

Outdoor education as a way of life

MANUELA VALENTINI¹, PAOLA DONATIELLO²

¹Department of Humanistic Study, University "Carlo Bo", Urbino, ITALY

²Support teacher (Anthropologist) I.I.S. Panzini, Senigallia.

Published online: February 28, 2021

(Accepted for publication February 22, 2021)

DOI:10.7752/jpes.2021.s1072

Abstract

The lockdown, resulting from the pandemic, has clearly highlighted the need to rethink and relocate the human dimension; mutability and complexity make our reference systems precarious, making certainties now acquired waver. Education emerges in the front line with its contradictions and urgencies. It is necessary to think of school as an educational community capable of mediating and activating educational and training strategies that allows one to breathe, and have an encounter between the nerve centres of post-modernity, where awareness and re-appropriation of one's own identity emerge through forms of creativity. School, as a physical place leaves room for new territories of conquest where education in the open air appears to be the anchor of salvation.

From the analysis of the most recent studies it is clear what the benefits of outdoor education are: physical, cognitive and socio-affective. An outdoor education experience can stimulate a more holistic educational process: the aim of this analysis is to show the evidence of this opinion and observe the development of empathic and socio-relational skills to cope with a new humanism. In fact, outdoor education is experiential education that refers to learning by doing and allows the practice of a specific case related to a real problem in order to enhance motivation, divergent thinking and the personal handling of the proposed cognitive problem.

We do not want to present the outdoors as a temporary alternative, aimed at solving problems, but as a practice, a physical and metaphysical space to live in, a mental habit. Outdoor education should become a lifestyle, a mental form that allows us to be inside creative spaces and outside of often pre-established and stereotyped networks.

Keywords: outdoor education, inclusion, childhood natural setting, outdoor play, social emotional learning.

Introduction

The school, as a 'space' dedicated to learning, has shown in particular at this moment, all its criticalities. Often stiffened, immobile and crystallized, it struggles to adapt to the needs of a present in constant transformation. Complexity is the key word to unravel the thick wefts woven by a socio-global (dis)order, the result of the processes of negotiation, deconstruction and post-globalizing reconstruction typical of the planetary era, where the irreducibility of the multitude emerges (Negri & Hardt, 2004).

What do we mean by complexity? It is the term we use when we feel confused, says Morin, in fact «complexity is a challenge to knowledge not a solution» (Morin & Tager, 2013, p. 125). Complexity must be repositioned and rethought in the context that embodies or disembody it in order to be reinterpreted in a holistic perspective of openness towards further suggestions. What is complex «is what cannot be reduced to a clear description, to a simple idea» (Morin & Tager, 2013, p. 125).

Ours is a liquid society, Bauman (2011) would say, certainly kaleidoscopic where even learning processes can no longer rely on habits and stereotypes. In this multifocal and multivocal multidimensionality, objective and subjective bodies manifest themselves as a psycho-physical concretization of social actors, understood as circular autopoietic systems: we are part of the same cognitive process that we are conditioned to and which in turn conditions us, as we creep into non-neutral spaces.

We need to visit, live, inhabit other spaces, open, shared and sharable, which nevertheless will allow that physical distance that we talk about so much, that safe distance that does not however recall something atypical but simply the possibility of managing one's own body even in movement in a natural habitat, re-evaluating it, re-living it, re-detecting it and re-sharing it. The cultural reference framework in which to insert the reasons for this study and the questions it raises, and the aim of this analysis are certainly not to offer definitive answers. They allow us to calibrate future projects in a rigorous and at the same time flexible perspective.

Therefore, the aims of this paper are to solicit questions, to undermine the rigidity of a training system linked to the immutability of its situational surroundings. In such a context, the importance of promoting outdoor education emerges by giving it a new guise; that of a cultural category in which to experiment the educational methods of further and creative possibilities and planning good practices.

The scientific literature, just a few examples, (Phyllis, 1986, Burgess & Ernst, 2020, Wolff, Skarstein, & Skarstein, 2020, Kinberg, 2020), has largely demonstrated the importance of outdoor education practices; part of the contributions (Fjørtoft, 2001; Federici, 1993; Valentini & Donatiello, 2020, Apaychev et al., 2018) focused on the motor and health component, but significant, studies related to cognitive aspects are now starting to be (Zamzow & Ernst, 2020), psycho-social (Sabet, 2018; Kumpulainen et al., 2020) and inclusive (Dunst, 2020) about outdoor orientation.

Trying to define a framework in which to place the action of outdoor education, we realize that there are many possible definitions, but: «the most comprehensive one seems to be, ‘Outdoor education is education in, and about the out of doors’. This definition tells where the learning takes place, the topic to be taught, and the purpose of the activity» (Phyllis, 1986, p. 2).

In the scope of outdoor education learning processes are included that take place in outside areas such as school playgrounds, meadows, and forests. «Outdoor education which is also called education outside the classroom, education out of doors, learning out of doors, outdoor learning, authentic learning in landscapes and in literature refers to an approach directed to learning based on concrete experiences» (Bal & Kaya, 2020, p. 168).

The lived space plays a fundamental role in the development of the child. The natural environment is a right that cannot remain in virtual observation between screens and windows, therefore, it is necessary to educate in love, respect, care for the environment by promoting a concrete, dialogical and spontaneous experience with nature (Valentini & Donatiello, 2020).

Outdoor education is located in a potential space, in the transitional area between subjective and objective reality (Winnicott, 1999). It allows one to remain on the threshold, being ready to change; we must swear by the moon, for she changes constantly¹. It is in this renewable and situational frontier, demarcating the self and the world, as the will to inhabit the borders, that it is realized in the negotiation of the narrative identities of each one, allowing a holistic view that can be shaped and reshaped (Cuche, 1999). The notion of boundary allows one to evoke belonging to a collective self as a production of meanings and symbols that can be shared and manipulated to determine new cognitive-relational practices and poetics.

Space, in fact, is not something defenceless, nor static, nor is it composed only of physical properties, visible or measurable, but is also constructed by our relationships, our knowledge, our illusions and is modified by our way of doing and acting, perhaps imperceptible: «in a world of pure space there is the world of the senses» (Bey, 2007, p. 33). «The subject matter of outdoor education is a holistic combination of the interrelationships of all nature and the human being, attitudes for caring for the universe, and skills for utilizing natural resources for human survival and for leisure pursuits» (Phyllis, 1986, p. 3.)

Methodology and material

The aim of this study is to show how «an outdoor education experience can stimulate a more holistic educational process» (Bornais et al., 2019, p. 108), and to observe the development of empathic and socio-relational skills to cope with a new humanism.

After a scientific analysis of the main bibliographic references in the field of outdoor education, 40 papers were selected based on the search criteria. These articles were used as a contextual frame of reference to place the analysis in context. The results obtained led to a more specific analysis of 20 sources, as they are more current and similar to the purposes of the research.

Following bibliographic research and historical theoretical references, protocols selected on the basis of their relevance to the established inclusion, the following criteria have been taken into consideration:

- topic, outdoor education, social emotional learning in outdoor activity, physical and cognitive development linked to schools’ outdoor experiences, (Keywords: outdoor education, childhood natural setting, emotional learning);
- age group, corresponding to the age of development, but the opinions of adults, especially teachers, are also being investigated;
- release date, this study, after taking into consideration a basic general bibliography starting from the last 20 years, has mainly focused on the contributions of the publications of the most recent years by analyzing the protocols from 2018-2020.

The main search engines used for the collection of studies are: JPES, Springer link, Eric, MDPI, Google Scholar, PubMed.

The aim of this bibliographic research is to approach the topic of outdoor education in a transversal way, in order to observe it from different angles. In fact, the researchers who conducted the studies come from different geographical and educational backgrounds: in order to offer a global overview the authors are North American, Hungarian, Italian, Slavic, Portuguese, Turkish, Slovenian, Finnish and English.

The survey methods used by the researchers are, bibliographic analysis, measurement scales (Zamzow & Ernst, 2020; Burgess & Ernst, 2020) field work and questionnaires (Hunter et al., 2019, Bal and Kaya, 2020).

¹Freely inspired by Shakespeare

Results: evidence analysis

In today's sedentary societies the relationship with the environment as a tool of knowledge is increasingly lost: obesity, hypokinesia syndrome, asthenia, attention deficit, loss of coordinating and conditional functional abilities such as strength, speed, resistance, are the obvious expression of bad lifestyles of our metropolitan children (Federici, 2015, p. 106). Apaychev et al. (2018) show that outdoor motor activity has a beneficial effect on health (resistance to stress, prevention of cardiovascular diseases). «The risks, a physical and mental level, of a sedentary lifestyle are many and move progress towards the implementation of experimental programs, aimed at developing motor engines in the open air, understood as the re-appropriation of physical and mental spaces capable of sensitizing the child towards freedom which implies respect, autonomy and the ability to relate» (Valentini & Donatiello, 2019, p. 103), the environment, where the needs of human beings are born and consumed, is to be considered as a sort of open book.

«Over time, approaches to outdoor education have changed from a primary focus on personal development to other areas of development, in line with societal priorities and current understandings of how students learn best» (Sabet, 2018, p. 15).

Jenna Zamzow and Julie Ernst (2020) utilized the Minnesota Executive Function Scale «to quantitatively explore the influence of nature preschools on executive function skills» (Zamzow & Ernst, 2020, p. 6). The study showed that the level of development of executive functions is the same in both groups, but «climbing trees, playing in the snow, building forts, and stomping in mud puddles are ... healthier forms of interventions in support of executive function development» (Zamzow & Ernst, 2020, p. 14). Federici (1993) states that motor activity in the natural environment is, at school level, symptomatic of an active and interdisciplinary school.

Eva Burgess and Julie Ernst (2020, p. 17) utilized the Penn Interactive Peer Play Scale and Preschool Learning Behaviors Scale, showing that nature preschools may be having a significant positive influence on peer play behaviors as well as on all dimensions of learning behaviors: the nature preschool movement, is grounded in a desire to foster connection to the natural world while also supporting important developmental processes and school readiness.

«The benefits of being out-of-doors go beyond simply getting exercise to including emotional, cognitive, and social benefits» (Sabet, 2018, p. 12).

Crudeli et al. (2012), in the survey carried out with the children in the nursery revealed the importance of outdoor education also understood this as the possibility of taking risks and overcoming one's own limits, avoiding the restrictions and excessive controls often dictated by rigid spaces and places. «Outdoor activities afford children more freedom to explore novel settings compared to indoor activities» (Dunst, 2020, p. 35). In fact the impact of nature and the outdoors on a child's development begins within the first year of life, state Barford et al. (2020).

Burriss and Burriss (2011) exploring the potential of the school outdoor environment demonstrate «that play contributes to children's social, emotional, cognitive, and physical development» (Burriss & Burriss, 2011, p. 10).

Hunter et al. (2019), using ethnographically grounded data collection, focused upon the perspectives of adults about outdoor play and learning for young children, showing that «while teachers maintain a strong preference for child-led learning, the changing outdoor space requires increased adult-led activities and intentional environmental education goals and training» (Hunter et al., 2019, p. 34).

Hawxwell (2019) explored the perceptions of outdoor learning held by trainee teachers «they were generally positive but also appeared to be apprehensive and cautious about specific elements related to outdoor learning» (Hawxwell, 2019, p. 106).

Baland Kaya (2020) in their study aim to reveal the opinions of teachers about education and students in forest schools, the results confirm the claims made by Borradaile that the forest school «has provable and multiple effects on children's physical, social and emotional development... the teachers say that the children who had difficulties in expressing themselves and who were afraid to speak have overcome all these problems and supports that their self-confidence has developed» (Bal & Kaya, 2020, p. 176).

Outdoor education positively influences the development of creativity and divergent thinking. «Narrative analysis reveals how the children's augmented storytelling in nature was performed through playful, affective, and sensuous, identity, cultural, and critical literacies, which were imaginatively constructed into being at the nexus of their sensed reality and fantasy» (Kumpulainen et al., 2020, p. 1). For example Kinberg during a workshop Writing in Nature for students (ages 10-12) found that using a natural environment for writing labs is an effective real-life setting for increasing engagement time, teaching content, and writing skills development found that using a natural environment for writing labs is an effective real-life setting for increasing engagement time, teaching content, and writing skills development (Kinberg, 2020).

The narrative, is a bit like playing inside the stories, allows you to tell yourself even through gestures and movements, the protagonist is our body that amplifies the imagination, fantasy, musicality, spontaneity (Valentini & Santi, 2007).

Outdoor education is effective, not only in childhood, but also in higher education, Leadbetter et al. (2019) demonstrated that outdoor learning experiences in higher education (HE) offer the opportunity for emotional, cognitive and learning development. Furthermore, Bornais et al. (2019), realized that the experiences

were as beneficial for facilitators and for participants. «Many similar themes were noted by Ashworth (2017), including feelings of connectedness, the value of learning outdoors, experiences and personal development. Learning is influenced in fundamental ways by the context in which it takes place» (Bornais et al., 2019, p. 115).

Dunst (2020) described the benefits of nature informal learning, also as a tool for inclusion. A case study participants included 115 children with identified disabilities and 91 children without disabilities. «Findings from the present study nonetheless indicate that when outdoors, young children with and without disabilities or delays, participate in a host of different nature-related activities where those activities provide the children with many different kinds of learning opportunities» (Dunst, 2020, p. 35).

Discussion: benefit, meaningful learning, creativity and empathy

The health and physical-motor² and cognitive benefits have been widely demonstrated, so the most recent literature focuses on the socio-cognitive potential of outdoor. Outdoor education is, also, referred to a process involving direct learning experiences (Phyllis, 1986, p. 3). It therefore fosters meaningful and experiential learning: «the process whereby knowledge is created through transformation of experience» (Kolb, 1984, p. 38).

Cognitive benefits include «more opportunities for independent problem solving, especially through manipulating objects» (Sabet, 2018, p. 12) in order to reach the understanding meant as deep knowledge that starts from the basic knowledge of the pupils, which are not *tabulae rasae*, but agents and co-builders of an interpreted and negotiated knowledge.

«The more real-life those contexts are, the more meaningful they are for student. In fact, research has suggested a connection between authentic learning contexts and problem-solving activities, and meaningful learning outcomes» (Kinberg, 2020, pp. 1-2).

Outdoor education is experiential education that refers to learning by doing (Phyllis, 1986, p. 7) and allows the practice of a specific case related to a real problem in order to enhance motivation, divergent thinking and personal handling of the proposed cognitive problem.

Outdoors encourages the children to be more creative (Hawxwell, 2019, p. 111), fosters lateral thinking and a deep restructuring of the perceived gestalt problem, through the understanding or intuition of functional and spatial relations between the present objects.

«Children, outside in nature, are likely growing in their affective connection to the natural world. With these deepened connections to the natural world alongside their ability to plan and execute goal-oriented behaviors, the findings from this study provide another opportunity for thinking about young children's contributions to a more sustainable future» (Zamzow & Ernst, 2020, p. 14).

The emotional benefits of being outdoors include increased confidence and an increased ability to cope with stress and even trauma (Saber, 2018, p. 12), this allows one to work on one's resilience, understood as the resumption of a possible development after a traumatic laceration (Malaguti, 2005, p. 16) by activating appropriate coping strategies. «Children develop a sense of place when they connect with their local communities and outdoor environment» (British Columbia, 2019, p. 21). Exploring nature together develops the perspective-taking (Wolff et al., 2020, p. 9), refers to a child's ability to simultaneously differentiate their own perspective from another and further recognize that the other's perspective may be different from their own (Burriss & Burriss, 2011, pp. 2-3), cooperation, group thinking, teamwork (Cooley, 2014), self-confidence (Crudeli et al., 2012), empowerment. Especially free outdoor play, if developed from childhood, enhances cooperative and socio-affective skills (Duque, I., Martins, F.M.L. & Clemente F.-M., 2016): «outdoor area serves as a natural environment to nurture prosocial behavior and diminish bullying; educators help children effectively interact with one another» (Burriss & Burriss, 2011, p. 3). Outdoor education has «the potential to amplify the group dimension by allowing for shared and reflective learning» (Leadbetter, 2019, p. 69).

The sensory-motor stimulations in the natural environment, according to Federici (2015) encourage learning in the child, improve peer work and collaboration, reducing antisocial and deviant behaviors in school contexts, facilitate the development of leadership, problem solving skills and have positive effects on motor skills and language skills (Federici, 2015, p. 110).

Natural settings are associated with, «greater feelings of revitalisation and positive engagement» (Bornais et al., 2019, p. 113).

Outdoor education «keeps the sense of curiosity alive, presents a unique learning environment and that the students educated here as individuals who have self-confidence, are inquisitive, creative, solution-oriented, learning by doing and with a developed sense of responsibility» (Bal & Kaya, 2020, p. 167), moreover, outdoor education has such a strong potential to influence the choices made as adults (Dobay, B., Bánhidi, M. & Simonek, J., 2018).

Conclusion

From the analysis of the most recent studies it is clear what the benefits of outdoor education are: physical, cognitive and socio-affective. Furthermore, the outdoors provide an excellent environment to reflect on

²²For further information Valentini M. & Donatiello P. (2020). *Educazione ambientale e motoria in età evolutiva. Per una pedagogia del movimento in natura*. Roma: Anicia.

interdisciplinarity, partly because of the nature of the setting and the varied backgrounds of the participants (Bornais et al., 2019, p. 110). «The general aim of 21st century skills is that learners, being well versed in learning-, literary- and life-skills, be able to identify, engage and solve a host of professional and personal challenges in the workplace of the future» (Wolff et al., 2020, p. 6).

The school should foster cognitive flexibility, the process of cultural construction of caring thinking (Lipman, 2003, p. 130) which derives from emotional thinking and develops through openness to creative thinking, but often, unfortunately, it fails to grasp ecological thinking because it is difficult to free oneself from beliefs rooted in us since childhood (Morin & Pasqualini, 2007, p. 59). «Learning experiences that allow for imagination can support children to steer clear of fixed mind-sets and develop those that are flexible and open ... Inviting students to use their imagination means inviting them to see things other than the way they are» (Yanko & Yap, 2020, p. 262). «Children need to become familiar with nature in authentic environments, so that they are able to build emotional bonds with nature. They also need to feel that they are competent, active agents in their own lives» (Wolff et al., 2020, p. 13).

It is necessary to think of the school as an educational community, open also to the wider human and civil community (Annali, 2012, p. 20), to activate breathing space between the neuralgic nodes of post-modernity, where re-appropriation emerges through clandestine forms of creativity.

We believe that «outdoor education is a continual educational experience. It is not just one field trip, 1 week at outdoor school... It must be taught at all levels and pursued throughout life» (Phyllis, 1986, p. 10).

Outdoor education should become a way of life, a form of mind that allows one to be «within fractal dimensions invisible to control cartography» (Bey, 2007, p. 18).

It is a matter of acting as corsairs occupying empty spaces on the map, appropriating those no-man's-lands like a pirate utopia (Bey, 2007, p. 38) aimed at creating communities that use music as an organizational principle because «if I can't dance it's not my revolution» said Emma Goldman. Every change is a revolution itself and the next revolution should be: outdoors as a way of life.

References

- Annali della Pubblica Istruzione. (2012). *Indicazioni nazionali per il curricolo della scuola dell'infanzia e del primo ciclo d'istruzione*. Firenze: Le Monnier.
- Apaychev, O. et al. (2018). Fitness correction of men using an “outdoor activity”. *Journal of Physical Education and Sport*, 18(4).
- Bal, E. & Kaya, G. (2020). Investigation of Forest School Concept by Forest School Teachers' Viewpoints. *International Electronic Journal of Environmental Education*, 10 (2).
- Barfod, K., Stevenson, M.P. & Bentsen, P. (2020). Outdoor Learning in Early Childhood. In: Peters M. (eds) *Encyclopedia of Teacher Education*. Springer, Singapore. https://doi.org/10.1007/978-981-13-1179-6_360-1
- Bauman, Z. (2011). *Modernità liquida*. Bari: Laterza.
- Bey, H. (2007). *TAZ*. Milano: Shake edizioni.
- Bornais, J.A.K. et al. (2019). Decade of Outdoors Experiential Workshops: Facilitator Reflections and Tips. *Collected Essays on Learning and Teaching*, vol. XII.
- British Columbia. (2019). *Early Learning Framework*. British: Columbia.
- Burgess, E. & Ernst, J. (2020). Beyond Traditional School Readiness: How Nature Preschools Help Prepare Children for Academic Success. *The International Journal of Early Childhood Environmental Education*, 7(2).
- Burriss, K.G. & Burriss, L. (2011). Outdoor play and learning: Policy and practice. *International Journal of Education Policy and Leadership*, 6(8).
- Cooley, S.J. et al. (2014). Introducing the use of a semi-structured video diary room to investigate students' learning experiences during an outdoor adventure education groupwork skills course. *Higher Education*, 67(1).
- Crudeli, F., La Serra, C. & Monti, F. (2012). Outdoor Education. *Idee e questioni*, Aprile.
- Cuche, D. (1999). *La noción de cultura en lasciencia sociales*. Buenos Aires: Ed. Nueva Visión.
- Dobay, B., Bánhidí, M., Šimonek, J. (2018). Effects of outdoor education on traveling habits of adults in Slovakia and Hungary. *Journal of Physical Education and Sport*, 18(2).
- Duque, I., Martins, F-M-L, Clemente F-M. (2016). Outdoor play and interaction skills in early childhood education: approaches for measuring and using social network analysis. *Journal of Physical Education and Sport*, 16(4).
- Dunst, C.J. (2020). Everyday Learning Opportunities of Young Children With and Without Developmental Disabilities or Delays. *International Journal of Early Childhood Environmental Education*, 7(3).
- Federici, A. (1993). *Attività motorie in ambiente naturale. Idee, proposte ed esperienze*. Urbino: Montefeltro.
- Federici, A. (2015). Attività motoria in ambiente naturale: una scelta per la vita. In *RELA DEI*, 4(3).
- Fjørtoft, I. (2001). The Natural Environment as a Playground for Children: The Impact of Outdoor Play Activities in Pre-Primary School Children. *Early Childhood Education Journal*, 29(2).
- Hawxwell, L. (2019). You only need a potato peeler and tarpaulin - Perceptions of outdoor learning from Primary Education Trainees. *Teacher Education Advancement Network Journal University of Cumbria*, 11(1).

- Hunter, J. et al. (2019). Balancing outdoor Learning and Play: Adult Perspectives of Teacher Roles and Practice in an Outdoor Classroom. *The International Journal of Early Childhood Environmental Education*, 7(2).
- Kinberg, M. (2020). Real-Life Nature-Based Experiences as Keys to the Writing Workshop. *Networks: An Online Journal for Teacher Research*, 22(1).
- Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development*. NJ: Prentice-Hall.
- Kumpulainen, K. et al. (2020). Children's Augmented Storying in, with and for Nature. *Education Sciences*, 10(6), 149.
- Leadbetter, P., Bussu, A. & Richards, M. (2019). Emotive outdoor learning experiences in Higher Education: Personal reflections and evidence. *Psychology Teaching Review*, 25(1).
- Lipman, M. (2003). *Thinking in Education*. Cambridge: University Press.
- Malaguti, E. (2005). *Educarsi alla resilienza Come affrontare crisi e difficoltà e migliorarsi*. Trento: Centro Studi Erickson.
- Morin, E. & Pasqualini, C. (2007). *Io, Edgar Morin: una storia di vita*. Milano: Franco Angeli.
- Morin, E. & Tager, D.K. (2013). *Il mio cammino. Djénane Kareh Tager intervista Edgar Morin*. Roma: Armando Editore.
- Negri, A. & Hardt, M. (2004). *Moltitudine, Guerra e democrazia nel nuovo ordine imperiale*. Milano: Rizzoli.
- Phyllis, F. (1986). Outdoor education: definition and philosophy. *ERIC Digest. Las Cruces, NM: ERIC Clearinghouse on Rural Education and Small Schools*.
- Sabet, M. (2018). Current Trends and Tensions in Outdoor Education. *BU Journal of Graduate Studies in Education*, 10(1).
- Valentini, M. & Santi, G. (2007). *Esprimi-amo le emo-azioni. Atelier ludico-motorio nella scuola dell'infanzia*. Perugia: Margiacchi-Galeno.
- Valentini M. & Donatiello P. (2019). Ambiente e movimento nella pluridimensionalità educativa. *Ricerche pedagogiche*, Anno LIII, n. 212-213, luglio-dicembre.
- Valentini M. & Donatiello P. (2020). *Educazione ambientale e motoria in età evolutiva. Per una pedagogia del movimento in natura*. Roma: Anicia.
- Winnicott, D. (1999). *Playing and Reality*. London: Routledge.
- Wolff, L-A, Skarstein, T.H. & Skarstein, F. (2020). The Mission of Early Childhood Education in the Anthropocene. *Education Sciences*, 10(27).
- Yanko, M. & Yap, P. (2020). A Symbiotic Link Between Music, Movement, and Social Emotional Learning: Mindful Learning in Early Learners. *LEARNING Landscapes*, Spring, 13.
- Zamzow, J. & Ernst, J. (2020). Exploring Executive Function Growth in Nature Preschools. *The International Journal of Early Childhood Environmental Education*, 7(2).