# Alnarp Nature Educational Park

## Outdoor Learning

Tatiana Tetens

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Swedish University of Agricultural Sciences, SLU
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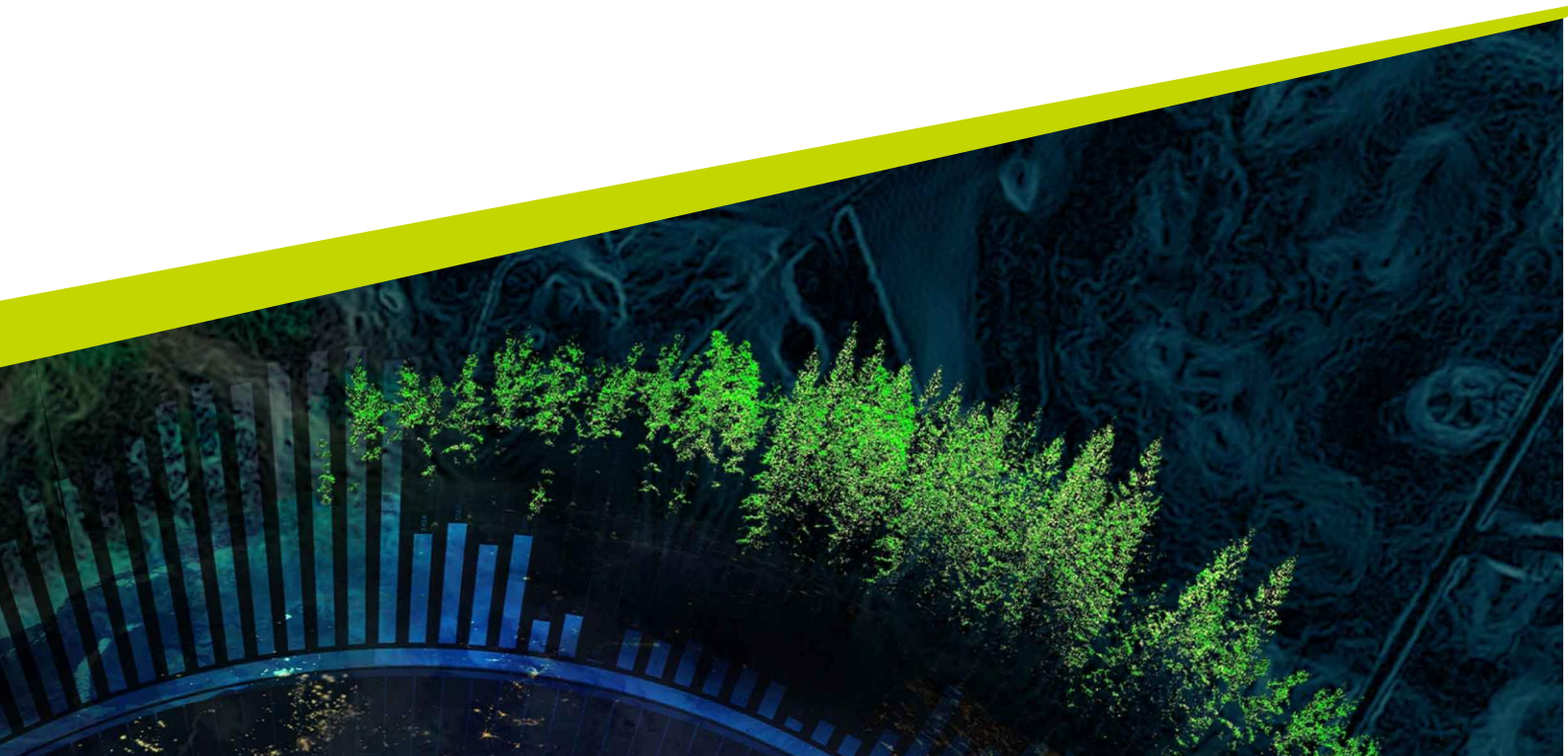

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# ABSTRACT

The way cities grow and expand has a huge impact on what we leave to our children. Today, urban challenges require projects and actions focusing on practices that integrate sustainable development into urban planning.

This study examines the potential of green spaces within Alnarp Park, to promote outdoor learning for children aged 6–12, focusing on teaching biodiversity and sustainability, and aligned with the Swedish school curriculum.

The work combines different methods including literature review, and an overview of Alnarp Park together with maps and features, observation, field notes and informal interviews that also identified five spots that are suitable for outdoor learning.

In summary, this study aims to evaluate how green areas can serve as a space for environmental education, further highlighting the potential of learning trails within Alnarp Park, inspiring environmental awareness among children and recognizing their role in shaping the future.

*Keywords: Alnarp Park, Environmental Awareness, Multifunctional green spaces, Nature, Nature conservation, Outdoor Learning, Urban Green Spaces.*

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Åkarp, May 2025 / Tatiana Tetens

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# 1. Introduction

## 1.1 Background

In recent years, the growth and densification of urban areas has resulted in the reduction of green spaces within cities, impacting children's connection with nature. Mann (2022) highlights that limited exposure to nature by children can interfere with their mental, emotional, and social growth, while outdoor activities contribute to healthier development. In this regard, Cottrell (2020) argues that nature education plays an important role to children's development by increasing their curiosity and developing their cognitive skills.

Child development psychology highlights the importance of active and engaging learning experiences for children's growth. According to Ackerman (2004), the evolution of logical thinking occurs to a greater extent when children have concrete interactions with the environment.

According to Duhn (2017), architecture and urban design play a critical role in addressing the disconnection between children and nature, since they have potential to reimagine public spaces to meet children's educational needs. Beatley (2011) supports that integrating educational trails into green spaces, cities create opportunities for outdoor learning, allowing children to explore and learn, offering meaningful experiences and connecting them with nature.

Alnarp Park, situated on the campus of the Swedish University of Agricultural Sciences (SLU), is an inviting park known for its rich biodiversity and open green spaces. Already popular among schools and families, the park features an outdoor gym, informative signage on various plant species and recently developed outdoor study areas. (SLU, 2024). However, there is a lack of educational resources specifically designed for children. This presents an opportunity to transform the area into an outdoor classroom by developing educational trails focused on ecosystems, biodiversity, and sustainable practices.

In a world increasingly dominated by technology and closed environments, outdoor experiences have become not only necessary but also offer a great learning opportunity. In

that sense, integrating trails and natural environments line up with the Swedish National Agency for Education curriculum content for school-aged children (6-12 years) (Skolverket 2024).

Furthermore, leaving the classroom walls and exploring the green areas within Alnarp Park, can transform the way children see nature and inspire them to understand the importance to preserve the environment. In that sense, early contact with natural environments can positively influence the formation of responsible attitudes towards nature, developing more commitment for conservation. (Chawla 2015).

In addition, learning about nature is essential to inspire children to understand the importance to preserve the environment, teaching children to be responsible for our planet. Also, early contact with natural environments can positively influence the formation of responsible attitudes towards the environment, developing more commitment for nature preservation. (Chawla 2015).

Likewise, by making green spaces accessible and engaging for young students, such initiatives increase not only environmental awareness and nature conservation but also aligns with SLU's vision and goals for developing sustainable life based on Science and Education (SLU, 2024).

## 1.2 Problem Statement

Despite increasing recognition of the value of environmental urban planning and outdoor learning, Alnarp Park tends to focus on passive recreation and higher education, while overlooking the educational possibilities for children aged 6-12 years. With a growing awareness about the importance of sustainable urban design and the benefits of outdoor teaching, there might be potential to develop the park for children.

## 1.3 Research Aim and Objectives

This study investigates the potential for selected parts in the park to be used as educational trails to teach biodiversity and sustainability for children. The main objective of this work is

to increase awareness about outdoor learning and provide useful ideas to develop existing green spaces within Alnarp Park.

### 1.4 Research Question

*What is the potential for Alnarp Park to serve as an educational resource for children to learn about biodiversity and ecosystems?*

### 1.5 Delimitations

The study will focus on children aged 6 to 12 years old to ensure that the educational activities align with the Swedish school curriculum. The research will be limited to a specific area of Alnarp Park to facilitate the observations and interviews. Only green spaces within this selected area of the park will be considered, while less visited parts will be excluded from the research.

## 2. Methodology

The research methodology follows a qualitative approach, combining different methods including literature review and a case study about a children's nature trail within a university campus in Finland. According to Gerring, a qualitative approach focuses on understanding meaning rather than just describing a case, aiming to explore meanings, values, and attitudes that cannot be quantified. (Gerring, 2017). In that sense, to enhance a better understanding of the area, the study also includes observations of a selected area within Alnarp Park. Field notes and individual on-site interviews with teachers and parents were conducted focusing on understanding how people use the park and identifying areas that have potential for outdoor learning.

### 2.1 Literature review

For this research, using credible and reliable sources has been crucial to examine existing literature on the potential of green spaces for outdoor learning to connect children with nature. Thus, sources were carefully selected through Google Scholar using relevant keywords to ensure they were aligned with the research focus (Dhanabala, et. al 2024). Keywords used to

guide the literature search included: environmental education, parks, green space, child development, forest, educational trails, environmental education and nature.

To explore the potential of educational trails and outdoor learning, two articles were identified from Google Scholar that provide significant findings to develop educational trails close to nature. The first, *"Communicating Old-Growth Forest Through an Educational Trail*" by Emanuele Ziaco et al. (2011), explores how educational trails can enhance understanding and awareness of old-growth forests. The second, "*Educational Potential of Educational Trails in Terms of Their Using in Pedagogical Process (Outdoor Learning)"* by Marta Nevrelova and Jana Ružicková (2019), examines how educational trails in Slovakia can be integrated into teaching practices to support outdoor learning. Both articles align well with the aim of developing learning trails in Alnarp Park, offering useful perspectives on how green spaces can serve as powerful educational tools.

Furthermore, the Swedish National Agency for Education that regulates the curriculum for school-aged children (6-12 years), has been used to provide more credibility to the research. Accordingly, to their educational program, *Lgr22 – Curriculum for the compulsory school system* (Skolverket, 2024), outdoor learning corresponds with many key subjects such as:

- Science (NO - *Biologi, Kemi and Fyisk*): explore biodiversity, field exploration, and study ecosystems.
- PE and Health (*Idrott and Hälsa*): physical exercise, skills development, orienteering, and outdoor games.
- Math (*Matematik*): understanding of number and calculations.
- Social Studies (*SO – Historia, Geografi and Samhällskunskap*): learning about the environment, develop cooperation and social responsibility.

## 2.2. Case-study - Viikarien Viikki (Children's Nature Trail)

The idea of using green spaces for educational objectives has been gaining popularity for its benefits to child development and learning outcomes. To understand and develop the idea of using green spaces within SLU campus in Alnarp, Viikarien Viikki research will be analysed for the existence of other parks within university's green areas. The Children's Nature Park

within the University of Helsinki, Finland, serves as an educational resource for students, researchers and provide a space for outdoor learning for children. The Trail serves as an excellent example to the aim of this research because it illustrates the potential Alnarp Park has to enhance its educational perspectives. (University of Helsinki, 2025).

## 2.3. Alnarp Park analysis

To provide an overview of the area, maps, observations mapping on focus groups, interviews, field notes and insights from SLU research have been used to shape the research into the right direction. (SLU, 2024).

### 2.3.1 On-site observations

To gain a comprehensive understanding of the site, observations has been made for three weeks and during different days of the week to investigate characteristics of different ecosystems present within the study areas (Figure 1). Thus, the study has used the following criteria's:

| Criteria | Explanation |
|---|---|
| Natural elements | there are natural features that could provide learning outcomes. |
| Educational potential | the area supports the Swedish teaching curriculum. |
| Space and flexibility | the area was adjusted for different activities such as experiments, exploration and group activities. |
| Accessibility | the area is accessible to everyone including children with Disabilities. |
| Safety and monitoring | the area allows for safe exploration by children aged 6-12 years. |

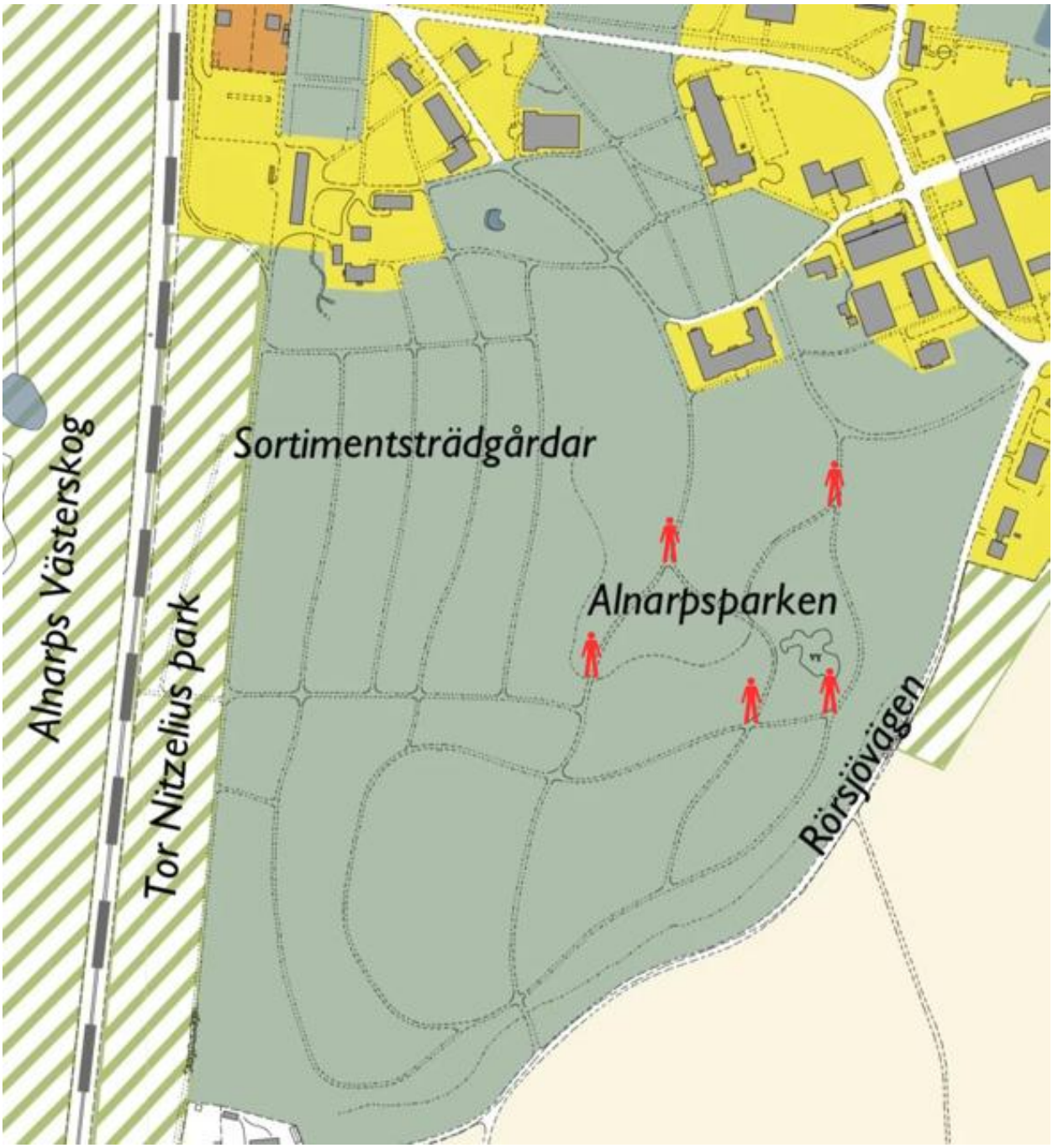


*Figure 1. Observation map over Alnarp park. (Lomma Kommun. (2016)*

During the planning for this study, documentation maps, observation spots and field notes have been used to identify accessible areas with biodiversity environments that could help to develop trails suitable for utilizing nature as an educational tool. To facilitate the observations, field notes have contributed with documenting the answers (Table 1).

| DATE & TIME | ACTIVITY | NUMBER OF PARTICIPANTS | OBSERVATION NOTES | PERSONAL JOURNAL |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*Table 1. Field Notes (Own source, 2025)*

After selecting the key spots and taking notes, the plan was to walk through the park to observe children, especially looking for their reactions and behaviours in the outdoor setting. *Do the children run a lot? Can they concentrate? Is there a difference in these behaviours in different environments within Alnarp Park? Or in the presence of different elements? Are they cooperative? What catches their interest? Do they show curiosity? How do they interact with trees? Do they like to be close to nature? Do they feel comfortable sitting on the ground?*

These questions have been used during the observations and served as input for planning activities on the selected spots and for understanding the potential for outdoor learning.

### 2.3.2 Informal interviews

During the sunny days at the end of April and beginning of May, many schools tend to make use of green spaces and the inviting weather to spend more time outside the classroom. Informal interviews have been conducted, allowing participants to share their thoughts, concerns and expectations. The focus was on teachers working with children aged 6 to 12 and parents with kids that age. The interviews were introduced with a short description about the aim of the study, followed by questions to enhance better insights (Table 2).
To ensure privacy, no personal data was collected.

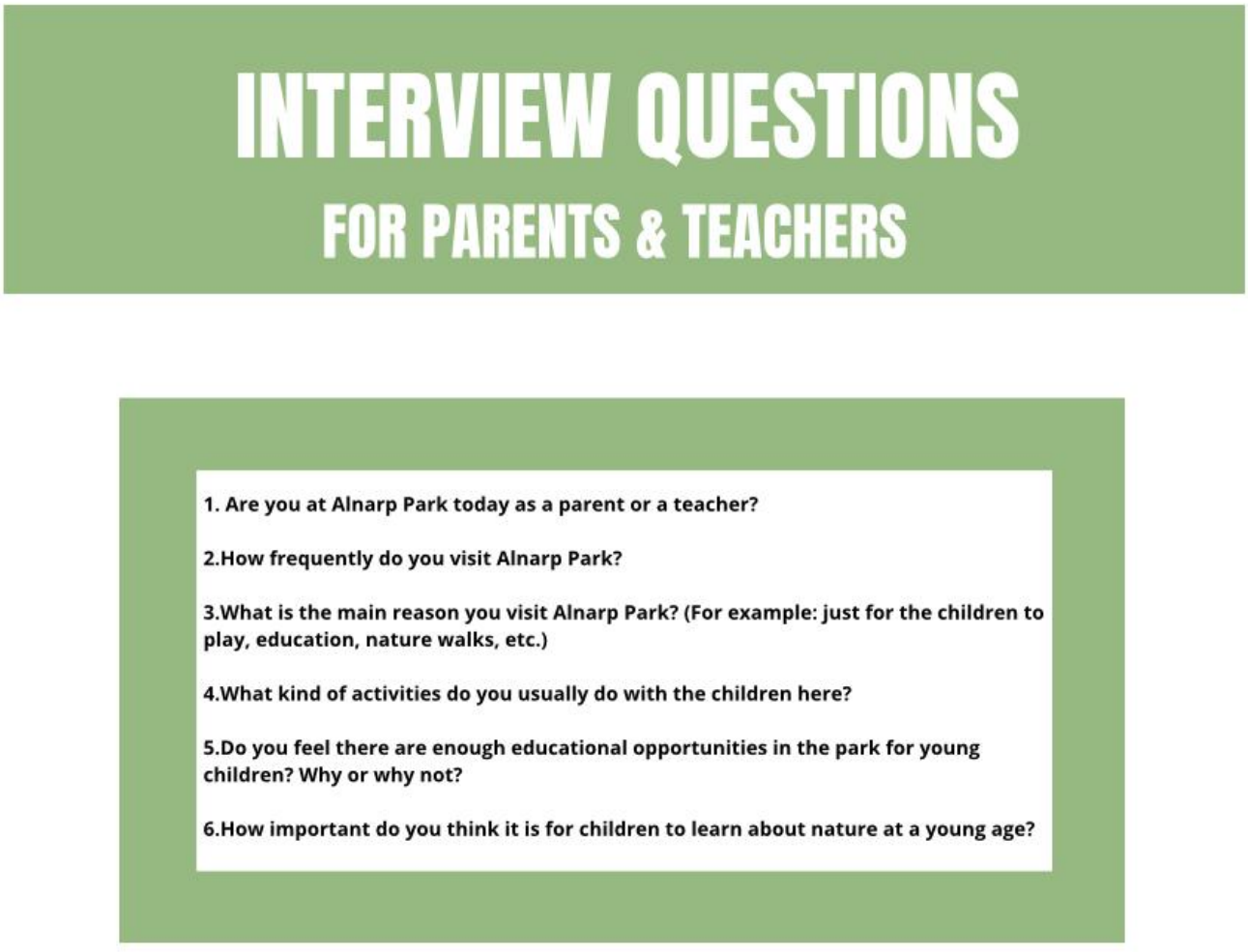


*Table 2. Interview Questions for Parents & teachers (Own source, 2025)*

### 2.3.3 SLU Researcher's Insight

To further provide valuable insights for the research, informal conversations were conducted with Professor Anna Bengtsson, a landscape architect and senior lecturer at the Department for Human and Society at SLU. Bengtsson has written numerous articles on landscape architecture and environmental psychology. Therefore, her insights will contribute with great perspectives to further understand the potential of Alnarp Park.

## 2.4 Methods limitations

Due the limited number of responses, the findings highlight the need for further research.

## 2.5 Ethical Consideration

Gajjar (2013) highlights several essential ways for addressing ethical consideration in research, emphasizing the importance of confidentiality and respecting people's integrity. This involves the understanding of relevant laws that needs to be taken into consideration and informing participants about how their responses will be used. In line with this and because children under 15 years old require parental consent for interviews, children were not included as interviewees. Additionally, teachers and parents were provided with a clear explanation of the purpose of the research and their participation was entirely voluntary, and it was made clear that the interviews were informal, optional and based on individual choice. It highlights the importance to apply ethical considerations consistently throughout the whole research because it respects each participant rights. (Gajjar 2013).

# 3. Results

## 3.1 Literature Review

Both selected articles from the literature review provided valuable insights into the potential of green spaces within Alnarp Park to be developed for outdoor learning environments for school-aged children. The articles indicated the value of educational trails in promoting environmental awareness and nature conservation for children. Although Ziaco et al.'s (2011)

study is focused more on forest ecosystems than parks, they highlight that educational trails can make it easy for children to learn about ecosystems. In addition, if well managed, they can be applied to urban parks such as the Alnarp Park. Similarly, Nevrelová and Ružicková (2019) discussed that trails, if well-planned, can be used for educational purposes, teaching Science and Geography, and increasing children's connection to nature.

Moreover, institutional guidelines such as those from the Swedish National Agency for Education provide positive insights for outdoor learning close to nature. It encourages learning tools for children aged 6-12 years, encouraging them to engage in outdoor activities and learn about biodiversity, ecosystems, and other natural processes, aligning well with the potential to use Alnarp Park as an educational trail park. Cottrell (2020) argues that environmental education contributes to enhance children's curiosity, thinking, and problem-solving skills through active experiences in nature. Additionality, outdoor learning encourages emotional balance by reducing stress and reinforcing adaptability and understanding, while also increasing sustainable behaviours among children.

Designing for children involves an understanding of their psychological and physical needs because it impacts how children explore and learn from them. Herrington (1998) asserts that successful children's environments reflect child-scale dimensions, encourage exploration, and offer play opportunities. In that sense, Horton (2017) highlights how inclusive design makes outdoor learning more engaging and accessible trails offer children with disabilities possibilities to explore natural spaces safely.

## 3.2 University of Finland trails

The Viikki trails in Helsinki, Finland, are special trails created to be part of a park that was created in the 90s to help people learn about plants, animals and the environment. One of the interesting places there is the Viikki Arboretum, a large open green area with many different tree species, created in 1969 to help people learn and to be close to nature. The trails are examples of how urban spaces can be designed to bring people closer to nature while creating learning environments. The trails are especially made for school-aged children to learn about local ecosystems and connecting them with nature, and the spots are designed to include

elements that allow exploration of the local biodiversity, exploring soil types, tree textures and species.

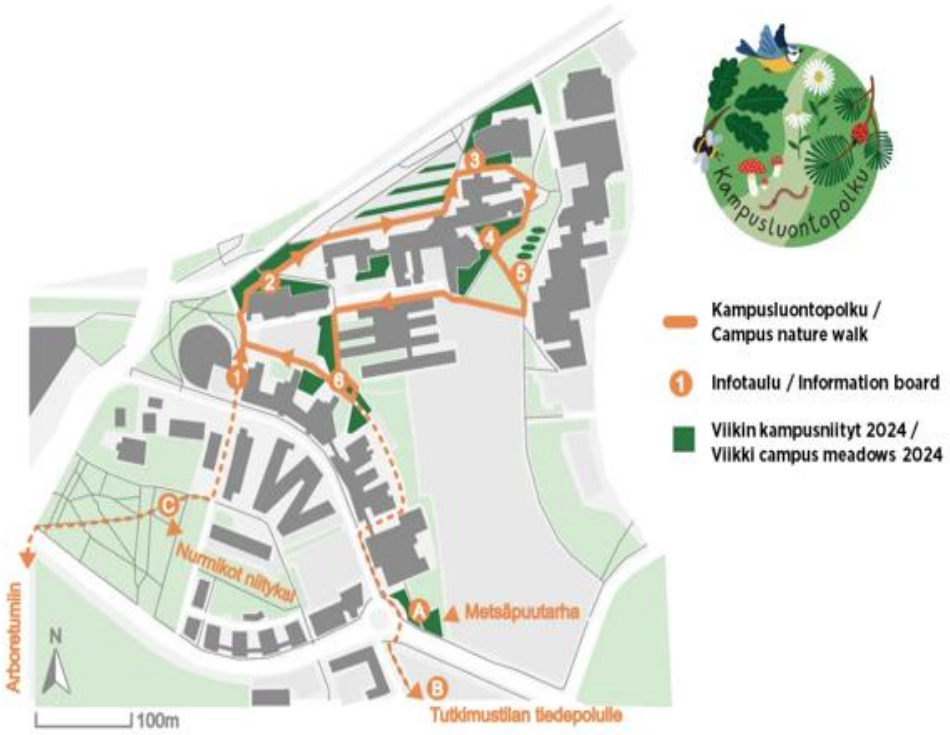


*Figure 2. Viikki Campus Nature Trail*

The Viikki Campus Nature Trail was not directly used as a design model for Alnarp Park, but provided insights that can be adapted and applied in the park. For instance, the Swedish University of Agricultural Sciences within Alnarp Park influences how the park is used as both a campus and study area, and combining biodiversity, outdoor learning, accessibility and multifunctionality.

## 3.3 Alnarp Park

### 3.3.1. Observation overview

During the observations, many areas of the park with good potential have been identified, as the park is well known for its rich biodiversity, offering excellent opportunities for outdoor learning. The Alnarp Park area has an excellent location close to parking and amenities, but a lack of benches to sit on was identified, as well as accessible trails for children with disabilities and educational maps that could guide visitors, especially children, around the park.

The following field notes summarize observations that were made on five different days over a two-week period (Table 3).

| DATE & TIME | ACTIVITY | NUMBER OF PARTICIPANTS | OBSERVATION NOTES | PERSONAL JOURNAL |
|---|---|---|---|---|
| 28/04 - 2025<br>12:00 - 13:00 | · children playing in the open grass area<br>· some sort of preschool day.<br>· Teachers also brought lunch to all the children's. | Approximately 10 children, seems to be a preschool class. | · Running around<br>· Playing games held by the teachers<br>· Building something with sticks<br>· children were all happy | · The weather was pretty good. Sun and cloudy.<br>· One child was observing some ants for a while. |
| 01/05 - 2025<br>09:00 - 10:00 | · Seemed to be at the park with their parents<br>· Playing around (free play) | · 2 children's that seemed to be siblings.<br>· one of them in a stroller (seemed to be the younger one) | · the older child was running around, trying to chase birds.<br>· Later the 2 children's played a game of tag around the trees. | · weather was a bit cold. very cloudy.<br>· Probably just that family because of weekday and weather. |
| 04/05 - 2025<br>10:00 - 11:00 | · various family visiting the park. | Approximately 15-20 children's | · All children's were running around.<br>· Some were trying to build a small house with sticks<br>· Some were playing hide and seek. | · Pretty good weather. Sunny and cloudy.<br>· Everyone seemed happy |
| 06/05 - 2025<br>13:00 - 14:00 | · Playing games in a circle on the grass<br>· eating lunch together | · Approximately 20 children's.<br>· seemed to be 2 preschool classes. | · Walked around a bit in the park until they got to some benches to eat lunch. | · Rainy day<br>· |
| 10/05 - 2025<br>12:00 - 13:00 | · children having picnic with their families. | Approximately 5-10 children's | · Not as much playing activity today<br>· Seemed to be mostly families today.<br>· Everyone seemed happy. | · A bit cloudy and rainy day |

*Table 3. Field Notes (Own source, 2025)*

The field notes were used to observe five areas (Figure 3) that could potentially be used for learning around Alnarp Park.

**Five Keys Areas**

1. The first study area provides open green spaces that can be used for educational games such as card games with tree species names can encourage children to engage with nature, teaching about biodiversity. In that sense, children can learn a lot in green areas with grass and trees, including Science content such as biodiversity and natural cycles, as well as developing notions of Geography and Mathematics. These spaces also stimulate PE and Health, by playing with stones, branches, wood and other natural elements with different textures, sizes and shapes. It should be emphasized that the educational activities to be carried out at this location are in accordance with the Swedish School Curriculum about the following aspects: Science (NO - Biologi, Kemi and Fyisk), PE and Health (Idrott and Hälsa), Math (Matematik), and Social Studies (SO - Historia, Geografi and Samhällskunskap).


*Figure 3. Observation Spots 1 (Own source)*

2. This part of the park has a small pond that can be used as part of a sustainable educational area, since this area has a balanced ecosystem to teach Science and Social Studies. As an example of activity for this location, children could contribute to the preservation of aquatic species, improve biodiversity and create a refuge for small animals and insects. In addition, children can reflect on the sustainable use of natural resources, teaching them on how to responsibly use available water. It is noteworthy that the educational activities to be carried out at this location are in accordance with the Swedish School Curriculum about the following aspects: Science (NO - Biologi, Kemi and Fyisk) and Social Studies (SO - Historia, Geografi and Samhällskunskap).


*Figure 4. Observation Spots 2 (Own source)*

3. Biodiversity area: analysis will focus on native species, habitat elements and vegetation layers that can support learning biodiversity outcomes. This area can be used as an outdoor classroom where teachers and children can talk about local ecosystems. They can discuss about biodiversity and the environment, investigating plants, small animals and other elements present in the area and its surroundings.

It is necessary to point out that the educational activities to be carried out at this location are in accordance with the Swedish School Curriculum about the following aspects: Science (NO - Biologi, Kemi and Fyisk), PE and Health (Idrott and Hälsa), and Social Studies (SO - Historia, Geografi and Samhällskunskap).


*Figure 5. Observation Spots 3 (Own source)*

4. At this site, activities such as nature treasure hunts, where children search for specific leaves, flowers and insects, or litter collection competitions, which teach about the importance of cleaning and preserving natural spaces, are great for increasing knowledge and curiosity, teaching children can learn how their daily behaviors impact nature. Thus, they could play sustainable games on energy spent or recycling to meet up with the Swedish school curriculum. It is worth mentioning that the educational activities to be carried out at this location are in accordance with the Swedish School Curriculum about the following aspects: Science (NO - Biologi, Kemi and Fyisk), PE and Health (Idrott and Hälsa), and Social Studies (SO - Historia, Geografi and Samhällskunskap).


*Figure 6. Observation Spots 4 (Own source)*

5. Around this area, we can find some fallen trees that can turn into an interesting outdoor teaching class about their role on ecosystems. Children will learn how wood can provide food, reproductive habitat and contribute to forest regeneration. Furthermore, this natural area can provide an educational opportunity to teach plant growth and carbon sequestration, gaining a deeper understanding of ecosystems functions and the importance of planting different tree species not only to carbon capture but also to enhance resilience and biodiversity. It should be noted that the educational activities to be carried out at this location are in accordance with the Swedish School Curriculum about the following aspects: Science (NO - Biologi, Kemi and Fyisk), PE and Health (Idrott and Hälsa), and Social Studies (SO - Historia, Geografi and Samhällskunskap).


*Figure 7. Observation Spots 5 (Own source)*

The results show the potential of the park as study area because it has accessible trails that are close to restroom facilities, offering a better alternative than Alnarp Landscape Laboratory, which is in a more isolated area compared to Alnarp Park.

*Figure 8. Alnarp Landscape Laboratory (Own source, 2025)*

### 3.3.2. Interviews

It was a pleasant surprise to discover that all five participants interviewed answered that they visit the park every week. Four of the participants mentioned that they like the park because of the nature and the green spaces for children, while one valued it primarily for nature, play area and walking with the dog. In addition, some participants explained that children use to play and run in the open green areas, while some mentioned that children also try to climb and pick up flowers. All participants responded that there are no educational options in the park for children.

Finally, both teachers and parents answered yes to the last question. In addition, they shared their thoughts:

” *The idea of trails is fantastic; children would love it” (Teacher 1)*

*” Educational trails would make outdoor learning fun” (Teacher 2)*

*” Great way to connect with nature” (Teacher 3)*

*” Alnarp Park is marvellous” (Parent 1)*

*“Oasis, my favourite place in Sweden!” (Parent 2)*

During walking observations, all selected areas were accessible and found to have high potential for development into educational trails. The interviews conducted with teachers and parents highlighted strong positive feedback of Alnarp Park as an outdoor learning environment for children aged 6–12. In addition, teachers emphasize that using the park as an educational space would increase student’s knowledge in subjects such as Science and Geography because they can learn about ecosystems, landscape, vegetation, climate and biodiversity, among others.

### 3.3.3 Meaningful perspective:

The SLU researcher Anna Bengtsson has contributed with valuable perspectives to the topic, increasing the understanding about the Alnarp Park potential to serve as a meaningful

environment to connect children with nature. For example, Bengtsson highlights some outdoor learning initiatives that could be implemented in Alnarp Park:

*"I think it would be great if researchers at Alnarp met school children in a more frequent and organized way, for the children to learn about nature, gardens, plants, research etc."* - Anna Bengtsson

The green areas within the park hold a great potential to provide a rich environment where children can create wonderful memories and develop a close connection with nature.

# 4. Discussion

**Potential of Alnarp Park**

The results shows that the park's diverse ecosystems, accessible trails, and rich biodiversity generate educational spots with potential for outdoor learning. For example, the pond area provides opportunities for learning about water cycle and ecosystems, while the fallen trees spot can provide learning outcomes on how wood can provide food, reproductive habitat and contribute to forest regeneration. However, some spots are more ecologically rich or visually engaging than others. For instance, Beatley (2011) emphasized that areas with not so many learning elements as the open green areas may not provide enough interest to keep children's interest.

The results of the literature review and observations indicate the potential for outdoor environment for school-aged children. In that sense, educational trails have emerged as a central resource, Mahn (2022) and Duhn (2017) have highlighted that classrooms are not the only places for learning, since outdoor learning allow students to look at the content covered in the classroom in a different way, closer to nature, and with practical experience on different school subjects. Although some parts of this study have been concentrated on forest ecosystems, educational trails have demonstrated that can be applied to green areas within Alnarp Park.

Additionally, observations, field notes and informal interviews were useful methods to identify and examine areas for outdoor learning within Alnarp Park. Observations allow the

research to examine the different connections children may have with the environment, examining how they interact and the elements that stimulates them to play and explore in certain areas. In that sense, even if informal interviews provide insights on people's perspectives, field notes can provide more details than interviews because it can capture people's natural behaviour.

These observations helped to analyse the selected areas that were suitable for educational trails but also indicated the limitation of educational features within the University campus for outdoor learning. Additionally, the study determined gaps in the literature, such as the potential of green spaces within the University campus for outdoor learning, and the interaction between researchers and children to explore the green area within Alnarp Park.

**Environmental education and child development**

Environmental education is very important for building a sustainable future by raising awareness, promoting responsible actions, and bringing up a sense of responsibility regarding the environment. It provides individuals with the knowledge and skills to better understand the complex environmental issues. Also, it promotes understanding while helps people realize several aspects of the environment, such as social, ecological, economic, cultural, and political, including critical thinking about environmental problems and potential solutions too. (Chawla 2015)

Particularly, outdoor trails on nature offer significant benefits for child development, as it promotes physical, mental and social development, as well as a deeper connection with nature as discussed by Cottrell (2020). They provide substantial opportunities for children of school age to ask questions and perform experiments, while developing social skills through joint work activities that increases significantly cooperation and teamwork.

Among the various benefits of environmental education, educational trails are one of best learning initiatives, as it provides children with opportunities to take risks, face challenges and overcome obstacles while helping children get confidence and practical knowledge. However, Herrington (1998) emphasized the importance of children's developmental, and accessibility needs while creating outdoor spaces, while Horton (2017) highlighted the need for accessible features to engage children with disabilities.

**Viikki trails and multifunctional use of Alnarp Park**

The successful example of trails within the University of Helsinki campus, demonstrates how green areas can be transformed into educational environments for children. Ackerman (2020) highlighted that classrooms are not the only places for learning, since the trails allowed students to look at the school content in a more captivating way through direct contact with nature.

By integrating ecological and educational elements into the campus, it allows the multifunctional use of green areas in Alnarp Park for outdoor learning, aligning with the Swedish National Agency for Education curriculum guidelines (Skolverket 2024). To be noted that the guidelines emphasize the importance of environmental education, focusing on biodiversity, sustainability and ecosystems, as well as the Swedish University of Agricultural Sciences (SLU) visions for sustainability and learning goals (SLU 2024)

In that sense, today's reality demonstrates that children are distancing themselves from nature as they have many digital choices and a lack of accessible outdoor learning. Thus, Alnarp Park green areas can potentially fulfil as a model for incorporating outdoor learning into regular school activities, especially for the well-designed trails, accessibility, and infrastructure. In addition, this study could present Alnarp Park as a model for outdoor learning, offering observations that may also be relevant for other universities where their green areas are unexplored.

# 5. Conclusion

Overall, this study presented that green spaces within Alnarp Park have potential to integrate nature into environmental education, giving a new meaning to both the park and the Swedish school curriculum.

As the gap between children's learning experiences and nature seems to be increasing as they have an ever-increasing number of digital choices available and diminished opportunities for outdoor learning, urban planners could focus on integrating nature and educational elements into the design, allowing a greater multifunctional use of green areas within Alnarp Park.

Finally, by transforming green areas within Alnarp Park into active learning trails, it has the potential to inspire children's connection with nature, resulting in more conscious, responsible and environmentally connected human beings. Moreover, their engagement in educational activities outdoors is deeply beneficial to children's learning process, especially when discussing relevant topics such as pollution, biodiversity loss and nature conservation, as they enhance their environmental perspectives on these important topics and recognize their crucial role in shaping the future.

# 6. References


Ackermann, E. K. (2004). *Constructing knowledge and transforming the world.* A learning zone of one's own: Sharing representations and flow in collaborative learning environments, *1*(2004), 15-37 https://wiki.laptop.org/mediawiki/images/6/63/2004-Constructing_Knowledge.pdf

Beatley, T. (2011). *Biophilic cities: Integrating nature into urban design and planning*. Island Press. https://link.springer.com/book/10.5822/978-1-59726-986-5

Chawla, L. (2015). Benefits of Nature Contact for Children. *Journal of Planning Literature,* 30(4), 433-452. https://doi.org/10.1177/0885412215595441

Cottrell, J. R., & Cottrell, S. P. (2020). Outdoor skills education: what are the benefits for health, learning and lifestyle? *World Leisure Journal*, *62*(3), 219–241. https://doi.org/10.1080/16078055.2020.1798051

Dinor Dhanabala, Sandra Fraley and Gordon Lake.https://dccbio130.pressbooks.sunycreate.cloud/part/chapter-1-the-process-of-science/

Duhn, I., Malone, K., & Tesar, M. (2017). Troubling the intersections of urban/nature/childhood in environmental education. *Environmental Education Research*, *23*(10), 1357–1368. https://doi.org/10.1080/13504622.2017.1390884

Fjørtoft, I., & Reiten, T. (2003). Barn og unges relasjoner til natur og friluftsliv. http://hdl.handle.net/11250/2439174

Gajjar, D. (2013). Ethical consideration in research. *Education*, *2*(7), 8-15. https://www.raijmr.com/ijre/wp-content/uploads/2017/11/IJRE_2013_vol02_issue_07_02.pdf

Gerring, J. (2017). Qualitative methods. *Annual review of political science*, *20*(1), 15-36. https://doi.org/10.1146/annurev-polisci-092415-024158

Herrington, S., Studmann, K. (1998). Landscape interventions: new directions for the design of children's outdoor play environments. *Landscape and Urban Planning*, Volume 42, Issues 2–4,
https://doi.org/10.1016/S0169-2046(98)00087-5.

Horton, J. (2017). Disabilities, urban natures and children's outdoor play. *Social & Cultural Geography*, *18*(8), 1152-1174 https://doi.org/10.1080/14649365.2016.1245772

Kuo M, Barnes M, Jordan C. Do Experiences with Nature Promote Learning? Converging Evidence of a Cause-and-Effect Relationship. *Frontiers in Psychology*. 2019;10.

Morgan, D.L., Spanish, M.T. (1984). Focus groups: A new tool for qualitative research. *Qual Sociol* **7**, 253–270. https://doi.org/10.1007/BF00987314

Mann J, Gray T, Truong S, Brymer E, Passy R, Ho S, et al. Getting Out of the Classroom and Into Nature: A Systematic Review of Nature-Specific Outdoor Learning on School Children's Learning and Development. *Frontiers in Public Health.* 2022;10.

Mårtensson, F., Wiström, B., Hedblom, M. *et al.* Creating nature-based play settings for children through looking, listening, learning and modifying in a Swedish landscape laboratory. *Socio Ecol Pract Res* **7**, 93–117 (2025). https://doi.org/10.1007/s42532-024-00208-7

Nevrelová, M., & Ružickovám, J. (2019). Educational Potential of Educational Trails in Terms of Their Using in the Pedagogical Process (Outdoor Learning). *European Journal of Contemporary Education*, *8*(3), 550-561. https://eric.ed.gov/?id=EJ1228748

Phillippi J, Lauderdale J. A Guide to Field Notes for Qualitative Research: Context and Conversation. *Qualitative Health Research*. 2017;28(3):381-388. doi:10.1177/1049732317697102

Sahir Onat, B., & Yirmibeşoğlu, F. (2022). Sustainable schoolyards as learning landscapes. *International Journal of Architecture and Planning*. https://hdl.handle.net/20.500.13091/4263

Sitek, M. (2011). Meaningful design in a multicultural community. A case study on multi-functional urban parks (master's thesis, University of Waterloo). https://dspacemainprd01.lib.uwaterloo.ca/server/api/core/bitstreams/e9247db6-0849-4308-b922-eea85fd0504d/content

Skolverket 2024. Curriculum for Compulsory School, Preschool Class and School-Age Educare – Lgr22. https://www.skolverket.se/publikationsserier/styrdokument/2024/curriculum-for-compulsory-school-preschool-class-and-school-age-educare---lgr22?id=13128

SLU, the Swedish University of Agricultural Science (2024). Mission, vision, objectives and strategies. https://www.slu.se/en/about-slu/facts-visions-and-values/mission-vision-objectives/#share-box-header

Thompson, J. E., & Thompson, R. A. (2007). Natural connections: Children, nature, and social-emotional development. Exchange-Exchange Press-, 178, 46. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=b082fd71a2690bc80df453ab51a176935d995cbe

University of Helsinki (2025). Viikki Campus Nature Trail. https://www.helsinki.fi/en/research-stations/science-trails/locations/viikki-science-trails/viikki-campus-nature-trail

Ziaco, E., Alessandrini, A., Blasi, S. *et al.* Communicating old-growth forest through an educational trail. *Biodivers Conserv* **21**, 131–144 (2012). https://doi.org/10.1007/s10531-011-0170-5

Wiström, B., Mårtensson, F., Ode Sang, Å. *et al.* Creative management: a framework for designing multifunctional play biotopes - lessons from a Scandinavian landscape

laboratory. *Urban Ecosyst* **27**, 1599–1607 (2024). https://doi.org/10.1007/s11252-024-01537-x

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