

Nature Kindergarten:

A development analysis of Forest Schools as an educational practice

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November 24, 2017

EDUC 633

UNBC

Introduction

In Sooke, British Columbia, there is a full day kindergarten run by the local school district since 2013, in which students spend every morning outside in natural old growth forest and beach environments. This ‘Nature Kindergarten’ is one of many ‘Forest Schools’ that are expanding in a variety of countries around the world, many of which have some striking similarities in the educational practices they offer students, even though they are concurrently unique to their local and national context in other ways.

Academics from around the world have been studying this growing phenomenon since the 1950’s and researchers from our very own University of Victoria have recently documented both the practices and results of this particular Nature Kindergarten in terms of impacts on cognitive, social, physical, and environmentally sustainable behaviour. It is not in the scope of this paper to survey the literature on the benefits of Nature Kindergarten or investigate the effectiveness of Forest schools to achieving claims, beyond revealing what practices are prioritized and therefore which developmental biases are held by proponents, but worthwhile to briefly mention that this particular Nature Kindergarten has in fact been found to have had beneficial effects on children’s motor skills, and positively affected their social skills and well-being (Müller et al, 2017). This is a great source to see a recent summary of this research however.

An analysis of the practices used in the Sooke Nature Kindergarten reveal an underlying developmental biases in favour of an active social constructivist concept of the individual, and see development as contingent on bidirectional elements from spending time nurtured in and by

Nature, as a co-teacher amongst mediating human educators, parents, peers and other societal influences.

The developmental perspectives and related theories used to inform and justify Nature Kindergarten by its proponents include a blend of concepts from Rousseau, Piaget, Vygotsky, Bronfenbrenner and Indigenous pedagogies. While Forest schools borrow from and share many developmental perspectives and theories with other more common educational practices, I argue there is a uniquely nuanced relationship with Behaviourism. On the surface, Nature Kindergarten and Forest Schools are completely counter to the “traditional” behaviourist classroom where standardized testing of a hierarchically determined curriculum are meant to be inscribed on the blank slate of students and ‘leave no child behind’ (Berk, 2014). However, most proponents of Forest Schools also advocate Nature as the best teacher, offering children a critical source of reinforcement for adaptive behaviours and observational learning opportunities in our current age of ‘Nature Deficit Disorder’ (Louv, 2005).

Proponents of Nature Kindergarten in particular seem to justify an investment in this age group having regular access to nature-based schooling through a staged concept of development, whereas those who argue in favour of Forest Schools for all ages from birth to Adult are more likely to invoke a continuous model of development, through which access to nature is seen as a critical need throughout life. All proponents of access to nature do seem to see it as particularly beneficial during sensitive periods, however, such as early childhood and the adolescent years. This perspective coincides with the view that brain growth spurts and pruning during these times relate to the establishment of life-long habits, values and abilities in favour of active, healthy, socially adept, cognitively sophisticated, culturally diverse and environmentally sustainable individuals and societies.

Literature Review

Nature Kindergarten: Summary of Educational Practices in a Forest School in B.C.

For those unfamiliar with the concept or practice of Forest Schools, the Nature Kindergarten in Sooke, British Columbia provides a well-documented and current example. Ulrich Müller has led two studies since the program's inception, which together provide a concise summary of the practices used to educate the students there (Müller et al., 2017).

This Nature Kindergarten is the first full day option offered through a public school in B.C., where initially 22 four and five year olds could play, explore, and experience natural systems and materials for over two and a half hours each day (Elliot et al., 2014). Led by a regularly certified kindergarten teacher, Ms. Lockerbie and an early childhood educator, Erin Van Stone, the children spent each morning outside their school, investigating either the nearby old-growth forest at Royal Roads University or a local wild beach environment (Elliot et al., 2014). The extremely popular pilot project expanded the following year to forty-one children in the Nature Kindergarten, who were assessed and compared with forty-five children in a regular kindergarten at the beginning and at the end of the school year (Müller et al., 2017).

Every morning, with no toys but a small backpack, each kindergarten child was equipped with a waterproofed snack, water, first-aid pack, little notebook and pencil (Elliot et al., 2014). The educators brought a stroller with trowels, clipboards, tarp, and guide books for the students to use. Activities and games played took place among the tide pools or trees, where students created imaginative play using the bushes, rocks, sticks, plants and signs of animals for props (Elliot et al., 2014).

This “community of safety” encouraged risk-positive attitudes (Gill, 2007) as cited in Elliott & Chancellor (2014) through teaching the children a signal for gathering in case of danger as well as skills in simple first aid (Elliot et al., 2014). The location of the outing each day was decided by the adults based on current wind conditions and local cougar sightings, but other decisions made by this “community of learners” were made collaboratively, to encourage interactive cognition. Whether in the instruction and celebration of how to climb a log, or being free to work together or alone in “interviewing a tree” activity, hands-on and socially-based methods were used to introduce numeracy, literacy, and the scientific method (Elliot et al., 2014). “Empathy” was another key concept outlined in a final report on the first year of the Nature Kindergarten, emphasizing an expanded, inclusive, Indigenous – oriented understanding of community in which all humans and non-humans are seen as important and connected through each beings’ shared capacity for joy and suffering (Elliot et al., 2014). The main goal of the Nature Kindergarten was to foster “deep engagement:” a rooted sense of being at home, learning in nature, regardless of weather, season or time of day. The teachers sought to create an experience of “flow,” where kindergarten students were free to explore the abundant and ever-changing source of educational materials always at hand in ecologically diverse and robust natural settings. Away from school bells, line ups, competition over shared and often gendered toys, forced waiting times and disruption while peers demand limited educator attention, the children were free to fully immerse themselves in whatever they were particularly interested in at each moment (Elliot et al., 2014).

The practices used at this Nature Kindergarten in Sooke share many similarities with “forest schools” in Denmark, “Waldkindergartens” in Germany or “rain or shine schools” established since the 1950’s in other Scandinavian countries such as Norway, Sweden, and

Switzerland (Elliot et al., 2014). During the past fifteen years, this deeply rooted movement of parents and ECE professionals working together in local communities around the world has also grown to improve educational opportunities afforded to young students in the United Kingdom, Australia, New Zealand and Japan (Elliott & Chancellor, 2014). The United States and Canada have joined as well, with notable examples including the Carp Ridge Forest Preschool located near Ottawa established in 2009, and an outdoor kindergarten class created recently at the Equinox School in Toronto (Elliot et al., 2014).

Comparison of Principles of Nature Kindergarten and Forest Schools

The Sooke Nature Kindergarten was created by a steering committee which outlined and then revised the following dynamic principles (Elliot et al., 2014). My emphasis shows the changes. Over time and with experience of the actual program, these principles were modified through thoughtful discussion to become:

- (a) connecting deeply with nature *through play*;
- (b) *local* (Aboriginal) ways of knowing and understanding;
- (c) physical and mental health;
- (d) learning *collaboratively* as part of *an empathetic* community, and
- (e) the environment as a *co-teacher* (Elliot et al., 2014, p.106).

It is interesting to compare these principles with those outlined by Williams-Siegfredsen, (2012,) as quoted in Elliott and Chancellor's discussion of the goals of the Bush Kinder program (2014). The concepts underlying the principles in the Nature Kindergarten appear to align with those of Danish Forest Pre-schools, located a world away and listed as follows:

1. A holistic approach to children's learning and development

2. Each child is unique and competent
3. Children are active and interactive learners
4. Children need real-life, first hand experiences
5. Children thrive in child-centred environments
6. Children need time to experiment and develop independent thinking
7. Learning comes from social interactions (Williams-Sieghedsen, 2012, pp. 9–10).

The similarities between these two sets of principles are striking, and informed my analysis of the developmental perspectives held by proponents of Nature Kindergarten as compared to Forest Schools in subsequent sections of this paper.

Forest Schools: Similarities and Differences in Educational Practices around the World

While schools around the world that include a forest approach often have locally developed and different names, they still have many common features and goals. It is often the age of the students, the type of care and the school's location which determines its name. For example, they also include Nature Nursery School or Forest Daycare, Forest Kindergarten, and my favourite name unique to Australia, Bush Kinder (Elliott & Chancellor, 2014).

First among the common features that all of these centers share is that children in the forest school experience fluctuations of weather, and the fundamental elements of earth, air, water and often fire in order to build the self-care and hardiness and self-regulation skills required to function as a group outdoors by simply being in nature, rain or shine (Elliott & Chancellor, 2014).

Another common aspect of a Forest school is attention paid to the natural features of the outdoor space the children have access to make sure the types of materials and activities such spaces afford for the imagination of the children is at least equivalent if not more diverse than the

toys one sees in indoor daycares and schools (Lerstrup & Refshauge, 2016). Researchers conducted a study to identify what constitutes a “good nature space” in a Danish Nature preschool and came up with the following technical terms for ten classes of such features: “Open Ground, Sloping Terrain, Shielded Places, Rigid Fixtures, Moving Fixtures, Loose Objects, Loose Material, Water, Creatures, and Fire” (Lerstrup & Refshauge, 2016).

A third key commonality are regular, long periods of time young people spend in natural environments (Borge et al., 2003; Elliott & Chancellor, 2014; Lerstrup & Refshauge, 2016). However, the definition of what constitutes “regular” and “long” can range from one morning a week in Australia’s “Bush Kinder” (Elliott & Chancellor, 2014), to seven hours per day or one week per month in Danish forest daycares (Borge et al., 2003). These differences in length of time spent outdoors seem to be determined by the distance between the inside environment and the natural spaces the center has access to, the amount and ratio of staffing to children and the age of the children, funding, caregiver requirements and educational context (Borge et al., 2003; Lerstrup & Refshauge, 2016).

Developmental Analysis of Nature Kindergarten versus Forest Schools

Despite appearing to be quite different than the majority of educational practices funded and managed through private day care and public school systems both here in British Columbia and around the world, Forest Schools and Nature Kindergarten draw on many of the same key developmental theories, perspectives and biases that are foundational to indoor-based educational practices and spaces. In fact it may be easier to point out the few theories which seem to not align with Forest Schools and Sooke’s Nature Kindergarten before we investigate all the theories which do align with the principles of each.

Non-Aligned Theories of Human Development

Behaviourism and its contemporary iterations seem to represent theoretical approaches to education that are the most obviously opposed to the foundation and practice of Forest Schools and the Nature Kindergarten as described above. For example, Skinner's view of the individual child as passive in their own learning process (Berk, 2013) is completely against the very active view held by proponents of Forest Schools and Nature Kindergarten, which is detailed in the next section. Skinner's focus on behaviour control does not reflect the goal of Forest Schools to provide opportunities for students to explore and construct meaning out of the world around them. Nature Kindergarten and Forest Schools seem completely counter to the "traditional" contemporary behaviourist classroom where standardized testing of a hierarchically determined curriculum are meant to be address Locke's concept of children as "tabula rasa" or blank slates waiting to be filled with knowledge (Berk, 2013). This is the basis for the 'no child left behind' policy in the United States that has led to extreme reductions in the amount of recess time spent in child-organized activities outside (Berk, 2013). However, when we take into consideration the fourth principle of the Nature Kindergarten, which is "the environment as a *co*-teacher" (Elliot et al., 2014), some aspects of both Skinner's concept of reinforcement and Bandura's concept of observational learning appear to have impacted how proponents believe environmentally sustainable behaviours should be inculcated among students in Nature Kindergarten and Forest Schools.

Supporters of the Nature Kindergarten seem to believe that Nature teaches through reinforcement and punishment associated with 'natural consequences.' Children are described as thinking twice once they have experienced not only the joy of splashing in water and then the discomfort of wet shoes or the sense of achievement through climbing versus the pain of a fall

(Elliot et al., 2014). An even stronger connection can be made to Bandura's social learning theory, as the teachers describe their students learning through observation and imitation (Berk, 2013): children who see other children and adults enjoying and competent in nature gain confidence and skill in gross motor skills (Elliot et al., 2014). Finally, they believe that if kids do not repeatedly spend time in nature on an ongoing basis from an early age, they will not feel comfortable, care, respect or take care of nature as adults (Müller et al., 2017). This being said, there are many other theories and perspectives that align with the principles of Forest Schools and the Nature Kindergarten in a more robust way.

Aligned Developmental Biases, Perspectives and Theories of Human Development

Role of the Individual in Learning and Development

Both the Nature Kindergarten in Sooke and Forest Schools in general embrace an active, child-led, Piagetian view of the role the individual child plays in their own development (Elliott & Chancellor, 2014; Knight, 2009). According to Williams-Sieghfredsen, the principles of Danish Preschools include the understanding that “each child is unique and competent,” that “children are active and interactive learners” who “thrive in child-centred environments” and “need real-life, first hand experiences” and “time to experiment and develop independent thinking” (2012, pp. 9–10). Borge et al. conceptualize the forest school student as a naturally happy, healthy, “actively independent” youngster who learns best through play instead of through strict school teachers' curricula, schedules and rules (2003). Rousseau's concept of the child as a “noble savage” is at play here as well (Berk, 2013). The educators at the Nature Kindergarten in Sooke believe that by focusing on the children's voices, perspectives, interests and inquiries, the kindergarten program and the study of it were made more meaningful for student development than a top down approach (Elliot et al., 2014).

Vygotsky also has a clear influence in the Nature Kindergarten's view of the active child whose learning is scaffolded and co-constructed by 'knowledgeable others' such as peers and teachers (Berk, 2013; Elliott & Chancellor, 2014) who "helped mediate children's experience in nature and encouraged their explorations" (Elliot et al., 2014, p. 111). Other forest schools share this social constructivist view, as evidenced by the seventh principle of Danish Preschools, which states that "learning comes from social interactions" (Williams-Siegfredsen, 2012, pp. 9–10).

The Relative Influence of Nature and Nurture in the Development of Individual Differences

While Forest Schools and Nature Kindergarten educators alike clearly align with Vygotskian assumptions about the important role of interaction and nurture in each child's learning (Elliott & Chancellor, 2014), they also recognize the role that Nature plays in this interaction, albeit in a different way than many theorists frame the Nurture versus Nature debate. Nature itself is conceived of as a teacher, or force of Nurture. (Carlgren, 1976; Montessori, 1971; Elliot et al., 2014). The fourth principle outlined for the Nature Kindergarten portrays "the environment as a *co*-teacher" (Elliot et al., 2014).

Rousseau also has a clear influence in how Nature Kindergartens and Forest Schools emphasize the importance that Nature plays in development, as like him, they see the potential that "civilization" has on corrupting or stifling the inherent and healthy pattern of development that children are naturally entitled to (Berk, 2013; Borge et al., 2003). Perhaps they are influenced by Baldwin's view that Nature and Nurture together or maybe they are influenced by Bronfenbrenner's update of this concept of bi-directionality (Berk, 2013). The Danish Forest Preschools recognize a broader, multifaceted view of development through their first principle, "a holistic approach to children's learning and development" (Williams-Siegfredsen, 2012, pp. 9–10), while the Nature Kindergarten acknowledges this holistic approach as an Indigenous

concept of children through their second principle, “*local* (Aboriginal) ways of knowing and understanding (Elliot et al., 2014).

Differences in Biases about Continuous, Discontinuous and Staged Development

Forest Schools in general seem to portray development as gradual through an advocacy of increased exposure to nature for all ages from birth to Adult. For example, researchers involved in the Bush Kinder program, which is part of a larger preschool program in Australia, argued that with repeated exposure to nature over time, students gradually build a growing sense of belonging, skills, and relationships in nature (Elliott & Chancellor, 2014). The sixth principle of Danish Forest Preschools is “children need time to experiment and develop independent thinking” (Williams-Siegfredsen, 2012, pp. 9–10).

Proponents of programs for specific ages such as the Nature Kindergarten in Sooke, on the other hand, seem to privilege a staged view of development which supports investment in their particular age group by portraying them as in the midst of a sensitive period in their development. However, the concept of stages these advocates hold bears more resemblance to those generalized by Baldwin and Rousseau who posit early childhood as a separate stage and sensitive period, as opposed to the specific stages outlined by Freud (Berk, 2013).

However, Erickson’s third stage, from age 3-6 years, includes the ages of kindergarteners and is in alignment with the claims made by advocates of Nature Kindergarten. These proponents suggest that students in Nature Kindergarten have greater opportunities to build initiative and avoid the feelings of guilt that can wrack young children confined to indoor kindergarten environments (Berk, 2013). They argue that Erickson’s emphasis on make believe, ambition, and responsibility during this stage are all more enabled in Nature Kindergarten as compared to indoor settings (Berk, 2013). Gendered roles are acted out far less, and there is less

demand for certain types of self-control such as being quiet, still and attentive at all times. Experiences of forced sharing, time-oriented activities, and a lot of time spent waiting for peers that may be over-represented in regular kindergarten leading to children avoiding school or experiencing excessive anxiety may be avoided through attending a Nature Kindergarten (Berk, 2013).

Stages and Timing of a Sensitive Period during Nature Kindergarten

In arguing that kindergarten is a sensitive period for developing nature-relatedness, Elliot et al. suggests in their study of the Sooke-based Nature Kindergarten that “primordial familiarity with nature provides the grounding for any type of knowledge” (2014, p. 115). Dr. Jay Giedd also believes that there are sensitive periods during growth spurts and pruning periods in the brains of young children as well as young adolescents (Front line, 2002). By delaying the onset of the overwhelming amount of rules and scheduling associated with formal schooling, suggesting that Nature Kindergartens offer an extension of a carefree childhood until students are better able to self-regulate in a classroom setting in Grade 1, at age six (Borge et al., 2003).

Berk supports the point of view that kindergarten is a key transition in schooling and therefor a sensitive period in development (2013). She cites a 2005 study by Konold and Pianta that suggested that social skills are more important as a predictor of academic achievement than intelligence in the 1st grade. As the Nature Kindergarten has been shown to improve the social skills of students more than those in the control indoor-based kindergarten (Müller et al., 2017), this finding would suggest that if public schools only have enough funding and resources to provide one grade level of students with a forest school experience, kindergarten is a worthy year to focus on.

Courses of Development in Nature Kindergarten and Forest Schools

Both Forest schools and Nature Kindergarten seem to subscribe to Rousseau's concept that all children follow one same biologically-determined pattern for healthy, orderly development (Berk, 2013). Yet they also seem to embrace the infinite possibility suggested by Vygotsky and Bronfenbrenner's concepts of many courses of development offered through place-based, culturally specific, and socially-mediated learning. They seem to believe that all kids need access to nature to develop in a healthy manner, but also think that the diversity in the types of natural spaces and the play and inquiry-based learning these natural spaces afford, as well as the different social and cultural values held by educators, parents and peers will yield certain differences in specific skills, knowledge, abilities and other particular aspects of development.

Universality and Cultural Relativity in Forest Schools and Nature Kindergarten

In their history of Forest Schools, Borge et al point out that the provision of childcare and education is extremely era-based and culturally-directed (2003). They argue that the development of Forest Schools in Scandinavian countries has been contingent on shifts in cultural perceptions of the role of women and their place in society in relation to the provision of out-of-home childcare (Borge et al., 2003). They also refer to shifts in values about Indigenous land rights and environmental conservation having an impact on the allure and investment in Forest Schools that speaks to an alignment with Bronfenbrenner's Ecological Systems Theory. Bronfenbrenner's inclusion of values and cultural identity in the macrosystem and public services and state institutions (such as parks) in the exosystem (Berk, 2013) reflect the recognition that both Forest Schools in general and the Nature Kindergarten in Sooke can only provide students with access to intact natural learning environments if the wider society values, protects and enables access to such spaces. Proponents continue to acknowledge the role that

members of a child's microsystem and mesosystem play according to Bronfenbrenner as well, in that parents and local communities choose to use and support the kind of daycare or school that reflects their own characteristics and approaches to parenting (Borge et al., 2003).

The Sooke-based Nature Kindergarten also seems to align with Bronfenbrenner's take on the importance of cultural relativity. Instead of privileging a Western concept of environmental education based exclusively on the scientific method, the steering committee who designed the Nature Kindergarten continue to prioritize Indigenous ways of knowing and local knowledge about the natural spaces the children explore through reserving spaces for Indigenous and local learners and fund an Aboriginal educator position in the Nature Kindergarten (Elliot et al., 2014).

By prioritizing spending time in local natural areas, regardless of weather and throughout the seasons, Forest Schools in general and the Sooke Nature Kindergarten in particular are fostering many aspects of Indigenous pedagogies, such as place-based, holistic, cyclic, experiential, and relational concepts through child-honouring educational practices (van der Wey, 2001). Teachers in indoor classroom environments too often present or reinforce components of a colonial, Eurocentric worldview as if they are universal or unassailable. Linearity, singularity, permanence, and objectivity are familiar to students and scholars of European descent, but their worth as signifiers of truth may be less obvious to many students with Indigenous worldviews. Instead, Little Bear suggests we work to include teachings that are holistic, cyclical, interconnected, or grounded in place (2012). Further, Little Bear sees Blackfoot values of strength, sharing, honesty, and kindness as critical in creating balance, harmony, and beauty (2000).

Although the Nature Kindergarten takes place on the unceded territory of the T'Sou-ke Nation, which does not necessarily share all of the cultural values of the Blackfoot people, it is

worth noting that these concepts associated with Indigenous Pedagogies more than Western pedagogies are reflected in a lot of the documentation of the learning experiences the students and educators in the Nature Kindergarten valued most (Elliot et al., 2014).

Saunders and Hill's 2007 'native ontological perspective of education' offers corroborative evidence of similar concepts as Indigenous pedagogies from a different cultural perspective. It prioritizes the four domains of holism, community involvement, lifelong learning, and learner/instructor co-authorship and re-defines the 3R's to focus on respect, relevance and reciprocative learning (Saunders & Hill, 2007) which are very similar to the First Peoples' Principles of Learning and Aboriginal worldviews and perspectives in the classroom., created and used by Indigenous educators here in British Columbia (BC Ministry of Education, 2015). Forest Schools and the Nature Kindergarten thus lend themselves towards fostering culturally diverse ways of knowing a place that reflect and respect Indigenous pedagogy, and embrace the greater inclusion of Indigenous worldviews as they are incorporated throughout the new B.C. curriculum.

Conclusion

In this paper, I have summarized the educational practices in use at a particular Nature Kindergarten in Sooke, B.C. and contextualized this Nature Kindergarten within a growing international movement of Forest Schools. Using scholarly sources of information, I have identified the common features and pointed out the major differences in how these forest schools are run. They all prioritize regular, long amounts of time spent in natural spaces with diverse environmental features, regardless of weather. They differ primarily in the size and age group served as well as the type of care or educational level.

I analyzed the practices used in the Nature Kindergarten to reveal the underlying developmental biases, perspectives and related theories used to inform and justify Nature

Kindergarten by its proponents, including a blend of concepts primarily inspired by Rousseau, Piaget, Vygotsky, Bronfenbrenner and Indigenous pedagogies. While Forest schools borrow from and share many developmental perspectives and theories with other more common educational practices, I argued there is a uniquely nuanced relationship with Behaviourism, which only aligns with Forest Schools if Nature is seen as a co-teacher who supplies natural consequences that reinforce or punish certain behaviours.

I pointed out where there are the biggest differences in biases among proponents of Nature Kindergarten as compared to those who advocate for Forest Schools in general. The former tend towards a staged view of development, whereas the latter often espouse a continuous view. Research on Kindergarten being a sensitive time in brain development, and key school transitions support the contention that Kindergarten is the best stage to invest in a nature-based forest approach to education. I conclude that the staged view supplies a rationale that can be used to justify the provision of access to nature-based schooling for the Kindergarten age group ahead of all others who might otherwise benefit from Forest Schools.

References

BC Ministry of Education. (2015). Aboriginal worldviews and perspectives in the classroom.

Victoria, BC: Queen's Printer. Retrieved from https://www.bced.gov.bc.ca/abed/awp_moving_forward.pdf

Berk, L. E. (2013). *Child Development* (9th ed.). Boston, MA: Pearson.

Borge, A.I.H., Nordhagen, R., Lieb, K.K. (2003). Children in the environment: Forest day-care centers Modern day care with historical antecedents. *History of the Family* 8, 605–618.

Carlgren, F. (1976). *Education towards Freedom: Rudolf Steiner Education*. East Grinstead: Lanthorn Press.

Elliott, S. & Chancellor, B., (2014). From forest preschool to Bush Kinder: An inspirational approach to preschool provision in Australia. *Australasian Journal of Early Childhood*, 39 (4), 45-53.

Elliot, E., Eycke, K. T., Chan, S., & Müller, U. (2014). Taking Kindergartners Outdoors: Documenting Their Explorations and Assessing the Impact on Their Ecological Awareness. *Children, Youth and Environments* 24(2), 102-122.

Frontline (2002). Inside the teenage brain. [Video file] Retrieved from:

<http://www.pbs.org/wgbh/pages/frontline/shows/teenbrain/view/>

Konold, T. R., & Pianta, R. C. (2005). Empirically-derived, person-oriented patterns of school readiness in typically developing children: Description and prediction to first-grade achievement. *Applied Developmental Science*, 9, 174-187.

Gill, T. (2007). *No fear: Growing up in a risk averse society*. London: Calouste Gulbenkian Foundation.

- Knight, S. (2009). *Forest schools and outdoor learning in the early years*. London: Sage Publications.
- Knight, S. (Ed.) (2013). *International perspectives on forest school: Natural spaces to play and learn*. London: Sage Publications.
- Lerstrup, I. & Refshauge, A.D. (2016). Characteristics of forest sites used by a Danish forest preschool. *Urban Forestry & Urban Greening, 20*, 387-396.
- Little Bear, L. (2012). Traditional knowledge and humanities: A perspective by a Blackfoot. *Journal of Chinese Philosophy, 39*(4), 518–527.
- Little Bear, L. (2000). “Jagged Worldviews Colliding.” In M. Battiste (Ed.) *Reclaiming Indigenous voice and vision* (pp.77-85). Vancouver: UBC Press.
- Louv, R. (2005). *Last child in the woods: Saving our children from nature-deficit disorder*. Chapel Hill, NC: Algonquin.
- Montessori, M. (1971). *The Montessori Method* (15th ed.). New York: Schocken Books.
- Müller, U., Temple, V. A., Smith, B., Kerns, K., Eycke, K. T., Crane, J., & Sheehan, J. (2017). Effects of Nature Kindergarten Attendance on Children's Functioning. *Children, Youth and Environments, 27*(2), 47-69.
- O'Brien, L., & Murray, R. (2007). Forest School and its impacts on young children: Case studies in Britain. *Urban Forestry & Urban Greening, 6*, 249-265.
- Saunders, Sabrina E. R., & Hill, Susan. M. (2007). Native education and in-classroom coalition-building: Factors and models in delivering an equitable authentic education. *Canadian Journal of Education, 30*(4), 1015-1045.

van der Wey, Delores. (2001). Exploring multiple serendipitous experiences in a First Nations setting as impetus for meaningful literacy development. *Canadian Journal of Native Education*, 25(1), 51–67.

Waller, T. (2007). The trampoline tree and the swamp monster with 18 heads: Outdoor play in Foundation Stage and Foundation Phase. *Education 3–13*, 35(4), 365–377.

Williams-Sieghedsen, J. (2012). *Understanding the Danish forest school approach*. Oxon, UK: Routledge.