

Let's Go Outside: Preparing Early Childhood Educators to Teach Outdoors

Lenore Peachin Wineberg
University of Wisconsin Oshkosh, USA

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ABSTRACT

The purpose of this study, which occurred during Covid 19, was to integrate outdoor learning in an early childhood undergraduate literacy course at a midwestern university. Over a twelve-week semester, eight early childhood preservice teachers participated in thirty-five outdoor activities covering all content areas. The goals of this study were to: 1. Educate preservice early childhood teachers on the benefits of outdoor learning for young children, 2. Engage them in preparing and presenting hands-on developmentally appropriate lessons outdoors and 3. Build their confidence in teaching outdoors. The participants' experiences were recorded in weekly journals and an exit survey. The findings from these two sources suggest that outdoor learning activities contributed to their knowledge of the benefits of outdoor learning and increased their confidence in teaching outdoors. Despite the limitations of this study, the preservice teachers were not allowed to implement these outdoor activities with young children or families due to Covid 19. This study can inform efforts toward encouraging teacher education programs to prepare future teachers to teach outdoors.

Keywords: teacher education, early childhood, outdoor learning

The focus of this study was to prepare preservice early childhood teachers to understand the benefits of outdoor learning, to involve them in experiential developmentally appropriate outdoor learning activities and to build their confidence in teaching outdoors. McKeown-Ice (2000) study of the status of the environmental education component of preservice teacher education programs in the United States, found "... that most schools have few requirements related to environmental education, and in the majority of schools environmental education is not institutionalized." This study further found that "Most colleges and universities have not institutionalized their commitment to environmental education in the ways they have to reading, science, and special education among others."

Cooper's studies (2015) state that despite the findings on how outdoor learning is relevant to the young child, "... outdoor learning environment goes virtually unmentioned in national and state level standards, guidelines and regulations and has been largely overlooked in the considerable efforts to enhance the quality of early childhood education". In Wisconsin, statute P134 says all teacher candidates in early childhood education programs are required to complete an environmental education requirement. The chair of the Early Childhood /Special Education Department at the University of Wisconsin Oshkosh was asked via e-mail, how does your program imbed environmental education into your early childhood program. She reported that courses that focused on Stem should include outdoor learning, but she observed this depended on the instructor's interest in environmental education. Her response agrees with McKowen-Ice's (2000) study that the inclusion of environmental education in courses is dependent on faculty with a specialization or interest in this area. Gunseli and Guzin (2017) recommend that "Teachers should be informed about outdoor education through pre-and in-service teaching training programs and outdoor education should also be incorporated into teacher education curricula." The findings from Ashmann and Frazen survey (2015) note that the range of ways in which teacher preparations are incorporating environmental education in K-12 instruction varies and "...should not be the responsibility of a single methods instructor."

In the past, the pioneers of early childhood all emphasized the positive aspects of the outdoor learning environment and its impact on real life experiences (Palavan, Cicek, Atabay, 2016). Friedrich Froebel, who founded the first kindergarten in the 19th century believed that "... children should grow in harmony with nature" (Ernst. & Tornabene 2012). Dewey believed that students learn through real life experiences outside of the classroom (Palavan, Cicek and Atabay 2016).

The Covid 19 pandemic has caused administrators, teachers and lawmakers to rethink the value of outdoors as a safe learning environment in which to motivate learning and promote creativity. During pandemics in the 19th and 20th centuries, doctors believed to combat epidemics such as the Spanish flu and Tuberculosis, children should be outdoors as much as possible (Semingson, P. Kerns, W. 2021; Wineberg, Beeth and Frazin 2021). Covid 19 has highlighted an opportunity for teacher education programs to prepare future teachers with an understanding of the benefits of outdoor learning, and to provide them with experiential activities that will result in their having confidence to teach their lessons outdoors. These experiential activities have the potential to make a significant change in impacting their teaching practices (Bolick, Glazier, Stutts., 2022).

Benefits of learning outdoors:

Learning outdoors has many benefits for young children (Lee and Baillie, 2019), families (Harris,2008), and teachers (Marchant, Todd, and Brophy, 2019) and it can enhance in-class lessons and understanding of the school community (Tangen and Fielding-Barnsley, 2015). Research studies show the following benefits for young children and parents:

- Engaging children in learning outdoors can improve their academic performance regardless of subject (Coyle, & Bodor, 2020).
- In the United States, schools that use outdoor classrooms and other forms of nature-based experiential education show significant student gains in social studies, science, languages, arts and mathematics (Cooper 2015)
- Students who engage in learning experiences outside of the classroom report having higher level of motivation and recall the materials more vividly (Claiborne, Morell, Bandy and Bruff 2020)
- Young children's cognitive flexibility and creativity are enhanced if they experience problem-solving in natural settings as opposed to highly maintained settings." ...young children need frequent positive experiences in nature, not only to grow in understanding of the natural world, but also to grow in understanding of who they are" (Ernst & Tornabene 2012)
- When parents engage their young children with at- home activities it reinforces what is being learned at school and "... makes the greatest difference in student achievement" (Harris ,2008),

Outdoor learning increases the learner's attention, reduces levels of stress, fosters self-discipline, increases interest and enjoyment in learning and promotes physical activity and fitness. Hofler (2011) states, "Spending time outdoors can make you happier or put you in a better mood. Studies showed that just five minutes of green exercise resulted in improvement in self-esteem and mood." Dewar (2018-2019) says that "Teachers as much as students might benefit from all these aspects of lessons in nature. Teachers can teach in a more engaging way after a bit of walking, a bit of a breather and change in scenery, and a dose of nature has rejuvenated their attention and interest and reduced their stress levels." Research shows that teachers being outdoors gives them a sense of increased satisfaction and well-being (Merchant, Todd, Brophy, 2019).

Fagerstam (2012) studies show when children are outdoors, they can gain cultural understandings of their community and develop greater appreciation of their community. "...they develop a sense of belonging in their natural environment and that it can improve children's identification with nature and culture." Outdoor experiential activities are of value to immigrant children in the United States (Children's Defense Fund Leave No Child Behind 2021). Tangen, Barnsley-Barnsley (2007) note children of immigrant parents can gain a sense of belonging and knowledge of the world outside of their classroom. "School grounds are an ideal environment in which to engage the potential students providing them with opportunities that can lead to improved attitudes and behaviors towards the outdoor school environment and better overall feelings for the school within the community and themselves as

members of the school community. Learning activities in outdoor settings encourages ESL students to take control of their learning through shared participation with their peers, releasing them from the intensity of classroom seatwork where their lack of proficiency of the English language and learning is revealed.”

Barriers to outdoor learning:

Mantel (2016) says the main barrier to outdoor learning is that “...few teachers are trained or have the experience of leading classes outdoors, despite the growing evidence showing how this can have a powerful effect on pupils health and well-being and their academic attainment.”

Other barriers are as follows:

- A lack of competence and lack of planning time support from administrators”. (McKeown-Ice, 2000)
- Teachers understand that outdoor learning promotes physical and social development but fail to understand how it promotes learning in other areas of development. (Ernst and Tornabene, 2009)

Palavan’s study (2016) interviewed teachers on their perspectives on outdoor learning and found “that teachers had limited time, classes were too crowded, lack of information about outdoor education, laziness, and concerns about meeting curricular deadlines. Teachers tend to think that outdoor education is just a matter of practice and there is no theoretical background to it”. Gardner (<https://thegardenschool.net/2018/06/12/why-teach-outside/>) surveyed teachers and identified similar findings to the barriers to teaching outside: curriculum standards, daily schedule, supervision of children, hazards, lack of knowledge, children aren’t dressed for the weather, and teachers don’t like being outside when it’s cold or raining.

Two colleagues from the University of Wisconsin Oshkosh with extensive experiences in the field of early childhood education were interviewed via e-mail to respond to what they have observed are the barriers to outdoor learning:

1. Do you think teachers fully understand the extensive research on outdoor learning?

Respondent A: *No, ...I honestly don’t think that teachers think beyond their classroom walls.*

Respondent B: *Most childcare and development programs (two -year associate degree) are focused on activities, and not so much on research and theory.*

2. Do you feel teachers are prepared to implement developmentally appropriate curriculum outdoors?

Respondent A: *No, I do not think so. In the education program, there are no courses that cover this sort of thing. In the real world of the early childhood classroom, the outdoor play period (recess) is usually a time for children to engage in free play. I rarely have seen teachers specifically plan activities outside for this sort of play. I know of a few family childcare providers that move their early childhood programs outside for the summer months. Teachers often think of that outside play time as more of a break from their active planning for the day.*

Respondent B: *I taught many different method courses during my time at the university. I cannot say where outdoor curricula fit, and if it had a high priority.*

Studies show that young children spend less than 23 minutes each day outdoors and one in three children spend no time outdoors (Copeland, et al, 2016 as cited in Dewar, 2018-2019,). According to one government estimate, the average American spends 90 % of his or her life indoors” (Hofler, J. 2011). Louv defined the current state of urban lifestyles in his book *Last Child in the Woods*, he stated “... children today are significantly less engaged with nature than children were a generation ago. More time spent in front of screens, and more structured and scheduled after-

school activities results in less time for today's generation of children to explore the outdoors. The results of this disconnect with nature can be seen in the health of today's children" (Hofler, J. 2011)

Tandom, Saelens and Copeland's (2017) study found parents' attitudes were not supportive of outdoor time and preferred learning to take place indoors. They were fearful of children getting sick in cold weather and children getting injured. "Parents of lower SES were less comfortable with their child playing outside at home, or at childcare, compared with parents of higher SES groups who were more comfortable with their children playing outdoors at childcare."

Design and Procedure

The purpose of this study was to integrate outdoor learning in an early childhood undergraduate literacy course at a midwestern university. Due to Covid 19 epidemic, the preservice teachers were not able to do these lessons with young children or their families. The preservice teachers embraced being outdoors, after two years of being indoors on Zoom. The eight participants, all women were enrolled in a twelve-week undergraduate early childhood literacy method course. The goals for this study were as follows:

1. Educate preservice teachers on the benefits of outdoor learning for young children.
2. Engage preservice teachers in preparing and presenting hands-on developmentally appropriate lessons outdoors.
3. Build preservice teachers' confidence in teaching outdoors.

In-class preservice teachers learned about benefits of outdoor learning and were informed of what should 4–5-year-old young children be able to do (<http://www.del.wa.gov/publications/development/docs/guidelines.pdf>):

- Predict what will happen in in outdoor experiences.
- Investigate the properties of things outdoors.
- Talk about changes in weather and seasons.
- Take walks to learn about colors and leaves they see outdoors.
- Respond to questions e.g. I noticed, I am curious about, and I think it would be better if.
- Take responsibility of caring for living things such as plants.
- Preserve the environment through disposing of litter properly, recycling.

The preservice teachers gained practical strategies when learning takes place outside such as: creating gathering places, designing problem- solving lessons and asking open ended questions. Three mornings a week, students went outside to a designated meeting area, and participated in over thirty-five developmentally appropriate activities that integrated all the content areas. They engaged in lessons that families could readily do with their young children outdoors. Doing their outdoor activities, the preservice teachers dealt with bees, wind, and a few chilly days. After each outdoor activity, there was informal discussion on what went well, what could be improved upon and their personal feelings about the activity. The preservice teachers were regularly reminded of the old Scandinavian quote: "There is no such thing as bad weather, only bad clothing" (Striniste, 2019).

Journals:

Each week, preservice teachers reflected in a journal on the outdoor lessons and received weekly feedback on their journal entries. Guidelines /prompts for journal entries included:

- In three words, what was your favorite thing that happened outdoors?
- Write down how you felt outdoors.
- How do you see the outdoor activities relating to teaching young children?
- How do the outdoor experiences relate to the required readings?

Surveys:

At the start of the semester there was no pre-survey to learn about their attitudes or experiences in outdoor learning. There was a survey at the end of twelve-week semester (Appendix A) to assess all aspects of the study. The first section of the survey asked the preservice teachers how likely they would engage in outdoor activities with young children, how likely they were to try new and different things and if their self-confidence in teaching outdoors increased. In the second section of the survey, the preservice teachers responded to open-ended questions regarding their engagement with presenting outdoor activities, what they saw as benefits of outdoor education and did their attitude change about teaching young children outdoors.

Lessons:

Over thirty-five lessons were chosen from three early childhood resources (Appendix B) that promoted and supported the National Association for the Education of Young Children Standards:

“Teachers provide time each day for indoor and outdoor activities (weather permitting) and organize time and space so that children have opportunities to work or play individually and in groups.” (The 10 NAEYC Program Standards <https://www.naeyc.org/our-work/families/10-naeyc-program-standards>)

“Teaching in ways that are appropriate to children’s maturity and developmental status, are attuned to children as unique individuals, and are responsive to the social and cultural contexts in which they live.” (Key Messages of the Position Statement, Developmentally Appropriate Practice, 3rd Edition”)

The preservice teachers were informed of the following strategies to make learning outside more effective:

- Set up rules for yourself and the children. Just as you have rules indoors you need rules outside. Maybe have signs outdoors with pictures such as this is our gathering place. When you hear the cow bell, we all come to our meeting place. Have children be responsible for carrying supplies outdoors.
- Plan how the outdoor lessons will be extended in the classroom. Have an alternative indoor activity ready if needed. Remember outdoor learning should not be limited to certain weather.
- Inform your parents that children will be regularly going outdoors. Expand lessons that children can do at home. Share with families the benefits of outdoor learning.

The lessons took approximately one hour and integrated all content areas. There were scavenger hunts and walks that emphasized understanding of literacy, print, life science, geography, and the visual arts. There was discussion before, during and after lessons to find out what they knew and what they learned. Lessons were done individually with a partner or whole group. Emphasis was on open-ended lessons that promoted problem solving. The lessons included how to ask questions such as What would happen if? What did you learn? These guidelines agree with Wilson’s research (as cited in Ernst & Tornabene, 1994) that outdoor learning should be a balance of direct experiences with nature and a “...balance of teacher-initiated and child-initiated explorations.”

Many books were read outdoors and then connected to all the content areas. Examples of these lessons included Alphabet by Leo Lionni, followed by decorating the first letter of their name with objects they collected in nature, Wonder Walkers by Micha Archer where they drew pictures of what they wondered about in their outdoor setting and Oak Leaf by John Sanford, where the students created a book to answer the question, Where did the leaf land?

Examples of at-home outdoor lessons that preservice teachers implemented were:

- Texture walk - around neighborhood to collect interesting objects that have fallen from trees and discuss how the objects feel.
- Teddy Bear picnic. Have a Teddy Bear Picnic with your parents Try out foods that are healthy for you.
- Wildlife stories: Make up a story about a tiny animal that lives around your house. How does it spend its day? What does it find to eat? Where does it sleep? Tell the story to your parent.
- Take a walk at night, read a book outdoors and drink hot chocolate and count trees in your neighborhood.

Journal Analysis:

Information gathered from the journal entries were related to the goals of the study and provided an insight into what was retained and understood from hands-on experiences outdoors. The first journal asked the preservice teachers to describe and reflect on their past outdoor learning experiences beginning with preschool to the present. The majority responded that they had limited outdoor learning experiences such as an occasional field trip or science lesson. Most of the journal entries described the outdoor literacy activities and their interest in doing the activities with young children. The weather was of concern to students, where some felt it was too hot or too cold and some expressed aversion to bees.

Here are two representative samples responding to the first journal entry:

- I absolutely love being outside, but many of my teachers/classes throughout my life never took advantage of being outside to teach. I took so many natural science classes and not even one took us outside. Outdoor learning needs to be used more considering how fun and engaging it is.
- When thinking about going outdoors in elementary school through college, I have come to the conclusion that I don't have any.
-

Entries expressed how preservice teachers felt about being outdoors and how it would benefit children's learning:

- I liked the above and below activity for many reasons. One being it expands the children's concept of below and above. It also gets them outside and allows them to observe nature. There are also many ways to create a book about what they saw or the whole class can contribute to one book. Giving them options allows the kids to take control of their learning.
- I used a song and dance for the beginning of the book. Kids can stomp their feet, clap their hands, shout. And they do not have to be quiet and stuck with a quiet classroom.
- I think doing our lesson plan for autumn while outside enhanced it because you can feel the breeze and see the leaves changing as we read.

Entries such as the following expressed how preservice teachers believed that being outdoors was of benefit to them.

- I feel outside, I can be open, and I can be myself. I can smile, listen, and laugh more. I feel more focused and energized, Today being outside has felt more familiar. I liked doing our walks and lessons because it makes me feel more comfortable and connected to the campus and community. It makes me feel confident here and in my teaching.
- This week has taught me so many new activities to try outdoors that involve the senses. I loved doing the sound walk. I am on campus every day and heard things I have never heard before. I have been taking activities from class to work with toddlers.

- Being outdoors helps me feel brave! Being outside helps me to be more creative. I feel happier when I am outside.
- Something that I truly enjoyed about being outside this week was the listening walks. I liked this because I usually have my headphones in and there are sounds that I have never focused on before. Who knew water and waves were so beautiful in the morning?

Survey analysis:

At the end of the 12-week semester, students completed an anonymous survey to assess outdoor learning experiences. The following questions were designed to relate to the three goals of the project which were:

- Educate preservice teachers on the benefits of outdoor learning for young children.
- Engage preservice teachers in preparing and presenting hands-on developmentally appropriate lessons.
- Build the preservice teachers' confidence in teaching outdoors.

The first three questions used a Likert scale:

1. How likely are you to use the nature activities we did this semester with young children?
 - Five responded highly likely and three responded somewhat likely.
2. I like to try new and different things.
 - Four strongly agreed, three agreed and one responded neutrally.
3. I have more self-confidence teaching outdoors.
 - Five strongly agreed, two agreed and one was neutral.

Questions four and five asked to describe personal feelings.

4. Please describe your feelings in presenting lessons outdoors.
 - I have never thought about doing lessons outdoors before and I really enjoyed it. A change in scenery and fresh air can allow for students to focus better.
 - I love doing the activities outdoors and actually have been doing them at work.
 - I felt very confident and content with our mini unit lessons, but it was raining so we stayed inside.
 - I felt like I could be more myself outside, like there are more distractions outdoors, but not distracting enough to pull the student away from the lesson.
5. What are the benefits of doing lessons outdoors for young children?
 - Children learn through their environment and senses and bringing them outside \allows them to learn more deeply.
 - Gives them freedom to explore their creativity, they can use their senses and feel more open.
 - They get hands-on experiences when collecting concrete things.
 - They get fresh air. The seasons change so they go outside, they can learn about the outdoors in a free and easy way, and they can do it at home.
6. In response to the question "Has your attitude about teaching outdoors changed?" Six responded yes, one expressed concern as she had not done these lessons with young children.
 - Yes, I never thought about teaching outside but now I definitely will. There's no such thing as bad weather as long as you dress for it.
 - I am not quite sure if my attitude has changed.

- It is given me more ideas. I want to implement daily /weekly outdoor walks.
- I have always been open to and willing to teach outdoors. The only change is I have a better idea of how to do that.
- Being outside makes me feel happy.
- I liked it, I feel like I have more confidence in myself.
- I loved doing the activities outdoors and have been doing some of them at work.
- I feel like I can be more myself outside.

Conclusion

While researchers note the benefits of teaching young children outdoors, teacher education programs have not prepared preservice teachers with this knowledge, nor provided them with experiential activities to feel competent in planning for the outdoor learning environment. This study focused on preparing preservice early childhood teachers to (1) Gain knowledge of the benefits of outdoor learning for young children, (2) Engage them in developmentally appropriate outdoor learning activities and (3) Build their confidence in teaching outdoors.

The findings from the journal entries and surveys agree with many studies that suggest that preservice teachers who have continuous firsthand outdoor experiences will gain knowledge and confidence in teaching outdoors (Hovey et al., 2020; Kassahun Waktola, 2009; Lindermann-Matthies et al., 2011; Marinho et al., 2017).

The result of the present study suggests that the preservice teacher's engagement in multiple outdoor learning activities promoted their knowledge of the benefits of outdoor learning and increased their confidence in teaching outdoors.

Implications for future research

Several factors have promoted the opportunity for outdoor learning such as Covid 19 and the growth of outdoor learning programs. "A 2017 national survey of nature-based early childhood educators reported more than 250 nature preschools and forest kindergartens across the country serving an estimated 10,000 children a year" (D'Souza, 2020, p. 3). The growth of outdoor programs can promote teacher education programs to collect "Good Practice" examples for young children and their families which would support the development of outdoor teaching for initial schoolteacher training (Wolf, Kunz, and Robin, 2022, p. 212). "Nature should be part of the teachers tool kit just like tech is" (D'Souza, 2020, p. 6).

Limitations

This study was limited by the small number of participants, the lack of a pre-semester survey and external factors of not being able to do the study with young children and their families due to Covid19. Future directions suggest that gathering outdoor experiences and strategies via interviews from a large scope of quality outdoor early childhood programs in various geographic and cultural areas will add credibility to the development of methods courses.

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E-mail interviews:

Dr. Louis Chicquette (March 2022)- Retired Professor of Early Childhood Special Education at the University of Wisconsin Oshkosh and Director of YMCA CHILDCARE in Appleton, Wisconsin. louischicquette@gmail.com

Dr. Susan Finkel (March 2022) Retired Professor of Early Childhood Special Education at the University of Wisconsin Oshkosh and Director of the University of Wisconsin Oshkosh Child Care, Oshkosh, Wisconsin. finkelsusan@gmail.com

Dr. Stacy Skoning (March 2022) Chair of the Early Childhood Special Education Program at the University of Wisconsin, Oshkosh. skonings@uwosh.edu

Appendix A

Resources for Lessons

Environmental Experiences FOR EARLY CHILDHOOD, (2011) Project Learning Tree American Forest Foundation, Washington, D.C.

Growing Up Wild Exploring Nature with Young Children Ages3-7 (2017) Association of Fish & Wildlife Agencies, Washington, D.C. Environmental Experiences FOR EARLY CHILDHOOD

Robertson, J., (2014) Dirty Teaching A Beginner's Guide to Learning Outdoors, Independent Thinking Press, Carmarthen, Wales

Appendix B

Survey Questions

Please review the nature activities we did this past semester in responding to the following survey. There are no right or wrong answers. Thank you in advance for your answers to this survey.

1. How likely are you to use the outdoor nature activities we did this semester with young children?
Very likely__ somewhat likely __ very unlikely __
2. I like to try new and different things.
Strongly agree__ agree__ neutral__ disagree__
3. I have more self-confidence teaching outdoors.
Strongly agree__ agree__ neutral __ disagree__
4. Please describe your feelings in presenting your mini unit lessons outdoors.
5. What are the benefits of doing lessons outdoors for young children? Explain.
6. Has your attitude about teaching outdoors changed? Explain.