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EXPLORING NEW PATHWAYS FOR TEACHING *FRILUFTSLIV* AND PROMOTING INNER DEVELOPMENT THROUGH CHALLENGE BASED LEARNING

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Abstract

This text offers a reflective exploration of new pathways for integrating Friluftsliv (outdoor life) into teacher education at Malmö University through Challenge Based Learning (CBL). Although Friluftsliv is embedded in the Swedish national curriculum for Physical Education, socioeconomic and structural barriers often limit equitable access to outdoor learning. The intended project introduces CBL as a transdisciplinary framework that connects outdoor education with the United Nations Sustainable Development Goals (SDGs) and the Inner Development Goals (IDGs). By combining practical outdoor experiences with reflective processes, students develop environmental competencies alongside inner capacities such as resilience, empathy, and collaboration. Integrating Friluftsliv with the IDGs framework offers a holistic approach to education, one that supports development and well-being with a focus on both the individual and the collective, preparing students to thrive in a complex and rapidly changing world. A six-week project cycle emphasizes problem framing, stakeholder engagement, implementation, and reflection, supported by experiential assessment methods. This approach equips future educators to advance health, equity, and sustainability

Keywords: Outdoor life, Challenge Based Learning, Sustainable Development Goals, Inner Development Goals, Teacher Education

Sammanfattning

Denna reflekterande text undersöker nya vägar för att integrera *Friluftsliv* i lärarutbildningen vid Malmö universitet genom Utmaningsbaserat lärande (UBL). Även om friluftsliv är en del av det centrala innehållet för ämnet idrott och hälsa, begränsas ofta likvärdig tillgång till friluftsupervisning av socioekonomiska och strukturella faktorer. Det tänkta projektet introducerar UBL som en transdisciplinär ram som kopplar samman friluftsliv med FN:s globala hållbarhetsmål (SDG) och Inner Development Goals (IDG). Genom att kombinera praktiska naturupplevelser med reflekterande processer utvecklar studenter både miljömässiga kompetenser och inre förmågor såsom resiliens, empati och samarbetsförmåga. Att integrera friluftsliv med IDG erbjuder ett holistiskt utbildningsperspektiv som stödjer inre utveckling och välbefinnande med fokus på både individen och gruppen, och förbereder studenter för att utvecklas i en komplex och snabbt föränderlig värld. Projektet pågår under sex veckor och innehåller problemformulering, samverkan med intressenter, genomförande och reflektion, med stöd av erfarenhetsbaserade bedömningsmetoder. Detta angreppssätt rustar framtida lärare att främja hälsa, jämlikhet och hållbarhet.

Nyckelord: friluftsliv, utmaningsbaserat lärande, globala målen för hållbarhet, inre utvecklingsmål, lärarutbildning

Introduction

Friluftsliv, or outdoor life, holds a central place in the Swedish national curriculum for Physical Education (PE) across all educational levels. The curriculum outlines specific learning objectives related to outdoor activities, encompassing both practical skills and broader social and cultural dimensions. *Friluftsliv* supports not only physical and mental well-being but also fosters essential life skills for navigating a rapidly changing world. Youth Adventure Programs has in the literature been suggested to have a positive impact on youth development. By guiding young people out of familiar contexts and into the outdoors, they strengthen practical abilities, learn to collaborate, and grow through confronting meaningful challenges (Deane & Harré, 2014). Research has consistently shown that engagement with nature positively impacts physical and mental health (Mutz & Müller, 2016; Stott et al., 2024). Beyond health benefits, outdoor experiences contribute to personal development, environmental awareness, and social cohesion. These outcomes align closely with several of the United Nations Sustainable Development Goals (SDGs), such as Good Health and Well-being (Goal 3), Quality Education (Goal 4), and Reduced Inequalities (Goal 10) (Assembly, 2015).

Despite this emphasis, many schools face challenges in meeting these objectives as outlined in the curriculum. These challenges include socioeconomic factors, geographic location, and school resources and significantly influence students' opportunities to engage in outdoor education. This disparity risks reinforcing existing inequalities, as students from less privileged backgrounds may miss out on the developmental benefits of outdoor experiences.

The project addressed here is a new initiative designed for future implementation within the Physical Education teacher program at Malmö University and is thought to bring an important dimension into the upcoming reformation of the PE program. It introduces an innovative approach for students to engage with *Friluftsliv* through CBL, while aligning the concept with broader educational and societal goals—including the SDGs and the Inner Development Goals (IDGs) ((IDG), 2021; Assembly, 2015) While the SDGs focus on external systems and outcomes, the IDGs emphasize the inner capacities needed to achieve those goals such as self-awareness, empathy, collaboration, and resilience. By engaging in outdoor education, students not only develop practical and environmental skills but also cultivate many of the inner qualities outlined in the IDGs. For example, time spent in nature can enhance mindfulness and emotional balance, foster perspective-taking and sense-making, and strengthen empathy and connectedness with others and the environment (Sadowski et al., 2022; Schutte & Malouff, 2018; Stott et al., 2024). Collaborative outdoor activities promote trust, communication, and shared leadership, while navigating challenges in nature builds resilience, courage, and creativity (Cooley et al., 2015; Pienimäki & Marttila, 2025). These qualities are not only valuable in general but are directly cultivated in the Malmö University project, where CBL challenges in outdoor settings require students to collaborate, reflect, and co-create solutions. In this way, *Friluftsliv* becomes the experiential foundation through which CBL develops both inner capacities and practical competencies.

Integrating *Friluftsliv* with the IDGs framework offers a holistic approach to education, one that supports both personal development and collective well-being, preparing students to thrive in a complex and rapidly changing world.

CBL in higher education support students and teachers to be able to adapt to present and future challenges in society. Transdisciplinary is an approach that enables mutual learning processes between science and society through interdisciplinary collaboration between researchers as well as extra-scientific actors. Integration can be understood as a process that leads to a change in the structure and organization of a problem context (Jahn et al., 2012). According to Christersson et al. (2022) Malmö University's approach to CBL in higher education is structured around three interrelated domains: *Diversity & Inclusion*, *Co-Creation & Collaboration*, and *Change Agents and Contextual Challenges*. Promoting diversity in higher education call for more than representation, it requires a commitment to active inclusion that recognizes and values the unique identities, backgrounds, and lived experiences of students, educators, and stakeholders. This inclusive approach fosters equitable participation and enriches the learning environment. Co-creation and collaboration are facilitated through a transdisciplinary research approach, where students, teachers, and external stakeholders engage in joint knowledge acquisition. This shared ownership of the learning process invites a co-creative dynamic in which scientific inquiry, societal practice, and sustainable development intersect to shape meaningful knowledge. Creating structured meeting spaces where students can interact with educators and stakeholders enables them to connect prior knowledge with real-world contexts. These interactions support critical reflection and the co-construction of new knowledge, thereby enhancing learning and cultivating students' readiness to act as change agents.

Importantly, the principles of CBL are not exclusive to higher education. By equipping teacher education students with CBL methodologies, this pedagogical approach can be extended to all levels of education, embedding challenge-driven learning as a foundational element of teaching practice.

While research shows nature enhances mindfulness and connectedness, the project applies these findings by embedding *Friluftsliv* challenges into CBL cycles.

Project context: PE teacher program Malmö University

At Malmö University, students enrolled in the PE teacher education program engage with *Friluftsliv* through both theoretical and practical components. The curriculum includes diverse outdoor experiences, such as winter sports, water-based activities, and nature excursions. Students are encouraged to critically reflect on the role of *Friluftsliv* in education, considering factors such as safety, accessibility, and socioeconomic disparities. Discussions often highlight the structural challenges schools face in implementing *Friluftsliv*, including limited funding, lack of training, and unequal access to natural environments. These reflections underscore the importance of preparing future educators to advocate for inclusive and innovative approaches to outdoor education. Interactions with nature has been shown in many studies to be positively associated with mental as well as physical health and health behaviors such as increased physical activity (Stott et al., 2024). Research shows that nature walk interventions improve mental health and positively impact depression and anxiety (Grassini, 2022).

Friluftsliv holds significant potential as a pedagogical tool for promoting health, equity, and sustainability in Swedish schools. However, realizing this potential requires a shift in how outdoor education is conceptualized and delivered. By integrating frameworks like the IDGs, educators can design *Friluftsliv* experiences that are not only inclusive and accessible but also aligned with broader societal goals.

Therefore, the Malmö project addressed here will explore new pathways to teach, reflect and integrate *Friluftsliv* using a CBL approach.

Challenge Based Learning - how is it done?

Learning and teaching are complex systems that encompass a host of underlying parameters from a macro to a micro level (Fig. 1) (Jucker et al.).

The challenges, meaningful real-world problems, are often rooted in themes that have a global importance usually with sustainability as an important perspective. The open-ended inclusive nature of CBL supports a method of working that embraces sustainability. Beemt et al. (2023) suggest that there are three dimensions of CBL 1) The vision and challenge, 2) Teaching and learning and 3) Support. In the Malmö project, these principles are operationalized by combining outdoor practice with reflective assessment.



Figure 1. Illustrating the complexity of factors influencing a person at different levels (from Jucker et al., page 6).

The learning process of CBL is complex for both students and teachers. In several respects, CBL incorporates self-directed learning, where students take responsibility for their own pathway by constructing knowledge through meaning-making, managing learning tasks, developing self-regulatory abilities, and assuming ownership within a given context. (Thomas Howard, 2024). The teacher's role in CBL is more unclear and is not that well represented in the literature, but the educator needs to consider both creativity as well as critical thinking in the learning process (Gallagher & Savage, 2023). They also need to have an in-depth knowledge of the area and generate constructive assessment. This could be even more challenging in real-life, open-ended and interdisciplinary challenge situations. Students need support and the teacher would act in such contexts more as a coach or co-creator and co-earner.

As of today, CBL in higher education is primarily used as a method for adult learning, and most scientific literature has a narrow focus on CBL as a concept rather than exploring it in the light of different learning theories (Leijon et al., 2021). There are many learning theories that define various aspects of the learning process, such as cognitive, environmental, technical, and social dimensions. A learning theory that could complement CBL especially in the context of this paper is Kolb's Experiential Learning Theory, which describes how individuals learn through experience. Kolb initially identified four learning styles based on how people perceive and process information: the Concrete Experience dimension emphasizes learning through experience, while the Abstract Conceptualization dimension is grounded in rationality and logic. The Reflective Observation dimension involves viewing information from different perspectives, and the Active Experimentation dimension relies on hands on learning. Later, this model was expanded to include nine learning styles derived from the original four. For example, someone who prefers the Experiencing style might learn best through emotional engagement and practical activities, while a person with a Thinking style may thrive when applying theories to solve structured problems (Kolb, 2007).

CBL both adds to and supports Kolbs model with its focus on co-creation and collaboration. It reinforces the importance of building on cultural perspectives and experiences to accomplish a shared learning

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experience and sustainability (Christersson et al., 2022). Kolb's experiential learning theory provides a useful lens, but in the context of the Malmö project, CBL adds the crucial dimensions of co-creation and sustainability.

Outdoor learning contributes to holistic human development by fostering cognitive, emotional, social, and physical capacities. Furthermore, it promotes educational equity and accessibility by encouraging the design of inclusive learning experiences that accommodate diverse student populations and community contexts (Beames et al., 2011). This perspective on the learning process can represent both the individual learning journey and the dynamics within a team working with CBL. It highlights the value of team members complementing one another, and frames learning as an adventure shaped by the specific challenge at hand (Martin & Bolliger, 2018). Sharing this information with students and emphasizing the importance of team composition and how members can complement each other can facilitate a more effective collaborative work process.

These insights highlight why the new project at Malmö University, grounded in CBL, is designed to integrate *Friluftsliv* with sustainability and inner development goals.

Exploring Inner Development and Resilience

There is a growing imperative to align higher education with sustainability objectives by integrating Inner Development Goals (IDGs) into teacher education. Inner capacities such as self-awareness, empathy, and critical thinking are essential for addressing complex global challenges. Nordén (2024) demonstrates that teacher students experiences significant personal and professional growth when IDGs are embedded within the curriculum. Incorporating IDGs alongside future oriented pedagogies in teacher education enhances sustainability competencies and supports the broader adoption of these approaches across higher education. This integration fosters holistic, resilient, and ethically grounded educators capable of leading transformative change.

Friluftsliv, or outdoor experiential learning, has the potential to challenge students by placing them in unfamiliar situations that encourage adaptability and responsiveness, thereby strengthening their overall capacity for action. Research conducted in the United States indicates that outdoor education programs can promote healthy adolescent development and benefit youth across diverse socioeconomic backgrounds (Caldas et al., 2016; Norton & Watt, 2013). However, such programs often span several days or weeks and must be adapted to the Swedish school context to align with curricular objectives and address economic, structural, and geographic constraints—including limited access to natural environments in some schools. *Friluftsliv* offers opportunities to leverage students' diverse experiences and competencies while simultaneously providing learning environments that extend beyond conventional teaching methods and classroom settings.

These inner capacities are not abstract ideals but are embedded in the project's CBL framework, ensuring that teacher students cultivate both practical and personal resilience.

The process

The process outlined here is designed not only to structure student engagement, but to address the urgent need for more equitable and sustainability-driven approaches to outdoor education by embedding

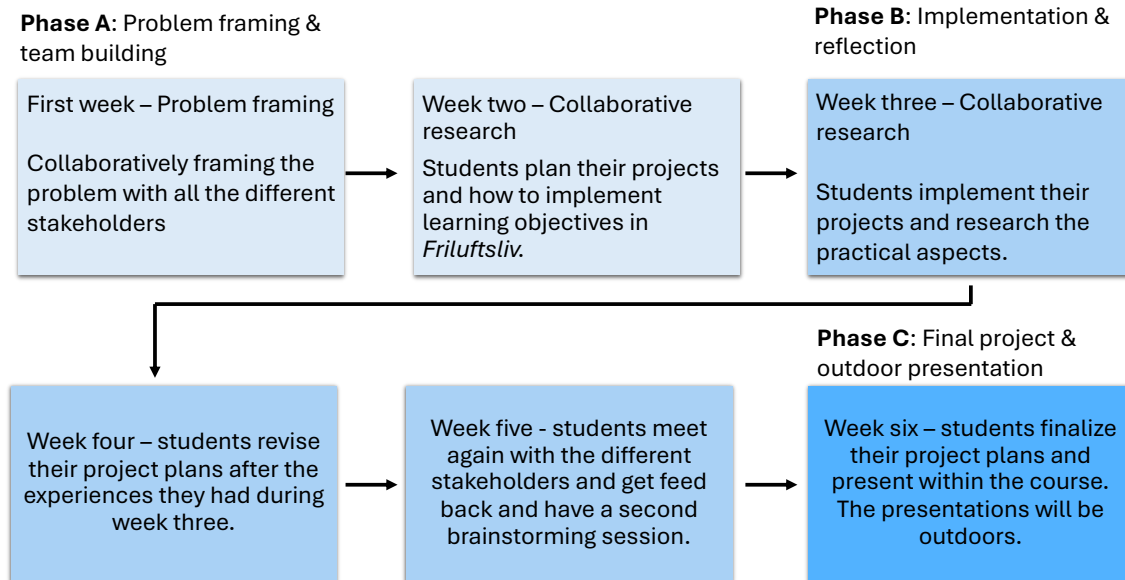


Figure 2. Project plan and timeline.

Friluftsliv within a CBL framework. Challenges often require cooperation to move forward and in this project the students would need to cooperate with different stakeholders. Ideally, they would meet and discuss with stakeholders that represent the municipality where the project is taking place and with different outdoor organizations to address issues connected to the surrounding environment.

In this project, students will follow a six-week schedule consisting of three phases, adapted from the article by Lang (Lang et al., 2012) (see Fig. 2). Phase A focuses on problem framing and team building. In this phase the personal and diverse experiences of nature are important. For children nature is a lived experience and they connect with nature on multiple levels; five basic pathways have been proposed: contact, emotion, meaning, compassion, and beauty (Van den Berg, 2025). Therefore, it is important to find a common language to communicate about nature experiences. Instruments to measure nature connectedness have been developed and they could work as a facilitator in framing and talking about nature experiences (Richardson et al., 2019). Together with stakeholders, students will define the

problem to be addressed and identify its boundaries. The team building activities should preferably emphasize how individuals with different learning styles can complement one another, creating synergy effects throughout the process (Andrejczuk et al., 2018; Martin & Bolliger, 2018). During Phase A, students will collaborate with school and organizational representatives. Together, they will formulate the research question that drives the learning experiences. Phase B centers on the practical stage, where students move from planning into action. In this phase, they will investigate their local environments to identify opportunities and barriers for integrating *Friluftsliv* into school practice. Activities may include mapping nearby natural areas, design outdoor learning sessions, and testing small-scale interventions such as guided nature walks, collaborative outdoor games, or reflective exercises in natural settings. Students will document their observations, collect feedback from peers and stakeholders, and evaluate

how their ideas align with curricular goals and sustainability perspectives. A revision stage is built into the process, allowing students to reflect on their experiences, analyze what worked and what did not, and adjust their plans accordingly. This iterative cycle ensures that the project remains responsive to both contextual realities and stakeholder input. At the end of Phase B, students and stakeholders reconvene for a second brainstorming session to share insights, refine the challenge, and prepare for the final phase. Phase C involves finalizing the project plans and presenting the completed projects in an outdoor setting. Teachers and students will reflect on the process and outcome of the project. In this last phase students and teacher will actively engage together in reflecting on personal learning experiences, challenges, and evolving insights.

In sum, the structured phases of this project demonstrate how CBL can be applied to *Friluftsliv* in ways that directly respond to the need for more inclusive, sustainable, and transformative approaches to outdoor education, preparing future teachers to meet the societal and environmental demands of a changing world.

Examination and evaluation

If this project is to be included as part of the course content and aligned with the intended learning outcomes, it must be assessed and evaluated in a way that reflects its experiential and collaborative nature. Traditional forms of examination may not be suitable for this type of learning experience, which emphasizes process, reflection, and real-world engagement.

To ensure meaningful assessment, the project will incorporate two complementary methods:

1. Reflective Journals / Learning Logs

Each student will maintain an individual journal throughout the project, with weekly entries aligned to the different phases. These reflections will capture personal learning experiences, challenges, and evolving insights. At the end of the course, students will conduct a thematic analysis of their own journals, identifying patterns and connections in their learning journey. This analysis will be guided by selected Inner Development Goals (IDGs), such as:

- Self-awareness: Recognizing personal growth and emotional responses.
- Empathy: Understanding others' perspectives, especially stakeholders.
- Collaboration: Reflecting on teamwork and shared problem-solving.
- Resilience: Navigating uncertainty and adapting to challenges.

2. Project Plans and Presentations

The final project outcomes will be evaluated based on their quality, relevance, and alignment with selected Sustainable Development Goals (SDGs). Assessment criteria will include:

- Creativity: Innovative approaches to addressing the challenge.
- Feasibility: Practicality and sustainability of proposed solutions.
- Stakeholder alignment: Responsiveness to stakeholder needs and input.

- Integration of learning: Demonstrated understanding of course content and broader societal goals.

By combining reflective and outcome-based assessment, this approach supports a holistic evaluation of both the learning process and the final product, while reinforcing the values embedded in the SDGs and IDGs ((IDG), 2021; Assembly, 2015)

Anticipated challenges

There are several aspects of the project discussed here that may present obstacles. The teacher education program is highly structured, and many courses include multiple components and subject areas that compete for limited time within the schedule. This, combined with the involvement of external stakeholders, can make it challenging to arrange meetings and for students to find the time needed to fully immerse themselves in the project. Another challenge is the inherent discomfort associated with stepping outside established boundaries and working without a predetermined goal. Interdisciplinary and collaborative research has the potential to create a more innovative and stimulating learning environment and enforces new ways of thinking and doing, however the process is time-consuming and challenge knowledge boundaries (Christensen et al., 2021). Since the project does not have a fixed outcome and the process itself is part of the assessment, this uncertainty may intimidate students and potentially hinder their engagement. Therefore, it will be essential to establish clear guidelines and emphasize the importance of both the process and collaboration throughout the project. This can be supported by ensuring that all participants share early on their experiences and expectations, and engage in a co-creative process that feels meaningful, not only for them as individuals, but also for the society they live in.

It is also important to follow up on the development efforts initiated during the project, as transformation takes time and requires continuity. Communicating what is being done and why to peers, educators, and the broader public is a vital part of the process. Technology enables this kind of outreach and is an important dimension of CBL, helping students connect their work to real-world contexts and amplify its relevance and impact (Galdames-Calderón et al., 2024).

These barriers underscore the need for the project's CBL approach, which explicitly engages stakeholders to overcome structural inequities in outdoor education. CBL provides higher education with a clear pedagogical pathway to advance health, equity, and sustainability. By reimagining *Friluftsliv* through inclusive frameworks such as the IDGs, outdoor education can become a vital contribution to the future capacity of physical education teachers to meet the demands of a changing world.

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