## Early Childhood Education for Sustainability from the Perspective of Ecological Democracy —Skogsmulle Skolan and its Practice in Japan—

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As global environmental problems are becoming increasingly severe, scholars discuss the need to change the practice of early childhood education (Davis & Elliott, 2014), including the significance of the nature experiences (Inoue et al., 2019) and participation of children in sustainability initiatives (Hagiwara, 2020). As a preliminary frame, this study reconsiders the significance of nature experiences and the participation of children as viewpoints of ecology and democracy, respectively. By linking both viewpoints, it aims to explore a potential form of ecological democracy for children and to examine the possibility of early childhood education for sustainability in Japan. The study employs theoretical and practical research. Specifically, practical research covers practices based on the Swedish method of outdoor education for young children called Skogsmulle Skolan (hereafter Skogsmulle) in Sweden and Japan (Chapter 1).

For the theoretical research, we examined the National Curriculum Standard for Kindergartens (Ministry of Education, Culture, Sports, Science and Technology, 2017) and found that it did not sufficiently include the viewpoint of ecology as a natural science. Second, discourse analysis on *child development* revealed that the view of children as "developing beings" is quite common, such that it makes it difficult for children to participate in the formation of society in Japan (Chapter 2).

To overcome this situation, the theoretical research focused on ecosophy as the basic philosophy for exploring a potential form of ecological democracy for children. Norwegian philosopher Arne Næss (1912–2009) and French psychoanalyst Félix Guattari (1930–1992) proposed ecosophy. A common feature of two ecosophies is a democratic approach in which people discover the wisdom for *becoming* the future based on insights from the ecological state of human existence called *being* in the world. In addition, to connect the two ecosophies, the study discussed an epistemology suggested by Anna Chin (1952~) and Gregory Bateson (1904–1980), that is, the art of noticing natural worlds as commons through the anthropocentric world. Furthermore, drawing on Guattari's ecosophy, we examined the possibility of incorporating the concept of *emergence* into early childhood education. Guattari pondered on the use of heterogeneous components in the surrounding environment, that is, an assemblage, to produce subjectivity for "an ethical and aesthetic paradigm" (Guattari, 1992). Based on these theoretical explorations, the study identified an approach that fosters ecological democracy for children. The approach links the sense of ethics and responsibility, which emerge through the process of the recognition of children and educators of nature as commons to be shared with other species, from indepth encounters and engagement with the world to tangible actions for sustainability (Chapter 3).

In the practical research, the study conducted three surveys on Skogsmulle (two in Sweden and one in Japan). Skogsmulle is one of the first approaches to incorporate ecology learning into early childhood education. First, a survey including interviews in Sweden identified the Scandinavian traditional culture of friluftsliv (outdoor life) as its basis. Moreover, it identified a philosophy called ecosophy, which originated in Scandinavia. Ecosophy was developed by philosophers, including Næss, who aspired to

participate in social transformation based on the notion that humans are a part of nature. This finding offered practical suggestions for ecological democracy for children, including (1) viewing nature as a place for pondering on the relationship between humans and nature, (2) incorporating ecological learning with first-hand exploration, and (3) fostering a sense of participation in nature (Chapter 4).

Second, the worldview fostered in Skogsmulle was investigated through observation and interview in Sweden. Evidently, educators intentionally share the worldview with children that nature is commons, that is, shared by other species. This result posed practical suggestions, including (1) sharing of worldviews of commons between educators and children and (2) viewing children as social beings who could wish to preserve commons for other species (Chapter 5).

Third, a field survey at a nursery center in Japan that incorporated the Skogsmulle method was conducted in which the author observed a class of 5-year old children. Analysis of nine vignettes revealed that the children conceived a sense of ethics and responsibility for the natural environment by encountering various assemblages (components of the landscape) and exploring the watershed to reach Tokyo Bay. The educators then linked a sense of ethics and responsibility to tangible actions for sustainability, including setting rain water tanks, assigning a nonswimming day to save water, or raising donations for areas that underwent water-related disasters. This approach of linking the sense of ethics and responsibility of children that emerge from an exploration of the surrounding world was called the "emergent pedagogy for sustainability transformation" (Chapter 6). This term is defined as follows.

First, to enable children to feel that humans are *being* in an ecological relationship, the assemblage surrounding early childhood education needs to be rearranged, such that it leads to the realization of children that they are part of nature and that nature is commons with other species. In the process of exploring children's questions and curiosities derived from this assemblage, the voices of children are listened to in order to valuate whether new subjectivity is emerging as they deepen their connection with the world. Through the responses of educators to these new subjectivities, further exploratory activities or new ways of life will then be created, that is a perspective for *becoming*. In such a cycle of activity that includes contingency, the potential of identifying a new subjectivity in children increases by reflection on explorative activity and documentation as different records of the activity. Oftentimes, the sense of ethics and responsibility emerge in their subjectivities. By taking this opportunity, educators can link the sense of ethics and responsibility to tangible actions for sustainability. In this way, children and educators could participate collaboratively in social transformation (Chapter 7).

In summary, the study identified three possibilities for incorporating sustainability into early childhood education in Japan. The first is to consider nature as a place to seek for philosophical inspirations on how to live a future by exploring the relationship between humans and nature beyond the perspective of child development. The second is that children's learning in ecology enables them to collectively participate in sustainability transformation. The third is fostering a culture of listening to the voices of children; thus, realizing more diverse perspectives for sustainability transformation is possible. The study hopes that practitioners and researchers will widely examine this endeavor to link ecology with democracy in early childhood education and that doing so will bring further inspirations to invigorate early childhood education for sustainability (Chapter 8).