Teaching Nature –
Two Case Studies of 5-7-year-old Children Engaged in Outdoor Learning Activities

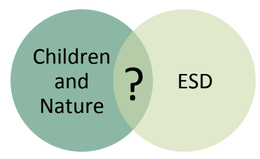
Mag. Christiana Glettler,
KPH Graz, Lange Gasse 2, 8010 Graz

Submission Nr. 870

Introduction and Background:

International research indicates that experiences with nature facilitate the psychological, cognitive, social and physical development of children (Chawla, 2002; Raith & Lude, 2014; Gebhard, 2013). Studies show a positive influence in the development of social skills (Dyment, 2005; Dyment & Bell, 2008; Palmberg & Kuru, 2000) and more creative and diverse play behavior (Chawla, 2002; Beach, 2003; Dyment & Bell, 2008). Furthermore, several studies suggest a connection between a child's early experiences with nature and their tendency towards pro-environmental behaviour (Lude, 2001; Bögeholz, 2002; Dolasse, 2012; Jung, 2012).
In conjunction, research on Education for Sustainable Development (ESD) is concerned conveying the goals of sustainability to children and youths in order to enable them to „actively participate in analyzing and evaluating non-sustainable development processes, to orientate oneself by criteria of sustainability in one's own life and to initiate sustainable development processes" (Programm Transfer 21, 2007:p.8). Within the discussion on ESD, the competences that children and youth should acquire are frequently discussed (de Haan & Harenberg, 1999; OECD, 2005; de Haan & Plesse, 2008).
This project is concerned with the overlap between these two research areas, asking the following research questions:

- How do children engage in outdoor learning activities?
- In what ways does an educator's philosophy, and its practical implementation, reflect ESD goals?
- To what extent do educators perceive children's competences from an ESD perspective?
- To what extent do children and youth show competences corresponding to ESD goals?



Methodology and Data Sources:

Case Study Methodology and Case Selection

The project uses descriptive, exploratory case studies with a two-case, holistic design of common cases (Yin, 2014). Two cases were selected using pre-defined criteria:

Private Primary School: The school concept is based on the principles of Maria Montessori and Marshall Rosenberg. Additionally, there is a strong focus on outdoor learning and environmental education projects following the concept of Rebecca Wild. Data was collected in children of *Primaria 1* (Years 1 & 2). 14 children, their class-teacher, the headmistress, a forest educator, and the children's parents were involved.

Forest Kindergarten: The Forest Kindergarten was founded in 2013 and is the first Styrian childcare institution that does not have a regular building. Instead the children spend their mornings from 8:30 am to 1:30 pm outdoors in a woodland area surrounding a tipi, which forms the centre of the institution. The focus of the data collection was on children from 5 to 6 years old. 15 children, the three main educators and the children's parents were involved.

Data Sources and Analysis

Data sources:

- Participant observation
- Semi-Structured interviews with educators
- Semi-Structured interviews with children – dialogue-supported peer interviews were utilised to make the inverview situation less artificial (Weltzien, 2009).
- Documents: Institutional curricula, media articles
- Parents' questionnaire

The qualitative data was analysed using different analysis techniques. In a first step, two interviews were coded inductively, using line-by-line coding (Charmaz, 2006) resulting in a number of different codes. These initial codes were then compared to further data material, synthesizing the data using focused coding until reaching a preliminary coding system. This preliminary coding system was then sent to a fellow researcher in order to get a second opinion on the coding. It was then applied to the rest of the data. In a final step, the codes were summarized into larger categories.
The quantitative data from the parent's questionnaire were analysed using descriptive statistics.

Selected Findings and Discussion:

Competences in children

In both cases, the educators described children's competences in the areas of self, social and subject competence. Additionally, various abilities concerning their physical development have been described. In the light of the goals and competences described for ESD, three aspects seem especially important:

- The ability to develop strategies
- Being able to change perspective
- An awareness for environmental issues

The last aspect is described by a parent:
Through the focus on outdoor learning, the children develop, into critical, little characters, who question every plastic wrapping during shopping trips, make sure that lights are not turned on too long and also question thoroughly where food is coming from and how it is produced. (FragebogendatenQualiSOHA, Paragraph 20)

Stoltenberg (2009, 2011b,c) as well as de Haan & Plesse (2008) describe these and many of the other stated competencies as vital for ESD.

Educator's philosophy and its implementation

Stoltenberg (2008, 2011b, c) describes the aspects that facilitate ESD in elementary and primary education in great detail. When looking at the findings, it appears educators fulfil almost all criteria, regardless that only one educator specifically mentioned sustainability in the interview:
I just wish from education, that there is room for children to develop freely, to be able to find a peace of mind, that they can find a connection to nature and also to other people […] developing into a meaningful, sustainable future. (SHE1Transcript2, Paragraph 48)

The critical aspects that appear in the data and correspond to Stoltenberg's work are that educators:

- give great significance to the roles of nature concerning the children's development.
- value transparency and clear rules in dealing with the children.
- appreciate the importance of informal learning – putting an emphasis on involving the children in everyday things.
- work in a process-oriented way, accompanying the children in their individual development.
- believe that the children need both clear boundaries as well as freedom to develop.
- encourage individuality and act in a flexible way in order to accommodate for different needs.
- emphasize trust in the children and foster their independence.

Conclusion

Findings suggest that both the philosophy and the practical implementation of educational institutions focusing on nature experience correspond greatly to the goals and principles of ESD. Furthermore, when asked about the children's skills and abilities, educators describe competences called for in the concept of shaping competence (de Haan & Harenberg, 1999; de Haan & Plesse, 2008).

An especially interesting aspect was how educators, children and parents describe different roles of nature:

- Area of relaxation & balancing effect
- Source of energy and strength
- Source of inspiration
- Source of food
- Playground
- Area for experiences and learning

All findings point to a relatively large overlap between nature experience projects and ESD. Thus, further research into this area is necessitated.

References (for a full list of references please contact the author):

Charmaz, K. (2006). *Constructing Grounded Theory: A practical Guide through Qualitative Analysis.* Thousand Oaks, CA: SAGE.
De Haan, G., & Plesse, M. (2008). Grundschule verändern durch Bildung für Nachhaltige Entwicklung (BNE). Retrieved from: http://www.transfer-21.de/daten/texte/grundschule_veraendern.pdf on the 28/11/2016
Gebhard, U. (2013). *Kind und Natur. Die Bedeutung der Natur für die psychische Entwicklung*. Dritte Auflage. Westdeutscher Verlag: Opladen.
OECD (2005): *The definition and selection of key competences* – Exective Summary. Available on: www.oecd.org/pisa/35070367.pdf
Programm Transfer-21 (Hrsg.) (2007). *Orientierungshilfe Bildung für nachhaltige Entwicklung in der Sekundarstufe I. Begründungen, Kompetenzen, Lernangebote.*Berlin.
Raith, A. & Lude, A. (2014) *Startkapital Natur.* München: Oekom.
Stoltenberg, U. (2009) *Mensch und Wald* – Theorie und Praxis einer Bildung für eine nachhaltige Entwicklung am Beispiel des Themenfelds Wald. Oekom: München
Stoltenberg, U. (2011b) Bildung für eine nachhaltige Entwicklung für pädagogische Fachkräfte in Kitas. In: Stoltenberg, U. & Thielebein-Pohl, R. (Eds.) KITA21 – Die Zukunftsgestalter – Mit Bildung für eine nachhaltige Entwicklung Gegenwart und Zukunft gestalten. (p.27-56) München:Oekom.
Stoltenberg, U. (2011c) Bildung für eine nachhaltige Entwicklung für Kita-Kinder. In: Stoltenberg, U. & Thielebein-Pohl, R. (Eds.) KITA21 – Die Zukunftsgestalter – Mit Bildung für eine nachhaltige Entwicklung Gegenwart und Zukunft gestalten. (p.57-70) München:Oekom.
Weltzien, D. (2009). *Dialoggestützte Interviews mit Kindern im Kindergarten- und Grundschulalter unter Berücksichtigung ihrer Peerbeziehungen. Methode und empirische Ergebnisse.* In: Fröhlich-Gildhoffs, K. & Nentwig-Gesemann, I. (Hrsg.). Forschung in der Frühpädagogik II. Freiburg im Breisgau, S. 69 – 100.

Acknowledgements:
Picture: Designed by Freepik.com