

## **Students' Nature Relatedness**

## **Students' meaning making - talking about claims from The Nature Relatedness Scale**

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# Background of our study

OsloMet - research group:

Sustainability, Nature, health and movement

## Outdoor Education in Early Childhood Education (ECE) and Teacher Students' Nature Relatedness

- Project aim: To develop pedagogical content knowledge and student engaging teaching outdoors
- *Research Question for the project*: How can we work with our own teaching practices and the students' awareness on their own nature relatedness and the choices they can do in their everyday practice?
- Course objectives guided by research: Barrable (2019), Chawla (2006, 2015); Berry & Jørgensen (2016) Henderson & Vikander (2007), Mawson (2014); Sando (2019), Savolainen (2021)
- Presupposes (Chawla, 2006, Barrable 2019):
  - 1) If you enjoy being in nature and have knowledge about nature, it is more likely that you take care of it.
  - 2) There are links between willingness to teach outdoors, students' own experiences with nature, and their connections to nature

# A Project in Early Childhood Teacher Education – ECET students' nature relatedness

**Online Survey** (NR- scale, Nisbet 2009) – in the beginning and end of each semester

**Data from international students' group discussions on 8 claims from the scale**

In the end of the semester: Reflection and dialogues in groups - voluntary

- Audio recordings from three groups (International students)
  - Two groups Spring 2021 (five and four students) – 48/47 min
  - One group Autumn 2021 (five students) – 45 min
  - Teachers as observers - field notes from group discussions
- Transcripts of conversations and analysis (three cases)

Participants in group discussions:

- Spring 21. Nine students out of a cohort of 21 students (case 1 and 2)
- Fall 21. Five students out of a cohort of 48 students (case 3)

# Nature relatedness scale (NR) (Nisbet et al., 2009).

Developed by psychologists as a tool to measure attachment to nature (Nisbet et al., 2009).

The scale attempts to assess the emotional, cognitive and experiential aspect of the individual's connection to nature

(Nisbet et al., 2009 p. 719).

21 claims

(5 Likert scale; strongly agree to disagree strongly)

The claims are divided into;

**NR- self:** the feelings and personal relationship of the individual to nature.

**NR- experiences:** The physical relationship with nature, feeling at ease in nature, desire to be in nature.

**NR- perspective:** Appreciation and understanding of the mutual relationship between living organisms on Earth.

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# Group discussion - a "statement game"

Eight claims discussed:

## Self

- Even in the middle of the city, I notice nature around me.
- Being in nature is important for me to feel good.
- **Perspective**
- **Nothing I do will change problems in other places on the planet.**
- Humans have the right to use natural resources any way we want.
- Conservation is unnecessary because nature is strong enough to recover from any human impact.

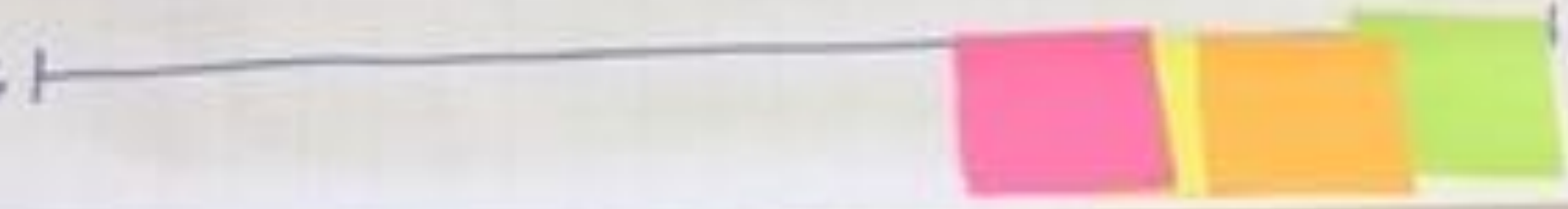
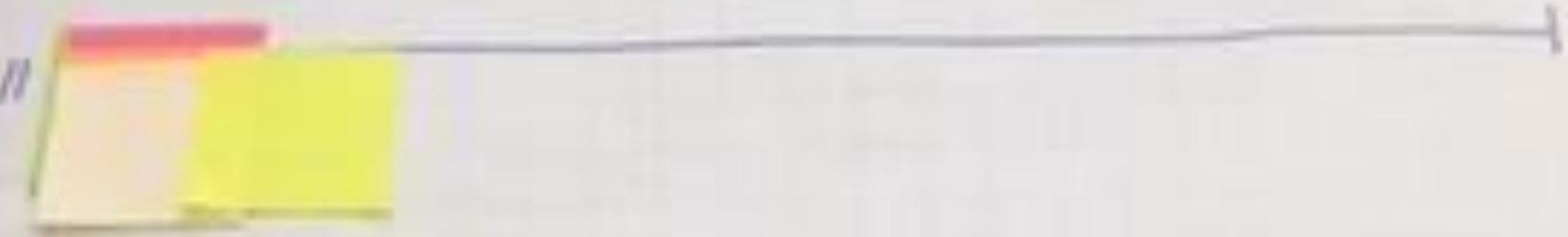
## Experience.

- **Being active in nature is important for me to feel good.**
- I enjoy being outdoors, even in unpleasant weather.
- I enjoy digging in the earth and getting dirt on my hands.

- How do students **make meaning when considering claims** in the survey about nature relatedness?
- How do these students use concepts (from science or physical education) and/or personal experiences in their justification for position taken to claims in the survey?

Drawn Strategy

ACTUALLY



Example...  
first Step

## Conversation analysis – three cases (group disc.)

The groups' meaning making of claims from the Survey Nature Relatedness Scale (NRS). The student groups are viewed as *communicative relationships* (Owen, 1984)

→ Firstly, we are interested in the students' relation to the claims

→ Secondly, the relation the students have to each other as a group, also influence their meaning making

Criteria (Owen 1984, p. 275):

**1. Recurrence:** Same meaning, but different words are used

At least two students had the same thread of meaning

**2. Repetition:** words that are repeated

Key words, phrases, or sentences

**3. Forcefulness:** themes that make sense as important, or have impact

Identified by the form. For instance, by voice (volume, tone) or pauses, that serve to emphasize or subordinate utterances



# Analysis

In the analysis we apply three criteria: **recurrence, repetition, and forcefulness** from conversation analysis (Owens, 1984).

Further, we enquire into students' use of concepts (from science or physical education).

- For thematic content analysis we refer to Braun & Clark (2006, p. 79): “a method for identifying, analysing, and reporting patterns (themes) within data»

1. We listened to the recorded conversations while taking notes in transcripts and discussed for clarity (what is said) – *preliminary interpretation*

2. We separately took notes and kept logs from listening sessions (familiarized with data) - Preliminary analysis using the criteria of *recurrence, repetition and forcefulness*

3. The logs were discussed among us - *initial thematic coding* to identify themes and clusters of themes that are *preliminary labeled /categorized*.

# Preliminary Findings from the groups' discussions of two claims

Why did we choose these two claims?

NR-Perspective

- Nothing I do will change problems in other places on the planet

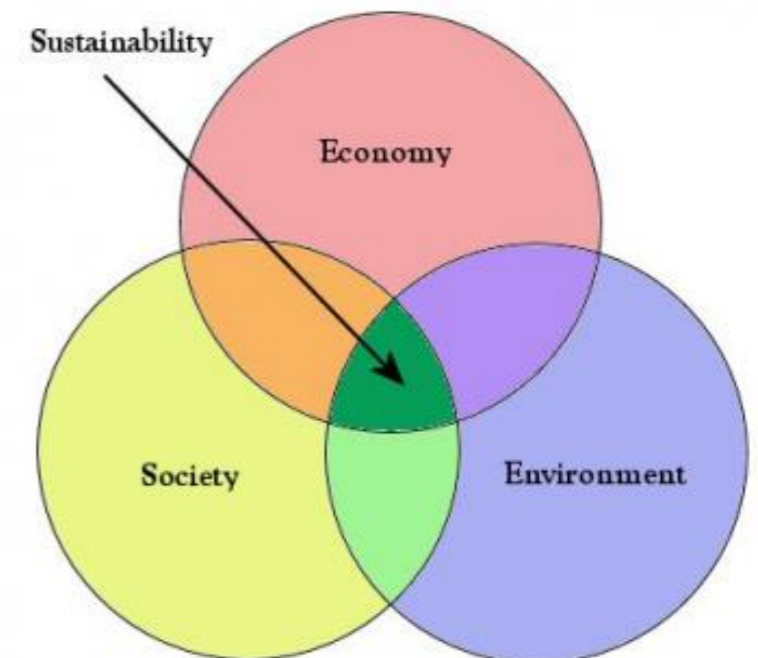
NR-Experiences

- Being active in nature is important for me to feel good

# Nothing I do will *change problems* in other places on the planet

## Words used about change problems – what to change (Recurrence)

- vaccine distribution - how the world works - the course of the climate change - climate change - in the Amazonas - the conflict between Israel and the Palestine
- the environment - climate change issues - if you feel put down by the system
- sustainable problems - world hunger - problems like pollution - environmental problems – hunger - the garbage problem (littering the environment)



# “You should start with yourself”

## How to change:

- “Small things are important, small actions of everyday life”
- “I can do an effort and participate with some association or some organization”
- “You can inspire people to do more (on social media)”
- “it's very important that *we as teachers* have an open mind about whatever the children are saying”

Initial thematic coding: **acting individually**

# ”Bigger political things”

## How to change:

- “to change something being active together”
- “We can encourage the ones who has the power”

Justify from both sides of the scale

“The course of the climate change, you can try to do it, but it's mostly up to the government or the companies [...] You can go protest but that action, I believe that it doesn't really make a really big change”

“If you go and talk to other people about it [...] companies that have a big impact on the climate change. I can still change my mindset, or maybe also other people's mindset about what's going on, and just being aware of the situation, I feel like that changes already a lot of things, because it you don't even think about something, then you don't do anything”

- Initial thematic coding: **political things**

# “Changing children’s mindset”

OSLOMET

Words used about the meaning:

**What possibilities do we have as future teachers to make a change?**  
(Recurrence)

Two out of three groups discussed the teachers' impact on children's mindset, example from Case 3:

- can change children’s mind - hard to interfere (parents) - encourage them to go that track – be careful - to change mindset, you’re brainwashing - by learning and teaching them, that is changing their mindset - you’re changing the way you’re thinking the more you learn about it - they might change other people’s minds

**How to teach the children so they can make a change in the future?**  
(Recurrence).

Case 1: discussion with children - the process together with the children, then they think that they can say something - children need to have voice and to share their idea, their opinions.

Case 3: how to think by themselves - impact their mindset - raise awareness of their actions - you show them the way - critical thinking - see it from this point or maybe that point - discover by themselves.

Initial thematic coding:  
**we as future teachers**

**Being *active* in nature is important for me to feel good.**

Hikes, go for a walk, cycling, climbing, skiing, cross country skiing, ice bathing – running, being active in any way.

**“I really like to climb on mountains, cause then I feel like I’ve achieved something”.**

**Words used (recurrence);** Self- confidence – achievement, master the challenges, feel powerful.

- “Quite exhausting- but a good feeling”
- “we arrived home tired, but it didn’t matter because we were happy”
- “I drag myself up the mountain, then I don’t know, I just feel very powerful afterwards”

**Initial thematic coding. Powerful**

(The feeling of mastery, - the interaction - the body and the environment, connected to health – good feelings).



# “Just me in the woods with someone I like [..] just in peace”

- **Words used (recurrence):**

– happy- feel good, really good, refreshing, just in peace ... like therapy, – decreases stress

“stop thinking about worries - not remind of work – leave the mobile telephone home”

[...] “physical activity helps to just, okay go away, I am focusing on the way my muscles work, [...] the way my body works”

- Initial thematic coding: **Well-being**

(health related arguments, that highlighted the emotional aspect)

# ”It is a different feeling to be active in nature”

**Words use (recurrence):** Calmness of the nature - the view by reaching the top - fresh air, a lot of spaces - observe the details - smell of the spring coming - green trees and plants changes in seasons

## **The balance between being physical active and just being**

”sitting in the grass only listening [.....] or being in nature doing a hike or cross-country skiing I like both”

## **The difference between being active in nature/ outdoors and indoors**

- “I hate the gym”
- Running outdoors [.....] The smell of spring coming, and the seeing the trees getting greener, and that feeling (-) so it like a mix off those feelings”

Initial thematic coding: **The importance of the environment (nature)**

..“here (in Norway), sunny or rain, it doesn’t matter, [...] but in Spain I'd never [...] go on a hike with my friends ..NO”

- “I always loved to being active in nature... I think it is because my father is physical educator at the university [...] he has always wanted me to be active”
- ”When I was little, I had bad experiences in physical education in school, and everything that had made me feel insecure when I do sport or something [...] But after those four months, I think that now I am surer, because I have shown that I can do a hike, I can ski....”
- “here I learnt to enjoy walk and observe the nature with more details”.
- “It’s not only the family socializes you, but also school, university and I think maybe, yeah it depends on who you meet, where you are, certain setting”
- Initial thematic coding: **Childhood experiences, education and context.**

## ***Concepts and personal experiences***

- In the discussions the students used primarily everyday language. Academic concepts were not much used.
- However, regarding the claims "problems in other places on the planet" and "being active in nature make me feel good", they used concepts that are recurrent in media and public information.
- Regarding "being active in nature" they referred to childhood experiences and they referred to experiences during the course.
- The students indirectly showed understanding and insight into topics raised in the course that they attended.

# Discussions in groups, classroom – and outdoors?

## Teachers/Researchers

- Insight into the students' expressions of their understanding and reflections on topics (the claims)
- learn more about the students' meaning making of claims in the survey, individually and in collaboration
- get insight into the diversity in opinions and given justifications

## Students

- share experiences, knowledge and learning
- train and experience to reason, and to justify their views
- collaborate on how to present knowledge and justifications
- train on listening and to respect each other

# Discussions in groups, classroom – and outdoors?

**The "statement game" principles (one of several ways to organize discussions):**

- Initial visualization of position (agree – disagree) Practical “Ice breaker”
- take turns
- different opinions are voiced

**Discussions as a didactical tool to promote students to use academic concepts**

- How claims are phrased, which words are used, can be essential
- To develop students use of academic concepts / words – the tool ought to be used regularly during the course.

# Literature

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# Thank you for listening

