “Well they’ll let me know if anything needs to go, the resources, to make sure I have. Communication is big. That comes from the principal or the teachers and then I’ll take it from there.”

One of the ways that the administration found they could help support communication was by advocating for the usage of green school grounds. This could be advocating with their teachers to encourage them to use it, educating the public to accept outdoor education, or even reaching out to people higher up in the government agencies to try to help relieve the pressures of educational curriculum standards. Advocating to the local community on the benefits using school grounds for learning could help those outside the school to better understand the importance of outdoor education. This could be done in different ways such as involving the community in outdoor events or through marketing mediums such as social media. One principal explained the importance of this advocacy:

Well I have, I think part of it is marketing, using social media. To showcase the good things that are going on. We have helped when the WAEE has asked for an assessment or local environmental education person, that we have helped with surveys or other information so that that position can move on. I think it’s keeping lines of communication
open. I think it’s being the buffer or the foreshadowing person when talking with people. I’m not afraid to tell people at the state level ideas that might be better for our kids. So yeah, advocate. -A

Communication could help to increase student’s outdoor education experiences by allowing teachers to see other teachers lead by example. This communication could give teachers an indication of what potential activities were available for them outside by sharing lesson plans or discussing activities that could take place outside. Communication could also lead to collaboration, which could give different learning experiences for students as they connected across grade levels. A common example provided by teachers was how many upper grade classes would partner with a younger class as reading buddies to spend time together reading outside. One fifth grade teacher talked about how he would volunteer to take other classes out to demonstrate a project that his students were working on:

Well I collaborate with kindergarten and we use that space together probably more than any other grade. Although I have gone to other classrooms and said would you like me to take your kids out to show, so they can see the nests and the eggs and the birds. They’ve been very receptive to that. Both other classrooms at my grade level and then some of the other, third, second grade, first grade. -T

Communication was a benefit that went hand in hand with leadership. By having the school staff communicate among themselves, the school could enhance their outdoor education experiences. For site managers in particular, good communication from the administrators and teachers was key for them to be able to maintain the school sites. In all, being able to communicate effectively was a way to connect the school to each other and get staff on board with utilizing their outdoor spaces.
Weather
Just as school ground features could be viewed as either a barrier or a support, so could the weather. Site managers and teachers listed good weather as a support that they noticed for outdoor education. When the weather turned warmer, there was an increase in classes that would take advantage of the outdoor grounds. This was especially noticed in the spring time towards the end of the year:

Basically like I said, in the spring time and when its, you know, now we’re at the end of the season but when it starts getting nice out and the ground is dry then they’ll bring them out for reading and its pretty random but I would say at least once a week a different teacher will bring their class out for that 40 minutes or what the class period is. -SM

While in the winter time when it was cold the classes would not use the outdoor classroom, when it was nice out, some teachers would look for reasons to take their students outside. As the interviews took place in the fall, a few teachers expressed regret in not taking their students outside during one of the last nice days before winter.

Conclusion
This chapter explains the benefits, barriers, and supports that teachers, administrators, and site managers referenced throughout the data collection process. This data can be used to better understand the challenges schools face in providing outdoor education experiences for students and how schools can overcome it. For many aspects of this study, the administrators would empathize with the teaching staff and viewed the benefits, barriers, and support of outdoor education similarly to that of their teachers. This may be in part due to their roles of making sure that standards are being met and that the teachers are doing their jobs correctly. In many cases, administrators were aware of the barriers affecting their staff. Most of their references revolved...
around teachers, as site managers were for the most part viewed more as an outside resource than a provider of outdoor education experiences.

By having a better understanding of the issues school staff are facing in their roles of providing outdoor education experiences, schools will be able to proactively plan to try to reduce these barriers’ impacts. The next chapter will utilize this collected data to provide recommendations to schools regarding how these staff roles, barriers, and supports impact their learning outdoors.
Chapter 5: Discussion

Understanding the roles of school staff and how they interact can help to find ways to reduce barriers to outdoor education. Through the data collection and subsequent analysis, a better understanding of how the schools managed their green school grounds became apparent. By examining these programs, recommendations can be made that can apply to a variety of school situations.

Theoretical Framework

The results show that outdoor school grounds can provide positive affordances (Storli & Hagen, 2010) to outdoor experiences by providing an environment for outdoor experiences. Having outdoor classroom features can enable outdoor education experiences by creating a learning space that teachers can use. Lessons could be taught through green features with hands on projects. The space that the outdoor environments provided could also afford breaks and places for students to relieve energy outside. In outdoor environments, teachers could take advantage of the affordances provided by the green outdoor spaces of the school.

However, school grounds can also lead to some negative affordances as well. Having green features far away from the building can limit that feature’s usage. Not having easy access to the school grounds can lead to teachers not perceiving the area as a viable instructional location. People utilizing the school grounds can use them in a negative manner as well. Having to maintain the property from actions such as vandalism can add in additional work and can create a feeling of nuisance for school staff. These negative affordances from the school grounds can be a barrier to providing outdoor experiences.

Like the findings of Storli & Hagen (2010), the climate has an impact on the affordances of the school grounds. Nice weather opened opportunities for outdoor experiences, providing both chances for outdoor recreation and outdoor education. When the weather was poor, it
limited what the staff perceived could be done outdoors. This shows how the changing seasons can impact affordances of the outdoor space.

In some cases, the barriers and supports that impact school ground usage are not from the affordances of the outdoor spaces. Supports in the form of leadership, communication, and financial support encouraged the usage of school grounds but are not part of the outdoor environment. Barriers such as lack of prior experience, time restraints, and curriculum requirements were restrictions that were not part of the environment. Within the structure of a school, there is more than just affordances that affects the staff trying to provide outdoor experiences.

**Discussion**

Much as Rickinson (2001) found barriers to outdoor education, barriers at the three GHS schools still occurred even with the presence of green school grounds. The restraints of time, requirements of school curriculum, and teacher confidence were still found to be barriers even though the students were not leaving the school property. School curriculum and time were especially cited as being debilitating. Other studies (Dyment, 2005; Young & LaFollette, 2009) echo these barriers showing that these constraints are still an issue over a decade after the initial review.

Beyond the barriers listed by Rickinson (2001), other studies found that things such as weather and perceptions of outdoor education can negatively impact outdoor education. Studies in Canada (Dyment, 2005) and Wales (Maynard & Waters, 2007) found that cold weather was a barrier to taking students outside. Dyment (2005) also mentioned the perception of outdoor education being considered only an add-on to traditional education was a barrier for schools. This went alongside with the barrier of curriculum requirements as teachers felt the demands of
reaching the standards within the school year. This study found that all those barriers also were occurring with GHS schools, which shows possible correlation between this study and previous studies.

The results of this study were in many ways comparable to the findings of Dyment (2005) that had found that green school grounds did reduce some of the barriers to outdoor education. However, compared to the schools in Ontario, the barriers alleviated for the Green and Healthy Schools were different. In the previous study, schools reported that shortages of time were not reported as limiting through use of school grounds (Dyment, 2005). However, for GHS schools, time was listed one as of the one of the most frequently mentioned issues faced in providing students with outdoor experiences. Dyment also listed that lack of administrative support was a barrier that schools were facing. For the three Wisconsin schools included in this study, this was not an issue as staff at all three schools indicated their principals fully supporting outdoor education initiatives if it benefited the students. However, this could be in part because the principals could choose the staff that were interviewed. Due to the schools being in the GHS program, there may be more support for principals than schools not in the program.

Shortage of financial support was not a major issue at any of the GHS Schools interviewed. While each school would have enjoyed the benefits of more money, a lack of funding did not appear to inhibit green school ground projects from eventually happening if the project was prioritized. This could also be in part because of the GHS school program support. With the extra incentives for green initiatives, the schools may have been more willing to invest in their school grounds. Each of the three schools also had volunteer support that assisted in bringing in opportunities and funding to the school revolving around green initiatives.
The Green and Healthy Schools reported some of the same information that other schools in Wisconsin had reported to LEAF. Major similarities include desire for additional funding, need for curriculum support, professional development, and facility improvements. These needs are indicative of the current need for support for outdoor education throughout the entire state of Wisconsin. Even with an increased green school site focus comparative to other schools, the three GHS schools still feel these pressures as well.

While not a focus of the study, benefits of outdoor education appeared in data. The benefits staff at the three schools listed were raising environmental awareness, breaks, and engaging students in the school grounds. These were found to be the top benefits to students of outdoor school grounds. Staff at all three schools looked at school grounds as one of the ways they could help reduce “Nature Deficit Disorder” and increase students’ connection to nature (Louv, 2005; Young & LaFollette, 2009). While outdoor breaks for students were not previously mentioned in the literature, they were mentioned as one of the benefits of outdoor education by the GHS. Breaks outside could help improve classroom behavior and increase classroom concentration (Liebermann & Hoody, 1998; Märtensson et al, 2009). Throughout the interviews, opportunities for students to engage in the school grounds were discussed that shared similarities to environmentally focused schools such as the Oil City Elementary Magnet School (Irvin, 2007).

Implications

Based on the findings of the study, recommendations can be used by schools to enable more outdoor experiences. These recommendations were made to either help lower barriers, encourage benefits, or increase supportive practices to helping outdoor experiences. The table
(see Table 5.1) below shows these recommendations as well as the themes they were in response to:

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Theme</th>
<th>Sub-Theme</th>
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<tbody>
<tr>
<td>Evaluate the leadership</td>
<td>Support</td>
<td>Leadership</td>
</tr>
<tr>
<td>Keep the students involved</td>
<td>Benefit</td>
<td>Student Involvement</td>
</tr>
<tr>
<td>Bring the curriculum outdoors</td>
<td>Barrier</td>
<td>Curriculum</td>
</tr>
<tr>
<td>Take more outdoor breaks</td>
<td>Benefit</td>
<td>Breaks</td>
</tr>
<tr>
<td>Have green spaces closer to school</td>
<td>Barrier</td>
<td>Time</td>
</tr>
<tr>
<td>Re-create the classroom environment outdoors</td>
<td>Barrier</td>
<td>Prior Experience</td>
</tr>
<tr>
<td>Encourage communication</td>
<td>Barrier</td>
<td>Communication</td>
</tr>
<tr>
<td>Prepare the teachers</td>
<td>Barrier</td>
<td>Prior Experience</td>
</tr>
</tbody>
</table>

Table 5.1 – Basis for each recommendation broken down by theme and sub-themes.

**Evaluate the leadership.**
To ensure that each school is providing the best outdoor education program, schools should evaluate how their programs are being initiated to see if they are sustainable in the long term. Having strong leadership can help with communication and enthusiasm for outdoor education and can help get other staff members on board. This was supported by the findings of the study as communication and leadership were two of the most referenced supports for encouraging outdoor education. It is important to keep in mind how much impact one person has on the program and for schools to ensure they have enough support for the program to continue even if there were a change in the primary leadership.

The role of volunteers should also be considered when looking for help with school site greening. Having an active volunteer base can help alleviate some of the stress on staff that may be overworked or may not have the right expertise. Looking at resources such as nearby universities, government agencies, or non-profits can lead to opportunities to get students outside
and learning. One school partnered with a nearby state park to help provide more outdoor opportunities for their school.

In other cases, the volunteers can be parents that are passionate about providing students with outdoor experiences and could bring additional resources to the table that the school may not be able to otherwise access. One benefit of involving parents is that it can help rally the school community around various green site projects. By involving people outside the school in school grounds, it strengthens parent involvement and can help lead to a culture of getting students outside to learn. Utilizing outside support can also help provide resources such as planning assistance, help with new curriculum, and facility improvement that were cited as being needed for outdoor classrooms in Wisconsin (Gilbert, 2009). Just as the students may benefit by having engaging opportunities, engaging the local community can have benefits for the school.

**Keep the students involved.**

To help realize the benefit of student involvement, schools should try to include students in projects involving the school grounds. One benefit of outdoor school grounds that every staff role mentioned was that it allowed students a chance to be involved and experience the outdoors. This experience aided in raising student environmental awareness and helped connect the students to their school grounds. As shown by the Oil City Elementary Magnet School, involving students in outdoor activities has demonstrated many benefits including raising academic success (Irvin, 2007). Opportunities to keep the students engaged can help build school community and provide more opportunities for staff such as site managers and administrators to connect with the students. Overall, this could increase the investment in green initiatives by continually improving school grounds and making outdoor experiences a part of the school routine. When designing
green spaces, taking into consideration student input and enlisting student’s help can give students a way to become invested in their school grounds.

**Bring the curriculum outdoors.**

To reduce curriculum barriers to outdoor experiences, teachers should try to teach their curriculum outdoors. Many of the successful outdoor areas include projects that were used as vehicles for student learning. One example of this would be the prairie at one of the schools that teachers said was part of a project that a fifth-grade class planted to learn about plants. By having classes take responsibility for, and giving teachers the room to take charge of, an area, the larger the investment in the outdoor space will be. This will also allow the teachers to have a dedicated space that they can revisit year after year to build on their lessons.

Of the core curriculum mentioned to have been taught outside, science and communication arts were referenced the most. Science lessons revolved mainly around projects such as planting a prairie, gardening, or monitoring nest boxes. For language arts classes, teachers would allow their students time to read outside, usually with reading buddies, though writing outside also was mentioned frequently. The non-core classes such as art and physical education reported going outside as often as possible to reach their standards. There is opportunity for schools to be able to expand their efforts of integrating the curriculum with the outdoors. Areas such as math and social studies have potential to be taught outside, with creativity needed to adapt lessons to the outdoors. ‘Udeskole’ schools in Denmark are already integrating these subjects in to the local environment by using objects such as trees to teach about volume (Bentsen & Jensen, 2012). Trying to find more ways to connect different grade levels can have the benefit of giving students peer learning experiences.
Schools can assist teachers in integrating outdoor education into their lesson plans in numerous ways. Devoting professional development time to training teachers how to integrate the environment into their lessons is a way for administration to support teachers and promote outdoor education. Doing so would provide teachers time to prepare for lessons as well as the background knowledge to feel comfortable teaching outdoors. Giving teachers dedicated time to prepare and develop these lessons would alleviate some barriers to outdoor education. Hiring an outside consultant to assess outdoor education efforts and provide suggestions for how to better integrate the outdoors is another option. This outside consultant can help teachers discover potential outdoor education experiences they may not have recognized.

Also, having outdoor education lesson plan available that address standards can help to alleviate the curriculum barrier and help teachers see the outdoors as an extension of their classroom. Preparation already took the teachers’ time and having to develop new lessons that were outside was usually cast aside for the standard routine. Giving teachers examples of lesson plans that they can easily teach outside would help to reduce some difficulties caused by the curriculum.

**Take more outdoor breaks.**

Taking more outdoor breaks during the school day can provide outdoor recreation to students. Giving students a break from the classroom was cited by each of the staff roles as being an important contribution that could benefit the students. By giving students breaks outside, teachers can achieve better focus and productivity from students when they are in the classroom (Brez & Sheets, 2017). It was also a way for students to experience another one of the benefits of getting outside: gaining a better appreciation for environment. Breaks can be a way for teachers who are not as comfortable teaching outside to still get their students outdoors for short periods of time. This could be a good gateway to help teachers be more comfortable out of the classroom.
with the students and encourage the teachers to incorporate more outdoor education into their curriculum. Taking the opportunity for a brain break during the day can also have many positive effects on students’ behavior in the classroom.

**Have green spaces closer to school.**

One way to alleviate one of the biggest cited barriers, time, would be to make it as easy as possible for teachers to be able to get their students to the outdoor classroom. This can be done by having green space features that can be readily utilized for outdoor experiences close to the school building. By having areas such as outdoor classrooms located near the school, teachers could feel less pressure of having to organize students and taking time to travel. One school had a school forest located further away from the school and many teachers found this difficult to utilize. Another example of this was an outdoor prairie classroom that was located about a block away from the school that was starting to be overrun by plants due to not having much usage. While in some cases a school may not have control over where features are located on their land, they can try to plan future outdoor spaces with proximity in mind. Having an area closer to the school is one way to reduce barriers such as time or safety concerns that could help teachers not as comfortable outside become more comfortable teaching in an outdoor space. Closer spaces could afford easier access to the outdoors, allowing classes the opportunity to take advantage of them as an accessible environment (Storli & Hagen, 2010).

Schools should also encourage their teachers to consider how they can use the immediate school grounds next to the building to provide outdoor education experiences. By taking advantage of features that are right next to the school, teachers can still take their students outside without having to worry about travel time. Reimagining the school grounds as an outdoor education classroom is a way to expand the traditional view of outdoor education for schools.
Re-create the classroom environment outdoors.

Like having outdoor spaces closer to the school, re-creating the classroom atmosphere outdoors is one way to help take some of the time pressure off teachers. With time being a major factor in preventing outdoor experiences in schools (Young & LaFollette, 2009), reducing that barrier could make outdoor education more accessible. One way to reduce the difficulties of bringing the students outdoors is to bring the classroom outdoors. Supplies were an issue that could be alleviated by having kits or classroom supplies such as clipboards located outside or easily accessible. These additional supplies could be stored outdoors at the classroom or through an easily transported vehicle such as a cart so that the teachers could have access to supplies for their outdoor teaching. Having the appropriate supplies already outside would give the teachers less to they would have to manage. One school helped to alleviate this by offering an outdoor whiteboard at one of their outdoor classrooms. By having the outdoor classroom reflect the indoor classroom in structure, the teachers could feel more comfortable with the new environment.

One additional technique that can be helpful is extending classroom principles to outdoor activities. Doing this can help to control behavioral problems by having the same, consistent expectations as in the classroom. As one teacher puts it:

“Well we try to, when we go out there to do those things I try to stress to the kids that being in the outdoor classroom is the same as being in the indoor classroom. The expectations are the same, we’re not just going out there to play so I mean. So, it’s affected me as far as my classroom management techniques and that kind of thing. Being sure that we are on task while we are out there and not just going out there to run around.” –T

To overcome barriers related to school grounds, the principals believed that teacher opinions of the outdoor spaces needed to be changed. Rather than seeing the outdoor spaces
As a distraction from learning, the administrators saw it as an opportunity. By setting expectations outside as well as having the proper supplies available outdoors, teachers can begin to use the outdoor areas as an extension of the classroom. This could help encourage teachers that feel daunted by the outdoor environment to begin using outdoor spaces more frequently.

**Encourage communication.**

One theme that become apparent within the interviews was that the staff member would be “unsure” of an aspect of another group. This could show a potential lack of communication and transparency between the various roles of school. Communication between the roles was reported as sometimes lacking. This was displayed most frequently between teachers who taught different grade levels, who might not have any idea what the other teachers in the school were doing outside.

While site managers could take care of most of what was asked of them, most of the time the green initiatives came from the green school leadership. Decisions on what could be done with the school grounds rarely fell within the realm of the site manager. One way to include site managers would be to incorporate them in these conversations to help encourage them to think of ways they can help green the school grounds. While this could be difficult based around schedule restrictions, giving site managers more of a voice has the potential to get them invested in the school’s green projects.

Communication between teachers is also something that can help get more teachers more involved in outdoor education. Many teachers claimed they would be more willing to take their students outside if they had a way to share ideas with each other or could have an example of a successful outdoor education opportunity that they could follow. This was also reported by
LEAF, that networking opportunities and sharing curriculum were two of the most requested supports (Marshall, 2015). However, with the way that the school day was scheduled, there often was not time for this communication to happen. With so many other responsibilities on teachers’ workload, getting teachers together across grade levels is difficult. One teacher suggested using tools such as Google Drive to get a conversation started and engage more teachers in the discussion. This could be done online and continually updated with new knowledge as it is discovered.

**Prepare the teachers.**
To alleviate the prior knowledge barrier that teachers faced, providing outdoor trainings can help to reduce some of the stress that teachers face. Some teachers reported that they believed that teachers would not take students outside as they were not comfortable with the outdoors. This barrier was experienced not only in GHS schools but also cited in other literature as well (Rickinson, 2001; Dyment, 2005). Professional development for the teachers should include basic information on the local environment, examples of how to use the school’s green school site features, and information on resources available to teachers for outdoor education. Training throughout the year would provide the teachers opportunities to experience their grounds in any type of weather that is safe to go outside in. Site managers should also be given additional training on how to sustainably care for the school grounds. Another suggestion would be to enlist the help of outside resources such as those provided by organizations such as GHS to help prepare lessons that teachers could take outside.

**Further Research**
This study was limited in that it researched schools that had documented success in using green spaces. These schools were all on a larger acreage of land which gave them a bit of space
in the nearby neighborhood. More barriers to outdoor education could be uncovered when looking at a school that does not have such ready access to green space or safe neighborhoods. This would be especially true in more urban settings where concrete takes up more area of the school ground than green space. More research is needed with a broader group of schools to evaluate this limitation of outdoor school grounds.

Another area to examine would be the role of other administrators in management of outdoor spaces. For this study, an administrator was defined as the school’s principal. However, principals were not the only administrative role at the school. Other staff could provide interesting insights into how they may help support the capacity of the school to provide outdoor education. At one school, the secretary was the one in charge of deciding whether the students could go outside due to weather or other conditions. Getting the opinion of these other staff members on the administration team may help give better insight to how that entire staff impacts students getting outside experiences.

One additional area that could be examined would be looking at schools outside of the Green and Healthy Schools program. For this study, Green and Healthy Schools were explored due to a demonstrated commitment to green initiatives, particularly green outdoor spaces. By looking at schools that may not be as dedicated to outdoor education, there would be the opportunity to better gauge the challenges faced by most schools in Wisconsin.

For future research, the role of the site manager should be further examined. While this study could start to understand site managers’ roles in helping provide outdoor education experiences there are still a lot of unanswered questions. Do students feel the impact of site managers work on their outdoor education? Are green school grounds efforts more successful if
site managers have more of a say in the planning process? Better understanding how this role fits into the school community will help schools better support their site managers.

Another area future research could examine would be what constitutes successful outdoor experiences using school grounds. For this study, green school grounds were self-reported to be successful based on their GHS application data. More rigorous study of this should occur to provide an assessment tool for schools to determine if their green outdoor programs are making a positive difference. Factors that could be considered for this measure could include the amount of time spent teaching outdoors, professional development provided to staff, student academic success, the amount of school space greened, and the long-term sustainability of the program. These measures and others can be used to assess green outdoor programs and what gaps the school needs to bridge to maximize the potential of their school grounds.

**Conclusion**

Through this study, it appears that the similar perceptions of school ground usage were felt across the board by the various roles of the staff. The biggest difference in the staff roles of administrators, teachers, and site managers was how they interacted with the students and what they perceived their roles to be in providing outdoor education. Many of the barriers to outdoor education described by Rickinson (2001) existed in these schools. The barriers of time and curriculum requirements are especially difficult for teachers and schools to deal with regarding outdoor education on school grounds. It is important to understand these barriers and to utilize and improve upon supports already in place to improve outdoor education.

While this research focused on schools with strong green school grounds, the findings and recommendations can be applied to any school situation. Schools should strive to make taking students outside as part of the daily routine by making outdoor sites accessible for all
teachers and classes. To do this, school staff should focus on strong leadership and communication to build enthusiasm and encouragement for taking students outside. In doing so, more students can enjoy the benefits of being outdoors in nature as an integral part of their school experience.


Gilbert, S. (2009) Summary of Survey Results Outdoor Classroom Survey 2009 Assessing the Number, Type, and Needs of Outdoor Classrooms at Wisconsin Schools. Unpublished manuscript, University of Wisconsin – Stevens Point, Stevens Point, WI.


Appendix A: Interview Questions

USING SCHOOL GROUNDS TO PROVIDE OUTDOOR EDUCATION EXPERIENCES IN WISCONSIN’S GREEN AND HEALTHY SCHOOLS
Teacher Interview Guide

Type of School Ground:

1. What does being a Green and Healthy School mean to you?
   a. How has it impacted the way you do your job?
   b. How do the school grounds reflect your mission for being a Green and Healthy school? Why or why not?

2. Do you think it is important to take students outside? Why or why not?

3. Describe how your school incorporates their school grounds to get the students learning outside?
   a. How often are they used?
   b. To what extent are they used? What subjects are taught?
   c. What are your thoughts on integrating curriculum with the outdoors?

4. What barriers do you face in providing outdoor experiences for students?
   a. What barriers do you think administrators face when managing school grounds?
   b. What barriers do you think site manager faces when managing school grounds?
   c. What barriers do you think fellow teachers faces when managing school grounds?

5. How does your fellow teaching staff support you in providing outdoor education experiences to students?
   a. Administrative staff?
   b. Site manager?

6. What support do you need to better utilize the school grounds?
   a. What measures are you able to take into your own hands?

7. Describe how you would ideally incorporate learning outside in your current curriculum.
   a. What are the barriers to achieving this goal?
   b. What support is in place to help with this goal?

8. What else would you like to share?
These questions will be asked of individuals that are staff of a GHS school that meets has one of the different types of school ground listed and indicated interest in a face-to-face interview.

**Type of School Ground:**

1. What does being a Green and Healthy School mean to you?
   a. How has it impacted the way you do your job?
   b. Do the school grounds reflect your mission for being a Green and Healthy School? Why or why not?

2. Do you think it is important to take students outside? Why or why not?

3. Describe how your school incorporates their school grounds to get the students learning outside?
   a. How often are they used?
   b. To what extent are they used? What activities are used?

4. What barriers do you have to face to in helping provide outdoor experiences for their students?
   a. What barriers do you think teachers face when utilizing the school grounds for teaching?
   b. What barriers do you think site manager faces when managing school grounds?

5. How do you and your administrative staff support outdoor education experiences for students?
   a. Teaching staff?
   b. Site manager?

6. What support do you need to better utilize the school grounds?
   a. What measures are you able to take into your own hands?

7. Describe your vision for the school grounds in the next five years?
   a. How are they being used?
   b. What steps need to be taken to achieve this goal?

8. What else would you like to share?
USING SCHOOL GROUNDS TO PROVIDE OUTDOOR EDUCATION EXPERIENCES IN WISCONSIN’S GREEN AND HEALTHY SCHOOLS
Site Manager Interview Guide

These questions will be asked of individuals that are staff of a GHS school that meets has one of the different types of school ground listed and indicated interest in a face-to-face interview.

Type of School Ground:

1. What does being a Green and Healthy School mean to you?
   a. How has it impacted the way you do your job?
   b. Do the school grounds at your school reflect your mission for being a Green and Healthy School? Why or why not?

2. Do you think it is important to take students outside? Why or why not?

3. Describe how your school incorporates their school grounds to get the students learning outside?
   a. How often are they used?
   b. To what extent are they used? What activities are used?

4. What barriers do you have to face in helping provide outdoor experiences for their students?
   a. What barriers do you think teachers face when utilizing the school grounds for teaching?
   b. What barriers do you think the administrative staff faces when managing school grounds?

5. How do you and your fellow site managers support outdoor education experiences for students?
   a. Teaching staff?
   b. Administration?

6. What support do you need to better utilize the school grounds?
   a. What measures are you able to take into your own hands?

7. How are you involved in the management of the school grounds?
   a. Who primarily takes care of the green school ground feature?
   b. What steps need to be taken to improve the quality of the school grounds?

8. What else would you like to share?
Appendix B: Research Consent Form

Brent Burton, a Graduate Student of Environmental Education at the University of Wisconsin-Stevens Point is conducting a study to determine how staff member attitudes towards teaching outdoors vary depending on school ground type and position. As part of the study, you will be interviewed face-to-face on your views of your school’s outdoor grounds and how they are being used by your school. The interviews will take approximately a half hour of your time.

Participating in this study should pose no risk to you. However, because the interviews will be held outdoors, you may experience some slight discomfort depending on weather conditions.

As a result of your participation in this study, you will have more information about your school’s usage of your school grounds than you may have otherwise. This information can be used to evaluate your outdoor school ground usage and help your school make informed decisions on how the grounds should be utilized in the future. In addition, this study will assist educators across the state in determining which types of school grounds they should consider using at their own school.

For the purpose of the study, your interview questions will be coded so that your name will not appear on any of the forms used for data analysis. No information about you will be released to anyone other than yourself. Publication or presentation of the study data would in no way identify you as a participant. Only Brent Burton and his advisor Dr. Becca Franzen will have access to the names associated with the codes and this information will be kept in a password protected computer file and locked cabinet and destroyed at the end of the study.

If you want to withdraw from the study, at any time, you may do so without penalty. Any information collected on you up to that point would be destroyed.

Once the study is completed, you may receive the results of the study. If you would like these results, or if you have any questions in the meantime, please contact:

Brent Burton
Graduate Student
College of Natural Resources
University of Wisconsin – Stevens Point
Stevens Point, WI 54481
(920) 810-3190
Brent Burton@uwsp.edu

If you have any complaints about your treatment as a participant in this study or believe that you have been harmed in some way by your participation, please call or write:

Dr. Debbie Palmer, Chair
Institutional Review Board for the Protection of Human Subjects
Department of Psychology
Science Building, D240
University of Wisconsin-Stevens Point
Stevens Point, WI 54481
(715) 346-3953
dpalmer@uwsp.edu

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

I have received a complete explanation of the study and I agree to participate.

Name______________________________ Date____________________

(Signature of subject)

This research project has been approved by the UWSP Institutional Review Board for the Protection of Human Subjects.