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Laiti, Marikaisa; Määttä, Kaarina; Köngäs, Mirja

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Marikaisa Laiti 
Sámi University of Applied Sciences, Finland

Kaarina Määttä 
University of Lapland, Finland

Mirja Köngäs 
University of Helsinki, Finland

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Sámi Early Childhood Education and Sustainability in the Arctic

Marikaisa Laiti, Kaarina Määttä, Mirja Kõngäs

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Abstract

The Sámi are indigenous people living in Finland, Norway, Sweden, and Russia. There are about 10,500 Sámi in Finland. The traditional settlement area of the Sámi is located in the Arctic. Endangered Inari, Skolt, and Northern Sámi languages are spoken in Finland, and efforts are made to implement the traditions, principles, and values of indigenous culture. The traditional settlement area of the indigenous Sámi people is in the Arctic. The Sámi culture and languages are in a vulnerable position due to their present climate change. Early childhood education (ECE) is of particular value to contribute to the preservation and strengthening of indigenous culture and, consequently, to sustainable development in the Arctic. The purpose of this article is to describe Arctic sustainable Sámi early childhood education based on the perceptions and experiences of Sámi early childhood educators in Finland. The research shows that cultural sustainability was approached by using Sámi language in activities, supporting children's Sámi identity, using materials and items important in culture, and having a tight connection with Sámi community.

Introduction

The Sámi are indigenous people living in Finland, Norway, Sweden, and Russia. There are about 10,500 Sámi in Finland. The traditional settlement area of the Sámi is located in the Arctic. Endangered Inari, Skolt, and Northern Sámi languages are spoken in Finland, and efforts are made to implement the traditions, principles, and values of indigenous culture. The Sámi, as the only indigenous people of the European Union, are in a particularly vulnerable position due to the present climate change (Määttä, Hyvärinen, Äärelä & Uusiautti 2020; Jaakkola, Juntunen & Näkkäläjärvi 2018; Näkkäläjärvi, Juntunen & Jaakkola 2020). As the country of residence of the Sámi people, Finland belongs to the Arctic, the polar region located in the northernmost part of the Earth. Today, the living conditions, traditions, and culture of the Arctic are particularly vulnerable in a technically and economically rapidly changing globalizing world where the economy is moving at an accelerating pace from natural industries to modern technology (McGhee 2005).

Early childhood education (ECE) is of particular value, as it can contribute to the preservation and strengthening of indigenous culture and, consequently, to sustainable development in the Arctic. Early education for Sámi children has two folded tasks. On one side, it can socialize with the majority culture and society and, on the other side it can implement enculturation, i.e., conscious, and purposeful education in Sámi culture (Kim Park 2007). According to research, indigenous families also consider enculturation to their local culture a priority (see Ritchie

2017). Early childhood education can be implemented as sustainable education to ensure the continuity of the Sámi cultural heritage and the intergenerational transmission in the Arctic (Laine 2016; Laiti 2018). At the same time, it is also a question about supporting sustainable development in the Arctic (Määttä, Hyvärinen, Äärelä & Uusiautti 2020).

This article describes the implementation of Sámi early childhood education as told by Sámi early childhood educators. The aim is to highlight the voice of professional educators on how sustainable development and Sámi culture in the Arctic can be promoted by strengthening Sámi early childhood education. Early childhood educators are culture transferencees and mentors of sustainability education for children in the sensitivity phase of early childhood education. Children can continue to preserve and strengthen Sámi culture and adopt the foundations of eco-social civilization in the Arctic (Salonen & Åhlberg 2011).

Sámi Early Childhood Education

In Finland, all ECE is organized according to the National Core Curriculum for Early Childhood Education (Finnish National Agency for Education 2018). Based on the document, every Sámi child has a right to have support in the development of their cultural identity. Children whose mother tongue is Sámi are entitled to early education in Sámi throughout Finland. Sámi early childhood education is also guided by the Sámi Early Childhood Education Plan (The Sámi Parliament 2009) and the Manual of Daily Practices (The Sámi Parliament 2013). These documents can be used in the planning and implementation of Sámi early childhood education at the local level (Laiti 2018).

Sámi early childhood education is implemented at the crossroads of two cultures. It promotes the adoption of both the Finnish majority culture and the Sámi indigenous culture. The coexistence and forms of early childhood education when involving two cultures have been studied to some extent (Kitson & Bowes 2010; Preston, Cottler, Pelletier & Pearce 2011; Tonyan 2015). One, major culture, the base has been considered too narrow and inflexible (Kitson & Bowes 2010, 82). In everyday life, local diversity should be considered (Tobin 2005) and indigenous culture should not be left as an "ingredient" (Näone & Au 2010, 150).

Nature and Sustainable Development in the Arctic

The traditional way to look at sustainable development is to focus on social, economic, environmental, and institutional indicators of development. (Määttä & Uusiautti 2020; Purvis, Mao & Robinson 2019). Still, sustainable development (SD) is multidimensional, complex, and intertwined in nature (Gershenson & Heylighen 2005). According to Salonen and Åhlberg (2011) in a sustainable society, all human activities are in accordance with the principles of SD. The following three components are in focus simultaneously: 1) economy, 2) ecosystems, and 3) human beings, communities, and society. Transitioning into an ecologically, economically, and socially sustainable society requires innovative solutions, new policies, and behavioral change (Salonen & Åhlberg 2011). In the Arctic, in particular, the rapid environmental and economic development poses a threat to nature and traditional welfare, identities, and cultures of indigenous Sámi people (Näkkäljärvi, Juntunen & Jaakkola 2020).

The way of life and culture of the people of the Arctic is based on a strong coexistence with nature and respect for nature. In Sámi thinking, nature is more than the physical environment, the variations of the seasons, animals, or plants. Indigenous peoples see nature as an important context for action, growth, and learning (Lee-Hammond 2017; Rowan 2017). In the Arctic, nature as an environment and nature-related livelihoods is the starting point for the Sámi way of life and culture (Balto 2008, 57; Jannok Nutti & Kuoljok 2014; Markkula & Helander-Renvall 2014; Sara & Mathiesen 2020). Sámi culture is considered to have developed over the centuries in close interaction and coexistence with nature (Jannok Nutti 2008, 201). Immediate life in nature has meant that the relationship with nature has become an essential part of Sámi identity.

Over time, traditional knowledge about nature, its properties, and man's ability to survive in nature has accumulated. Traditional knowledge refers to knowledge that enables people to take advantage of a sustainable daily nature according to their everyday needs (Sara & Mathiesen 2020). Markkula and Helander-Renvall (2014, 6) use the term "traditional ecological knowledge" (TEK) for cumulative, intergenerational knowledge, skills, practices, and beliefs (Casi, Guttorm & Virtanen 2021). It is commonly understood that 'traditional' does not refer to something only from the past (Battiste & Youngblood Henderson 2012, 46); rather, it is about wisdom acquired on a long-term scale, constantly changing and being updated (Berkes 2012, 5).

TEK thus binds together generations of the past, the present, and the future (Porsanger & Guttorm 2011, 18). TEK is not simply a descriptive body of literature, and nor can it be categorized into separate fields, such as biology, geography, or chemistry. It is holistic, a 'way of life, a relationship that requires doing' (McGregor 2004, 396), and practical experience (Porsanger & Guttorm 2011, 18). Thus, Indigenous peoples view the environment, people, and knowledge inseparably and interconnected with each other (McGregor 2004, 394–95). TEK also forms a significant part of Indigenous communities' cultural heritage (Porsanger & Virtanen 2019, 293). TEK is still needed in current living environments and institutions.

In this article, we talk about Sámi's early childhood education from the perspective of cultural sustainability. The purpose of this article is to describe Arctic sustainable Sámi early childhood education (= ASSECE) based on the perceptions and experiences of Sámi early childhood educators in Finland. The purpose is to describe the goals and implementation of Sámi early childhood education as told by Sámi early childhood educators.

Method

To describe the educational sustainability of Sámi early childhood education the following research question has been asked for the study:

How do Sámi early childhood educators describe the Arctic sustainable Sámi early childhood education?
What kind of focal points does Sámi indigenous culture produce into practice? How is Arctic sustainability conveyed to children based on the narration of early childhood educators in Sámi early childhood education?

The research informants offer a representative take on the employees in Sámi early childhood education. At the moment of conducting the research, Finland employed forty-four (44) Sámi early childhood educators (Lehtola 2015). They were all invited to participate in our interview. In the end, interviews were conducted with 23 early childhood educators, who came from all over Finland. They represented all Sámi language groups and worked in versatile early childhood education positions, including teachers, nursery workers, and private childminders.

The interviews were conducted as free-form individual interviews in which the implementation of Sámi early childhood education was discussed (Laiti 2018). The informants shared their thoughts on, experiences with, and conceptions of their daily work as Sámi with the Sámi culture and education. The interviews were conducted in the spring and autumn of 2016. The themes of the interviews concerned the daily routines of Sámi early childhood education. The educators were encouraged to share the goals they set concerning Sámi early childhood education, the principles and starting points that guide their work and the elements that they consider when planning, implementing and evaluating early childhood education.

The material was subjected to a qualitative content analysis that focused on topics related to the research question. The routines of early childhood education are typically framed as brief episodes or depictions of actions that the educators found natural to describe. The descriptions of daily routines were based on specific themes instead of following a plotline (Hsieh & Shannon 2005).

The analysis consisted of three phases (Graneheim & Lundman 2004). In the reduction phase, the material was simplified, and irrelevant information was removed. In the second phase, the material was clustered or grouped into subcategories according to topical or thematic similarities. In the third phase, the subcategories were reorganized and transposed to content-based thematic categories (Mayring 2004) that represented the central outcomes of the study. We prioritized presenting the material in a concise and succinct form, focusing primarily on the retention of essential information (Graneheim & Lundman 2004).

Lastly, a note should be made about the researchers' positions considering this study. The first author lives in a Sámi family and speaks Northern Sámi. She has a long working history in various roles in both Sámi and majority culture early childhood education. James Banks (2006, 180) dubs such a position 'the external-insider'. The term refers to a researcher who has grown up in another culture, but through the reflection of her own experiences and values can understand the community she studies and supports its objectives. The second author has studied and developed Sámi pedagogical tools (see Keskitalo & Määttä 2011; Keskitalo, Määttä & Uusiautti 2011, 2012a, 2012b, 2013; Keskitalo, Uusiautti & Määttä 2012).

Results

The analysis resulted in two main lines of stories. On the other hand, educators narrated the goals of their daily work and on the other, they talked about the contents and methods they use to deliver the Sámi culture. The sections below the results of these.

Goals of Arctic Sustainable Sámi Early Childhood Education

Teachers of Sámi early childhood education considered the general goals of children's social, mental, and physical development important. Similarly, the safety and well-being of children in the Arctic were seen as the basis for all work. In addition, the most important goals were

- 1) supporting and passing on the Sámi language from one generation to another,
- 2) maintaining and strengthening the child's Sámi cultural connection, and
- 3) strengthening the Sámi identity, and
- 4) the importance of cooperation.

Supporting the Sámi Language

Educators in Sámi early childhood education saw the revival, transmission, and preservation of the Sámi language as the main goal. There was a desire to articulate the Sámi language in all kindergarten interactions. Educators said that "...*language issue is the most important thing*". They considered it important to practice the language in different everyday situations in kindergarten while supporting the child's mental, social, cognitive, and motor development.

The goals of language learning were set according to the child's language skills to create favourable conditions for children to use the language. Not all children participating in ASSECE actively used the Sámi language. In this case, it was seen as important to activate their passive language skills so that they would become active in using the language at school and later in their lives. Educators described this as follows:

"- so that children would be left with the desire to keep their language ... and that it would be good and safe for children to be here"

The aim was to create motivation to learn and revitalize and to use and develop the Sámi language so that children would also appreciate and be proud of the Sámi language.

Positive Attitude towards Sámi Culture

Early childhood educators considered it important to make Sámi culture visible and known in a way that is suitable for children, articulating in the child's world of experience. Thus, the aim was to provide concrete information as well as contact with activities and industries belonging to the Sámi culture. The participation of children in Sámi-language events and active actions were considered important, as the goal was to pass on the culture from one generation to the next. The aim was to create a positive and encouraging image of Sámi culture as well as traditional livelihoods. An early childhood educator stated how important it was to

"maintain and promote culture. In addition, to maintain a certain connection with the Sámi way of life. So that it would not disappear, and at no point would it be paused."

In order to internalize Sámi culture, early childhood educators saw it as a key goal to make children appreciate the connection with nature, living in nature, and respecting nature. The nature connection is based on an annual cycle of eight seasons. Sámi life has always been connected to the cycle of nature. The relationship between man and nature and respect for nature are central to the Sámi tradition. (The Sámi Parliament 2013, 15). Traditional livelihoods are tied to nature. The preservation of traditional livelihoods supports the sustainable development of the Arctic and the preservation of Sámi culture.

Strengthening Sámi Identity

In addition to linguistic and cultural goals, early childhood educators paid attention to the goal of strengthening the Sámi identity of children. Central to this is identification with the Sámi, notification of the Sámi culture, and associating oneself with it. Early childhood educators considered the development of the Sámi identity to be a demanding goal that requires time and continuous work (see also Sarivaara, Määttä & Uusiautti 2013).

In Sámi children's identity support have to pay attention to the fact that they live under the influence of two cultures. Finnish major culture is visible and hearable everywhere whereas Sámi language, materials, worldview are rare to experience and many times invisible. In situation like this the rooting of Sámi culture needs special attention (Laiti & Määttä 2022a). For some children with a Sámi background, Sámi is a new thing and identification with it was considered as an important goal so that children get to know and value their Sámi ethnicity.

"...that they can tell for themselves that we are Sámi and are really proud of it. And they also think it's fun because they like to tell about their own backgrounds."

The goals of early childhood educators support James Banks's (2006) theory of the development of cultural identity. Therefore, it is important that children learn to accept the positive and negative views associated with their own culture. They learn to be proud of their background and culture in a healthy way. The goal of early childhood educators was to develop a clear cultural identity for children and for them to learn to function fluently in two different cultures (Banks 2006).

Early childhood educators expressed the view that to develop a person's identity, it is important to provide a learning and operating environment that supports a positive Sámi identity and allows for everyday activities and choices that strengthen the child's awareness and appreciation of their Sámi heritage (see Hall & Fenelon 2015).

The Importance of Cooperation

Sámi early childhood educators felt it was important that ECEC staff had a common vision of the goals. The goals could be adhered to when the staff had a common direction and practices. Sámi was a strong unifying factor. It also involved respecting other employees and striving to make working together. As one informant said:

"that everyone gets to say their own thought and influence their work".

Cooperation with the parents of the children and the whole Sámi community was also considered important and was sought to be valued in various ways. In the Sámi community, intergenerational interaction acts as a mediator of traditional knowledge. Therefore, children's families and relatives were considered active actors in kindergartens. They could arrange some activities for the group, *"One's parent arranged an ice fishing trip for us"*. Parents and grandparents were perceived as educational partners and were encouraged to visit ECEC, participate in activities, plan different cultural tasks, and build learning environments.

The aim was also to support the upbringing task of parents and help with their insecurities within the two cultures, as well as to increase their mutual communication. Early childhood educators try different ways to highlight the importance of children's families and kinship while supporting the Sámi identity of children.

Contents and Methods of Arctic Sustainable Sámi Early Childhood Education

Sámi culture was made visible in everyday activities and interaction situations by speaking and storytelling, music, reading, crafts, and other actions. Early childhood educators were well aware that storytelling has a special role in transferring Sámi culture and tradition and strengthening identity (Author 2018; Authors 2022; Jannok Nutti & Kuoljok 2014; Kuokkanen 2008; Nergård 2005; Äärelä 2016).

Nature

Early childhood educators strive to develop children's relationship with nature as an important part of Sámi culture. Fostering a connection with nature was a pervasive theme throughout early childhood education. This result is consistent with results obtained among other indigenous peoples (e.g., Alcock & Ritchie 2018).

"Watching nature all year round is one important thing"

Nature was explored by observing the environment together and drawing children's attention to natural phenomena by talking to them about them (including seasonal variations). Knowing the characteristics of plants and animals was a part of developing the relationship between children and nature.

"---... my Sámi is in that relationship with my nature. That it is so evident in it ... that respect for nature ... and that you can learn in nature. "

Sámi early childhood educators valued nature as a wide range of activities and considered it important to go out in nature and the forest and do things outdoors. Roaming around the forest brought nature close. The Sámi perception of nature or the "forest" has previously been examined by e.g. Guttorm, Kantonen, Kramvig, & Pyhälä (2021) and Joks, Østmo and Law (2020).

One early childhood educator summed up the thoughts of those working in early Sámi early childhood education on the relationship between forest, language, and culture, saying, *"the language and culture are in the woods."* For Sámi woods is not only a physical environment, but it is also a state of mind (Joks, Østmo & Law 2020). The early childhood educator described the activities in the forest as natural and diverse. We go to the forest often; it is a remarkable place. Outdoor activities were more than one part of the day's program, it's part of the culture.

"We went berry-picking again today. Tomorrow we will bake blueberry muffins... we go to the forest to pick berries or, like, just to take a walk in the forest. Children sit around on the hummocks... and... eat the berries they find... We go look for where could there be a fox's den... and what could be a bear's lair and... and all these kinds of things... children really do love to wander around in nature."

In Sámi culture, the seasonal activity according to the traditional Sámi way of life is called the eight-season cycle (The Sámi Parliament 2009, 2013). The annual planning of activities was based on the Sámi annual cycle of the seasons. Reindeer work, the acquisition and processing of various materials and ingredients, berry picking, and fishing follow a certain annual cycle. Early childhood educators said they choose the content themes for educational and teaching situations according to the cycle of nature. Autumn topics include fall colors, migratory birds in the spring, and frosts in the winter. A significant part of the Arctic midwinter year cycle is the end of the period of polar night and the emergence of the sun.

"[Themes] come to us pretty much from the culture and the seasonal activities or... phenomena, so we have covered the northern lights and the rising of the sun, or the re-emergence of the sun --."

By following the movements of the sun, the children developed a sense of time and an understanding of the rhythm of the day.

"Then we follow the sun with the children... meaning that we have a specific spot where we go and sit on a rock... and watch... so then, when the sun has sunk below a certain group of trees, it is 11 o'clock and it is time for us to eat."

Early childhood educators noted how the environment can be viewed *"through the eyes of culture,"* to see it as Sámi. For example, the topics of spring and summer were the birth of calves and their ear markings. Similarly, scheduling willow grouse hunting at the right time in the winter is the theme of Sámi early childhood education.

"Now lately we have done, for instance... the trapping of the willow grouse... we will do the bear now over the spring, when the bear wakes up, and then later, we will cover the calf, the reindeer calf. It is usually some animal or a culturally relevant activity, so for that week we then plan one arts and crafts work that is connected to that topic, and then we do it."

Nature was considered to be the most important source of Arctic sustainable Sámi early childhood education. Sámi culture is deeply rooted in the Arctic nature and the livelihood connected with it.

Authenticity

Early childhood educators recounted how authentic materials and ingredients were used in Sámi early childhood education, if possible, at all. They also said they strive to use the right tools. The importance of authentic activity in education has been emphasized by Nergård (2005), among others, and it supports the task defined for early Sámi early childhood education to develop and establish a child's relationship with culture (The Sámi Parliament 2013). Early childhood educators prefer natural materials, recycled materials, or traditional cultural materials. The interview material found examples of how twigs are used to build play shelters or potatoes to make trolls. These materials were retrieved from the forest itself or the surrounding area.

"We have those theme weeks when we deal with handiwork in more detail. For example, now we have this going on, that we have worked with leather... the children got to feel and smell the material and then we have done those... of course, it is difficult to knit or sew such leather. We then cut a small leather bag like that, which we glued on cardboard, and then that we decorated it with baize and beads."

In the stories of early childhood educators, one form of authentic making and experiencing was getting to know traditional foods and handling them. For example, reindeer jerky was made in the spring, and fishing was practiced in many ways:

"Then sometimes we have prepared air-dried meat... Well, by doing it ourselves of course, who might have a special interest in fishing... In autumn we fished with a net... in winter we went ice-fishing... then we took the snowmobile to go... on ice-fishing trips. The ice-fishing trip was a part of this house... yes, they have done that for quite a long time already. So this is how you see the difference, that... the environment is used a lot."

Early childhood educators believe that the duodji belongs to the Sámi culture. It refers to Sámi handicrafts, the holistic process of producing handicrafts, and the finished work itself (Guttorm 2012). Early childhood educators told how the children got involved with real materials, got to follow and experiment with shoe hay processing, wool carding, or making leather for fur shoes, for example.

Towards Sámi Language Skills

As a method of teaching the language, early childhood educators said that they use the Sámi language in all their activities and thus show its importance. They explicate situations, talk a lot and show the possibilities offered by the language as well as its richness. They aim to increase and recall the vocabulary of the Sámi language (see Keskitalo, Määttä & Uusiautti 2014).

"Really you have to talk and talk all day ... all the time ... this is not the job of a quiet person ..."

The Sámi language was also used in the games. Early childhood educators designed a variety of games and

activities to develop language skills. Narration, fairy tales, and plays promoted the use of the Sámi language. Efforts were also made to promote children's desire to speak the Sámi language in free-form games.

"Many times when a child says something in Finnish, we pretend we don't understand, and then the child has the necessity to try even a few words in Sámi, and then we are helped. Or if the child says something in Finnish, then we say it in Sámi."

Attention was paid to enriching the child's Sámi language and expanding their vocabulary, for example by displaying written vocabularies during activities. Similarly, Sámi-language posters, signs, and bulletins on windows, walls, and in the hallway were displayed to children as a Sámi language landscape (Linkola 2014). The language landscape aimed to remind and strengthen the position of the Sámi language in relation to the majority language and the child's courage to speak Sámi.

Early childhood educators were also careful not to be too strict and demanding in practicing the language. The use of language was supposed to feel comfortable and unifying with the children.

"Trying to help when a child doesn't know all the words at the dinner table, for example. Avoid saying 'Speak Sámi, properly' so as not to thrust upon"

Overall, early childhood educators make a very deliberate effort to support the learning of the Sámi language and its use in interaction and as a means of communication. The Sámi language was spoken in various everyday activities, such as bringing the child to day-care or picking them up, dressing and undressing, and tidying up. Eating, sleeping, and outdoor activities were also the daily situations in which Sámi was spoken (see also Äärelä 2016). Yet, early childhood educators did not take language learning and the transition to new generations for granted. Their daily work was the constant use of the Sámi language as well as conscious work to preserve the language. In this implementation, children were considered both as a group and especially on a personal level in various encounters (Sarivaara, Uusiautti & Määttä 2013; Pasanen 2015, 44).

Discussion

Life in the Arctic is intertwined with nature, the natural cycle, the forests, water bodies, and the knowledge and understanding of animal and plant species and their connection with human life. This has demanded that one has had to learn to cope with the changing natural situations and find the best solutions. The attitude of coping has become a Sámi way of facing and resolving various life situations. Survival involves the idea of adapting human activities to local ecology, the situation, and the sustainability of nature. Succeeding requires faith in survival, skills to perform, and knowledge of the conditions and laws of the current situation (Balto 2005; Laiti 2018; Uusiautti 2016). In the Sámi world view, nature is not isolated from the culture and society of the region but they are seen as a whole system (Nicol 2014).

This study shows that the nature – human -connection as seen in Sámi community, has its influences even in the

implementation of Sámi early childhood education. Particularly, it has influenced the ways how children's everyday life learning and the support for development are organized (Aikio 2010; Balto 2008; Bjøru & Solbakken 2021). This is the most important way how the Arctic sustainability was conveyed to children.

Asta Balto (2008, 57) divides the cultural values of Sámi education into five main entities: "oktavuohta lundui" (connection to nature), "iešbirgejupmi" (survival), "iešrádálašvuohta" (self-sufficiency), "gierdevašvuohta" (patience), and "friddjavuohta" (freedom). These are the vocal points of Sámi education. Aimo Aikio (2010) describes the Sámi attitude towards life with the term "birgema" (see also Boine & Saus 2012; Bjøru & Solbakken 2021). These were reflected in the goals for Sámi's early childhood education as well as in the contents of it and the methods used.

Sámi early educators' main goals for Sámi early childhood education were learning the language, supporting children's Sámi language learning, supporting children's identity formation, positive attitude towards Sámi culture and language, and cooperation with Sámi community. These were implemented and connected with the help of Sámi contents connected with nature, authentic livelihoods, or traditional handcraft, and using Sámi language. Nature was deemed the most valuable basis and resource of activity, and on the other hand children's identity formation was supported by emphasizing the connection to nature and usage of Sámi language.

Sámi early childhood education has the opportunity to contribute to the vitality of Sámi languages and cultures which can lead to sustainable development in the Arctic. A strong majority of cultural routines and policies challenge the cultural customs of the Sámi indigenous people and the sustainability of the Arctic's operational environment. The understanding of time or ecological setting is one example of this. For the Sámi the time is cyclic when the majority culture understands time as linear. (Keskitalo 2010; Markkula & Relander-Renvall 2014); Lehtola & Ruotsala 2017). Adults engaged in early childhood education are required to adapt and coordinate educational activities to preserve and strengthen the cultural customs and lifestyles of the Arctic in the institutional context (Laiti & Määttä 2022b).

What adults do with children and how they operate in everyday environments are essential for cultural continuity and sustainable development in the Arctic. The content and form of everyday activities depend on the interpretations of adults working with children. What they consider to be essential is what they consider to be culturally appropriate and meaningful goals and objectives. Adults who work with children decide how and why children's daily lives are organized as they are.

Although the activities are regulated and guided by different regulations and norms, professionals still have the power to decide on everyday pedagogical solutions and with them on the pedagogical environments of early childhood (Määttä & Uusiautti 2014). Employees of Sámi early childhood education are actors who create meaning and actively adapt their daily activities to preserve their own Sámi culture in the Arctic. They are key players in sustainable development and education. The story told by early childhood educators is not only their personal story but also a story about how to contribute to the sustainable development of the Arctic and the preservation and development of perspectives and worldviews provided by indigenous culture. (Martin 2017).

Conclusion

In this study, we have focused on the implementation of Arctic sustainable Sámi early childhood education. Sámi culture is founded on traditional values that express respect for nature, and the activities constructed based on these values are implemented in Sámi early childhood education. Nature is at the core of Sámi culture: it is where the culture was born. Nature is considered to provide the framework for a good life, and facilitating a good life is a central value of culturally relevant development in the Arctic.

The results of the study show how early childhood educators act as agents of the Sámi culture. They occupy a crucial position in the pursuit to teach future generations to adopt the values, the world view, and practices of the Sámi culture. Flexibility and integrated activities that are adjusted to the local circumstances are significant matters of early childhood education in the protection of the culture's survival. The results point out that teachers and assistants of Sámi early childhood education modified their activities according to Sámi culture and they were flexible in their use of space and time in a way that allowed them to teach nature-related knowledge and respect it in a culturally sustainable way (see also Laine 2016). Nature-related knowledge and connecting with it is the basis of Sámi identity (Markkula & Helander-Renvall 2014). This is supported by the usage of Sámi languages in every situation as educators suggest.

A sustainable future and a new kind of building a sustainable future start with early childhood education. In the end, there is no other way than education to a sustainable future. Sustainable education influences individuals' learning, awakening, behavior, and choices. The courage and strength of educators and teachers to work to build a sustainable and vibrant future is essential in shaping the worldview of future adults and pursuing sustainable development and ecosocial education. Children are ultimately innovators and decision-makers: children have no prejudices or barriers, patterns or perceptions that limit functions and thinking (Määttä, Hyvärinen, Äärelä & Uusiautti 2020).

Limitations and Future Research Suggestions

This study was done with the interview method with educators. There are two shortcomings to this. First, it reveals the ideas of educators but not the ways children or parents think about the everyday implementation or how it should be organized. The second challenge with this kind of research is the personal view. Narrations might be idealistic or trying to please the researcher, not telling so much about the reality of implementation. What is needed to deepen in the future research is the understanding of the realization of everyday sustainable education.

Suggestions for further research include the development of support for professionals to use Sámi pedagogical means when working with Sámi children. By Sámi pedagogical means, we mean the Sámi ways to raise children and to educate them. Most of the educators are trained in the majority culture systems where they have little or no support for their work in Sámi early childhood education. Sámi children need early education based on their own culture, build on Sámi pedagogy, and using Sámi languages. To implement this, the Sámi educators need more knowledge of Sámi pedagogy. Here the elders play an important role as transmitters and models. The Arctic

sustainable Sámi early childhood education needs continuous and active collaboration with local elders, and this should be supported by research.

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Author Information

Marikaisa Laiti


 <https://orcid.org/0000-0003-0709-2094>

Sámi University of Applied Sciences

Finland

Contact e-mail: marikaisa.laiti@gmail.com


Kaarina Määttä

 <https://orcid.org/0000-0001-5658-7021>

University of Lapland

Finland

Mirja Köngäs

 <https://orcid.org/0000-0003-3930-6050>

University of Helsinki

Finland
