

Outdoor Adventure Education as a Vehicle for Social and Emotional Learning in Physical Education: A Curriculum-Based Review and Conceptual Contribution

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ABSTRACT

Outdoor Adventure Education (OAE) has become an increasingly relevant pedagogical approach to support Social and Emotional Learning (SEL) in physical education. This article presents a curriculum-based conceptual review developed within the Erasmus+ project Out-AdvEd, which connects six European institutions in a joint effort to promote holistic learner development through OAE. Based on a rapid review of 19 empirical and review studies published since 2010, the article examines the benefits, pedagogical strategies, and curricular implications of integrating OAE into physical education. The analysis is guided by two theoretical frameworks: the OECD model of social and emotional competencies and a four-dimensional curriculum structure focusing on goals, content, methods and classroom management. The findings indicate that OAE can effectively foster SEL-related competencies such as emotional regulation, collaboration, leadership and resilience, provided that implementation is supported by clear objectives, experiential methods and inclusive facilitation. The article concludes with a proposed model for integrating OAE into physical education and teacher education, along with practical recommendations for curriculum development and educational policy.

Keywords: teacher education; experiential pedagogy; social competence; emotional competence; educational innovation; curriculum development; inclusive pedagogy

INTRODUCTION

The growing demand for education that supports not only physical development but also social and emotional well-being has led to renewed interest in holistic pedagogical approaches. In particular, the COVID-19 pandemic has amplified concerns around youth mental health, social disconnection, and emotional resilience, prompting schools to seek innovative ways to foster students' personal growth and interpersonal competencies (OECD, 2021). One area gaining traction in both research and policy discourse is Outdoor Adventure Education (OAE), a pedagogical model rooted in experiential learning and nature-based physical activity.

Numerous studies have linked OAE to positive outcomes such as improved emotional resilience, cooperation, and self-awareness among young people (Gass, 2013; James & Sorenson, 2016; Pretty et al., 2007; Neill & Dias, 2001). These benefits align closely with the objectives of Social and Emotional Learning (SEL), a framework increasingly embedded within school curricula across Europe and globally (OECD, 2018). However, despite the conceptual and practical affinities between OAE and SEL, their integration into mainstream physical education remains inconsistent and poorly systematized (Passy et al., 2019; Mann et al., 2022).

To address this gap, the present article offers a conceptual review developed within the framework of the Outdoor Adventure Education through Physical Education (OutAdvEd) project¹, funded by the European Commission. The project brings together six institutional partners: University of Luxembourg, National and Kapodistrian University of Athens, Masaryk University in Brno, University of Sevilla, Humak University of Applied Sciences in Helsinki, and the European Physical Education Association (EUPEA). It aims to promote OAE across all stages of teacher education and to enhance SEL outcomes within physical education settings.

To ensure conceptual clarity, the article adopts the definition of OAE proposed by Williams and Wainwright (2016), who identify four foundational principles: learning mainly outdoors, experiential methods, challenge by choice, and managed risk. Related pedagogical traditions such as outdoor education (Donaldson & Donaldson, 1958; Martin & Priest, 1986) and adventure-based learning (Sutherland & Legge, 2016) also inform this conceptual landscape, particularly in their emphasis on holistic development, emotional safety, and structured reflection. Accordingly, *OAE is understood here as a specialized form of experiential learning that takes place mostly in outdoor settings and focuses on promoting personal, social, and environmental development through adventurous activities and challenges* (Vlček et al., 2025a, p. 16).

The primary objective of this paper is to synthesize relevant literature and project-based conceptual work to develop a curriculum-informed perspective on how OAE can meaningfully contribute to physical education. In doing so, it aims to:

- explore the alignment between OAE and SEL,
- identify the pedagogical and curricular value of OAE within physical education,
- and outline practical implications for teacher training and educational policy.

By bridging theoretical frameworks, research evidence, and curriculum design, the article contributes to a broader effort to reimagine physical education as a space not only for physical literacy promotion but also for inclusive, emotionally intelligent, and socially connected learning.

METHODS

This paper presents a conceptual review developed within the framework of the OutAdvEd project and structured through the lens of curriculum theory. Its primary aim was to explore key intersections between OAE and SEL in the context of physical education, and to translate these insights into a structured and coherent curriculum perspective. As part of this approach, project partners conducted a rapid review of recent scholarly literature, guided by the following research questions:

- What are the principal benefits of integrating OAE into physical education classes or the physical education curriculum?
- What additional value does its implementation bring to the physical education curriculum?
- How does OAE correlate with SEL?

A rapid review methodology was employed to identify relevant academic literature published from 2010 onward. This approach has gained recognition as a useful approach to provide actionable and

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relevant evidence in a timely and cost-effective manner (Tricco, et al., 2017)². The search included scientific databases and search engines (Scopus, SportDiscus, Google Scholar) and academic networks (ResearchGate, Academia.edu). Studies were included if they focused on OAE in relation to physical education, teacher training, youth development, or SEL outcomes. The search strategy was extended to national languages of project partners to ensure inclusion of contextual knowledge.

The following criteria were used to keep searches focused:

- Published from 1 January 2010 up to date;
- Study focused on the following key words: OAE / Adventure Education / Outdoor Education + Physical Education / Teacher Education / Teaching / Teacher Training / School-based / Youth / Students / Adolescents + Social and Emotional Learning / SEL / Emotional Intelligence / Social Skills;
- Study investigated OAE outcomes either as the sole or substantial focus;
- Empirical/theoretical study, systematic review, OAE/SEL models conceptual discussion.

The findings were structured according to the guiding research questions, while the theoretical integration and curriculum implications were organized and interpreted using two complementary frameworks:

- The OECD model of social and emotional competencies, which clusters SEL skills into five domains based on the Big Five personality structure (OECD, 2018), and
- The four-dimensional curriculum theory (goals, content, methods, management), (Maňák et al., 2008).

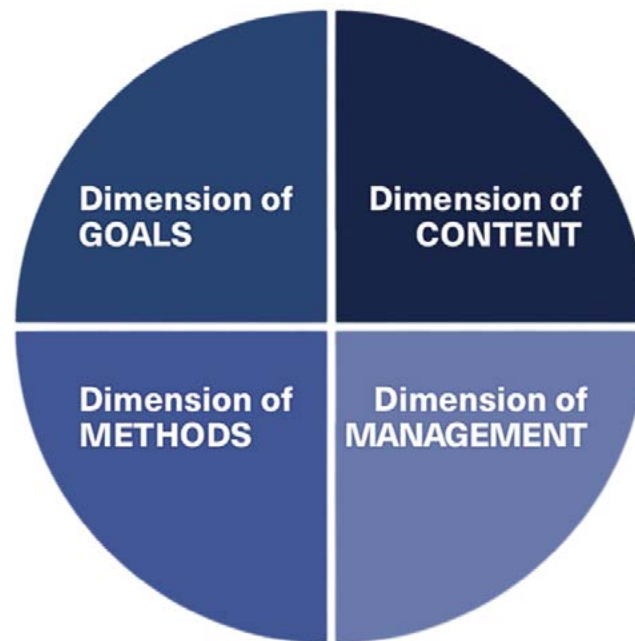


Figure 1. Curriculum dimensions (Vlček, 2019, adapted from Maňák et al., 2008)

² While systematic reviewing is considered the “gold standard” for summarising and analysing research findings (Munn et al., 2018), it requires significant time and resources, and often focuses narrowly on specific questions. Rapid reviewing, on the other hand, allows for quicker results and broader coverage of the subject matter, making it more suitable for policymakers, decision-makers, stakeholders, and other knowledge users (Bailey et al., 2022; Khangura et al., 2012). For this reason, rapid reviews are methodologically well-suited for ERASMUS+ projects with a three-year duration, as they balance academic rigour with the time-sensitive demands of applied educational development.

This dual-framework approach enabled the alignment of evidence-based insights with curriculum design logic, with the aim of guiding future integration of OAE into physical education and teacher education programs.

RESULTS

The literature review included 12 empirical and theoretical studies and 7 systematic reviews exploring the role of OAE in supporting SEL in physical education. These studies provided complementary insights into learner outcomes, pedagogical models, and implications for curriculum development.

Empirical and theoretical studies

The integration of OAE into physical education offers a range of pedagogical and developmental advantages, as demonstrated by 12 empirical and theoretical studies (see Table 1). Griffin (2020) notes that although OAE was historically overlooked, it is increasingly recognized as a viable educational model that transcends traditional sport-based curricula (see Vlček, 2021). Wurdinger and Carlson (2010) explore experiential learning approaches aligned with OAE, including active and problem-based learning, emphasizing their relevance in formal and non-formal educational contexts.

Several studies highlight OAE's potential to foster social, emotional, and academic development. Cooley (2015) finds that OAE enhances groupwork skills, attitudes, and self-efficacy, which contribute to improved academic outcomes and employability. Similarly, Donnelly (2013) shows that OAE can reduce disaffection and promote inclusive practices, particularly among vulnerable students. Richmond et al. (2017) emphasize that shared OAE experiences strengthen social connectedness and leadership-related self-perceptions among adolescent girls.

In relation to SEL, Oppen (2013) reports that a 23-day OAE program led to immediate improvements in emotional intelligence among adolescents, although some gains diminished over time. Jirásek and Dvořáčková (2016) demonstrate that immersive OAE experiences can strengthen group connectedness and prosocial attitudes through meaningful non-formal education. Jirásek and Turcová (2017) further examine how cultural heritage, such as the work of Czech educator Jaroslav Foglar, influences experiential learning approaches.

Mental health outcomes are also addressed. Mutz and Müller (2016) suggest that wilderness-based OAE programs may promote psychological well-being among youth and young adults. Sibthorp and Ewert (2014) provide a theoretical foundation for OAE, highlighting its role across diverse educational settings. From a pedagogical standpoint, Ressler (2012) underscores the importance of teacher training and reflective practice in implementing adventure-based learning. Williams and Wainwright (2016) propose a model grounded in four core principles - experiential learning, outdoor settings, challenge by choice, and managed risk.

Taken together, these studies offer robust evidence of the benefits of OAE in physical education, particularly in fostering holistic development, SEL, social inclusion, mental well-being, and pedagogical innovation (Griffin, 2020; Wurdinger & Carlson, 2010; Cooley, 2015; Oppen, 2013; Donnelly, 2013; Richmond et al., 2017; Jirásek & Dvořáčková, 2016; Jirásek & Turcová, 2017; Mutz & Müller, 2016; Sibthorp & Ewert, 2014; Ressler, 2012; Williams & Wainwright, 2016).

Table 1. Empirical and theoretical resources

Empirical and theoretical resources				
Authors	Title	Resource type/Methods	Results	DOI/URL/ISBN
Griffin, K. (2020)	Exploring the Possibilities of Outdoor/Adventure Education	A theoretical study	The outdoor/adventure education curriculum, while neglected in recent years, is demonstrating promising gains as a viable model.	https://doi.org/10.1123/kr.2020-0041
Wurdinger, S. D., & Carlson, R. L. (2010)	Teaching for experiential learning: Five approaches that work.	Monograph	The authors provide in-depth descriptions into these overlapping approaches for experiential learning: active learning, problem-based learning, project-based learning, service learning, and place-based education	ISBN 9781607093671
Cooley, S., J. (2015)	Developing groupwork through outdoor adventure education: a systematic evaluation of learning and transfer in higher education	Thesis (Ph.D.)	OAE was found to improve groupwork skills, attitudes, and self-efficacy, resulting in improved academic groupwork, greater confidence, satisfaction, integration, and employability.	http://etheses.bham.ac.uk/id/eprint/6275
Opper, B. (2013)	Exploring the value and limits of using outdoor adventure education in developing emotional intelligence during adolescence	Thesis (PhD) A case study of an event, namely „The Journey“ – 23 – day outdoor adventure education programme for Grade 10 learners at a private high school for boys.	There was an increase in all EQ subskills directly after participation but the initial increase in interpersonal and stress management skills did not have a sustainable effect.	http://hdl.handle.net/2263/40236
Donnelly, O. (2013)	Evaluating the impact of an outdoor adventure education intervention for primary school children perceived to be vulnerable	A case study - two groups of pupils from year 9 and 10 with severe behavioural difficulties placed in an independent residential school. A systematic observation of their behaviour and recording of their academic performance over the duration of the programme.	Although outdoor education may not form a solution to dealing with ‘problematic’ behaviour, it represents a powerful, albeit underused, tool for reducing disaffection, promoting inclusive practice and decreasing the risk of permanent exclusion for this vulnerable group of pupils.	http://dx.doi.org/10.1080/13632750300507025

Empirical and theoretical resources				
Authors	Title	Resource type/Methods	Results	DOI/URL/ISBN
Jirásek, I., & Turcová, I. (2017)	The Czech approach to outdoor adventure and experiential education: the influence of Jaroslav Foglar's work	Introducing Foglar, his personality and work to a wider audience.	Jaroslav Foglar being not only an important Czech writer and educator, but also potentially influencing the field of outdoor adventure and experiential education internationally.	http://dx.doi.org/10.1080/14729679.2017.1344557
Richmond, D., Sibthorp, J., & Gookin, J., Annarella, S., & Ferri, S. (2017)	Complementing classroom learning through outdoor adventure education: out-of-school-time experiences that make a difference.	This study employed a grounded theory approach, semi-structured interviews with learners.	Findings explain how shared OAE experiences among adolescent girls attending the same school contribute to greater social connectedness, self-efficacy in leadership competencies, and a recalibrated sense of self and personal potential.	https://doi.org/10.1080/14729679.2017.1324313
Sibthorp, J., & Ewert, A. (2014)	Outdoor Adventure Education: Foundations, Theory, and Research	Monograph	<i>Outdoor Adventure Education</i> offers a comprehensive view of the expanding discipline of outdoor adventure education in its various settings.	http://dx.doi.org/10.5040/9781492595663
Ressler, J. D. (2012)	Transforming Physical Educators Through Adventure-Based Learning	Transformative Learning Theory (TLT) guided this qualitative case study	Findings suggest: further training and support of in-service teachers prior to facilitating ABL, development of more in-depth content knowledge in ABL, and an identification of effective and ineffective ABL pedagogies through critical self-reflection.	http://rave.ohiolink.edu/etdc/view?acc_num=osu1330963296
Williams, A., & Wainwright, N. (2016)	A new pedagogical model for adventure in the curriculum: part two – outlining the model,	Learning model	Four non-negotiable features of a model for OAE are identified as being mainly outdoors, experiential learning, challenge by choice and managed risk	https://doi.org/10.1080/17408989.2015.1048212
Mutz, M., & Müller, J. (2016)	Mental health benefits of outdoor adventures: Results from two pilot studies	Analysis of two pilot studies	The findings suggest that outdoor education and wilderness programs can foster mental health in youths and young adults	http://dx.doi.org/10.1016/j.adolescence.2016.03.009

SYSTEMATIC REVIEWS

A total of 7 systematic reviews and literature syntheses were examined (see Table 2) to contextualize the role of OAE in physical education and its intersection with SEL. These reviews revealed broad agreement regarding the pedagogical value and long-term benefits of OAE, while also identifying gaps and emerging challenges in its implementation and research base.

Several authors emphasized the social and personal development outcomes associated with OAE. Opstoel et al. (2019) noted that although the existing evidence is predominantly quantitative and cross-sectional, it consistently highlights improvements in prosocial behaviour, cooperation, and work ethic. However, they also pointed to a lack of emphasis on more complex competencies such as problem-solving and autonomous decision-making skills that are essential for holistic SEL development.

In the domain of teacher education and pedagogical innovation, Wolf, Kunz, and Robin (2022) identified collaboration, creativity, outdoor-specific instructional strategies, and sustainability as recurring themes in outdoor learning research. Their findings suggest that initial teacher training programs are beginning to adopt OAE principles, though often without fully integrating them into formal curricula. Sutherland and Maureen (2016) further explored this issue and recommended a shift in pedagogical framing - advocating for less scripted, more socio-culturally responsive adventure learning approaches, especially in pre-service teacher education.

Regarding learner impact and long-term value, Heather (2021) demonstrated that residential outdoor programs produce lasting improvements in confidence, independence, and communication. These outcomes were particularly linked to the immersive nature of the experience and the interpersonal dynamics among participants. Similarly, Lee and Zhang (2019) concluded that adventure education significantly enhances emotional development and peer relationships in school-aged youth, thereby reinforcing the compatibility of OAE with SEL frameworks in physical education.

Evidence from meta-analytic and scoping reviews supports these conclusions. Durlak et al. (2011), in their widely cited meta-analysis, confirmed the overall effectiveness of school-based universal SEL interventions, which include elements common in OAE (e.g., experiential learning, group dynamics, personal reflection). Mateer et al. (2023), in a comprehensive review of Outward Bound and related programs, found that while outcomes vary across contexts, participants often report gains in confidence, goal-setting, and interpersonal skills – key SEL dimensions.

Table 2. Systematic reviews

Systematic reviews			
Authors/Country	Title	Results	URL
Opstoel, K., Chapelle, L., Prins, F., De Meester, A., Haerens, L., Tartwijk, J., & Martelaer, K. (2019)	Personal and social development in physical education and sports: A review study	Quantitative evidence is predominantly cross-sectional in nature, and mainly focuses on prosocial behaviour, cooperation and work ethic at the expense of other important outcomes such as decision-making and problem-solving.	http://dx.doi.org/10.1177/1356336X19882054
Heather, E., P. (2021)	The lasting impacts of outdoor adventure residential experiences on young people	Thematic and comparative analysis identified lasting impacts as: self-confidence, independence and communication. The intensity and challenge of the outdoor adventure residentials, and the power of groups, influence lasting impacts. These findings from large datasets across a range of contexts have implications for funders and policy makers for the provision of outdoor adventure residentials for young people.	https://doi.org/10.1080/14729679.2020.1784764
Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011)	The impact of enhancing learners' social and emotional learning: A meta-analysis of school-based universal interventions	The findings add to the growing empirical evidence regarding the positive impact of SEL programs	https://doi.org/10.1111/j.1467-8624.2010.01564.x
Lee, J., & Zhang, T. (2019)	The impact of adventure education on learners' learning outcomes in physical education: A systematic review	The results suggest that adventure education benefits the developments of school-aged learners learning outcomes such as peer relationship and emotion.	https://files.eric.ed.gov/fulltext/EJ1216911.pdf
Mateer, T. J., Pighetti, J., Taff, B. D., & Allison, P. (2023)	Outward Bound and OAE: A scoping review, 1995-2019	Despite the mixed results on these fronts, the social-emotional growth provided evidence that most populations gained outcomes such as confidence, goal-setting skills, and interpersonal skills from their OB experience...	https://doi.org/10.35469/ak.2022.368
Wolf, Ch., Kunz, P., & Robin, N. (2022)	Emerging themes of research into outdoor teaching in initial formal teacher training from early childhood to secondary education – A literature review	There was identified four topics, most frequently mentioned: collaboration, creativity, strategies for outdoor learning and sustainability.	https://doi.org/10.1080/00958964.2022.2090889
Sutherland, S. & Maureen, L. (2016)	The Possibilities of 'Doing' Outdoor and/or Adventure Education in Physical Education/ Teacher Education	Future recommendations include the pedagogical relevance and importance of understanding the socio-cultural context, the challenge of adventure education being a controlled orchestration and the need to pedagogically change the key of this orchestration, and employing innovative methodological approaches to further explore these issues.	https://doi.org/10.1123/jtpe.2016-0161

SUMMARY OF FINDINGS

The analysis of both empirical studies and systematic reviews provided a nuanced understanding of the intersection between OAE and SEL within the context of physical education. Drawing from a wide range of sources published between 2010 and 2025, this conceptual review synthesizes key insights relevant to curriculum theory and practice. The findings are presented below in direct response to the guiding research questions that informed the literature review.

1. What are the principal benefits of integrating OAE into physical education classes or the physical education curriculum?

The literature reveals that OAE promotes a wide array of personal and social competencies that complement the goals of physical education. Empirical research (e.g., Cooley, 2015; Donnelly, 2013; Griffin, 2020) indicates that OAE enhances teamwork, leadership, and a sense of belonging, particularly through structured group activities in outdoor contexts. These benefits are further supported by Richmond et al. (2017), who found that shared outdoor experiences enhance self-perception and leadership self-efficacy, especially among adolescent girls. Complementary evidence from systematic reviews (Opstoel et al., 2019; Wolf et al., 2022) points to the dominant role of OAE in developing prosocial behaviours, collaboration, and creativity, though more complex skills like critical thinking and problem-solving remain underexplored.

2. What additional value does its implementation bring to the physical education curriculum?

OAE enriches the physical education curriculum by expanding its pedagogical scope beyond conventional, sport-based instruction. According to Williams and Wainwright (2016) and Wurdinger and Carlson (2010), the experiential nature of OAE introduces alternative methods grounded in authentic challenge and reflection. Studies by Heather (2021) and Lee and Zhang (2019) underscore long-lasting developmental outcomes such as communication, independence, and emotional resilience, particularly due to the intensity of outdoor group experiences. In teacher education, authors such as Ressler (2012) and Sutherland and Maureen (2016) advocate for OAE's potential to disrupt traditional practices and inspire innovation rooted in socio-cultural awareness. Thus, OAE is positioned not just as a programmatic add-on but as a valuable curricular dimension that aligns with holistic and inclusive education.

3. How does OAE correlate with SEL?

The review confirms a strong conceptual alignment between the pedagogical principles of OAE and the core domains of SEL. Grounded in experiential theory, OAE supports the development of emotional regulation, empathy, interpersonal skills, and goal-setting, which are key aspects of SEL as defined by frameworks such as the OECD (2018). Evidence from Opper (2013), Mutz and Müller (2016), and Jirásek and Dvořáčková (2016) demonstrates how well-structured OAE programs cultivate emotional intelligence, social cohesion, and mental well-being. Findings from Mateer et al. (2023) further indicate that OAE interventions promote confidence and interpersonal growth, especially when facilitated by skilled educators. Importantly, Brown (2010) and the English

Outdoor Council (2018) emphasize the central role of group dynamics and intentional pedagogical design in maximizing SEL outcomes, positioning OAE as both a delivery method and a context for SEL in physical education.

These findings form the empirical and conceptual basis for the theoretical integration and curriculum implications discussed in the following section.

THEORETICAL INTEGRATION AND CURRICULUM IMPLICATIONS

The review findings confirm that OAE is well aligned with the aims of SEL and offers a viable model for advancing holistic education in physical education contexts. From a curriculum perspective, OAE can be understood as a pedagogical approach that requires thoughtful design across four key curriculum dimensions: *goals, content, methods, and management* (see Figure 1).

Dimension of Goals

In the reviewed literature, OAE consistently aims to support both activity-specific outcomes and broader personal development. Within the OutAdvEd framework (Vlček et al., 2025a), curricular goals are categorized into two fundamental types: (1) physical education specific goals, and (2) transdisciplinary SEL goals.

Physical education goals typically relate to developing physical literacy, self-awareness in physical activity, and understanding its effects on physical, emotional, and social wellbeing (UNESCO, 2015; WHO, 2018). These are determined nationally and vary across curricula.

The transdisciplinary SEL goals focus on the development of soft and meta-skills essential for personal and social growth. As outlined by the OECD (2018), social and emotional competencies such as emotional regulation, empathy, cooperation, optimism, and self-control are strongly associated with positive life outcomes. Drawing on the Big Five personality traits (John & Srivastava, 1999)³, the OECD framework organizes these competencies into five overarching domains: *task performance, emotional regulation, collaboration, open-mindedness, and engagement with others* (see Figure 2).

3 While related in theme, this personality-based framework is conceptually distinct from Deci and Ryan's (2000) Self-Determination Theory, which focuses on intrinsic motivation rather than trait-based competencies.



Figure 2. Structure of Social and Emotional Skills (OECD, 2018).

A unique strength of the OutAdvEd approach is its emphasis on intentional goal-setting both individual and group-based as a pedagogical method (Schoel et al., 1988; McKenzie, 2000). Learners are more likely to succeed when they can identify and pursue realistic goals that align with their needs. This aligns with the concept of constructive alignment (Biggs & Tang, 2007), in which curriculum design, teaching strategies, and assessment are coherently linked.

In this model, the role of the educator is to create structured experiences that guide learners toward mastering not only the physical and technical aspects of an activity, but also its reflective, interpersonal, and emotional dimensions. The curriculum, therefore, must be designed in a way that aligns intended learning outcomes (e.g., improved self-efficacy or emotional control) with specific pedagogical approaches and meaningful assessment strategies.

Dimension of Content

The content dimension in OAE reflects a dual function: on one hand, it includes the physical and technical elements of outdoor activities, on the other, it serves as a context for developing transversal competencies associated with SEL. Content in OAE is not neutral it is inherently pedagogical and must be deliberately chosen and sequenced to support intended learning outcomes.

Physical content

OAE encompasses a broad range of physical activities including hiking, canoeing, climbing, orienteering, parkour, slacklining, paddleboarding, and cycling. It also includes less intense or non-traditional formats such as nature walks, environmental games, shelter building, cooperative group challenges, and reflective movement practices. In urban contexts, OAE may take the form of discovery trails, geocaching, community-based exploration, or storytelling through physical activity in public spaces. Indoor settings like gymnasiums, club rooms, or adapted classrooms can also support experiential learning through team problem-solving tasks, trust-building games, or role-playing scenarios that target social and emotional competencies (see Vlček et al., 2025a, p. 26). The educational value of these activities depends on how they are facilitated. According to Williams and Wainwright (2016), four essential principles should guide the selection of OAE content: activities should be experiential, conducted outside the conventional classroom, include challenge by choice, and involve managed risk.

Social learning content

The social learning aspect of OAE involves the structured development of interpersonal and group-related competencies. Participants acquire communication skills (active listening, verbal and non-verbal expression), teamwork and collaboration (trust, conflict resolution, shared decision-making), and leadership (guiding, motivating, managing group dynamics). These are cultivated through interactive, cooperative activities where learners assume various roles and face shared challenges that require negotiation and cooperation. Cultural competence is also fostered by creating inclusive learning environments and promoting intercultural understanding (see e.g., Prouty et. al., 2007).

Emotional learning content

Emotional learning in OAE centres on building self-awareness, emotional regulation, and resilience through authentic experiences. Participants are exposed to uncertainty, stress, and risk, which, when facilitated effectively, lead to personal growth. Key emotional competencies developed include emotional self-awareness, stress resistance, empathy, emotional communication, and emotional resilience. Reflection and feedback often integrated at the end of activities encourage learners to process their emotions and understand their responses, enabling transfer to everyday contexts.

The content dimension, therefore, extends beyond physical performance. It is embedded in real-life, emotionally rich learning situations, designed to provoke reflection, interaction, and transformation. In a well-structured OAE program, content becomes both a medium and a message through it, learners not only “do,” but also become (see e.g., Stremba & Bisson, 2009).

Dimension of Methods

The methodological dimension of OAE/SEL refers not only to the activities and instruction used but more importantly to the pedagogical principles and learning theories that underpin their application. In the OutAdvEd project, three complementary theoretical approaches guide the design of learning experiences: *Experiential Learning Theory*, *Social Learning Theory*, and *Adventure Education Theory*.

Experiential Learning Theory (Kolb, 1984)

Kolb's experiential model frames learning as a cyclical process consisting of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. In OAE, learners engage in physically and emotionally rich experiences such as climbing, hiking, or canoeing. These are followed by guided reflection (debriefing), which helps participants interpret their actions and emotions, connect with relevant knowledge, and apply insights in new contexts. This process supports deep learning, emotional awareness, and the development of personal strategies. Moreover, recognizing individual learning styles allows facilitators to tailor experiences to the needs of diverse learners, thus increasing engagement and retention⁴.

Social Learning Theory (Bandura & Walters, 1977)

Bandura's theory emphasizes learning through observation, modelling, and social interaction. In OAE, instructors serve as role models who demonstrate effective problem-solving, emotional regulation, and cooperative behaviour. Peers also contribute to learning as participants observe each other and reflect on group dynamics. Vicarious learning, shared successes, and constructive feedback enable learners to internalize key skills without necessarily experiencing every situation first-hand. Group-based activities and social reinforcement play a central role in sustaining engagement and facilitating behavioural change.

Adventure Education Theory (e.g., Gass, 2013; Prouty et al., 2007; Stremba & Bisson, 2009)

This theory integrates elements of experiential and social learning but focuses specifically on learning through challenge. It emphasizes structured progression, sequencing of tasks, and the intentional use of real or perceived risk. Key principles include:

- Outcomes-based design – experiences are planned to target skills such as teamwork, empathy, or resilience.
- Processing and reflection – essential for internalizing lessons and connecting them to real-life contexts.
- Group dynamics – understanding roles, communication styles, and interpersonal interactions.
- Transfer and generalization – ensuring that learning extends beyond the outdoor context into everyday life.

Dimension of Management

The management dimension of OAE refers to the practical and pedagogical organization of the learning environment. It encompasses how learning is facilitated, how progression is structured, and how educators respond to group dynamics, learner diversity, and situational challenges. Effective management ensures that all other curriculum components goals, content, and methods are successfully implemented.

4 While Kolb's experiential learning theory (1984) remains influential in structuring reflective and embodied learning in OAE, several limitations have been identified. Critics point out the model's assumption of a linear and universal learning cycle, the contested validity of fixed learning styles, and its limited consideration of sociocultural and contextual influences (e.g., Holman et. al., 1997). In response, the OutAdvEd approach combines Kolb's framework with more flexible, multimodal facilitation strategies that better accommodate diverse learners and contexts.

OAE requires flexible yet intentional structuring of experiences, where educators manage not only logistical aspects (safety, timing, equipment) but also emotional climate, inclusivity, and learning flow. The pedagogical strategies used in OAE demand that educators/facilitators are both responsive and reflective.

Key approaches to managing learning in OAE include:

- Place-based education: grounding activities in specific local environments fosters ecological literacy and community connection.
- Adventure-based learning: challenges participants to solve problems, collaborate, and make decisions through engaging and dynamic tasks.
- Challenge education: carefully designed challenges stretch learners' capacities and support the development of resilience and self-confidence.
- Cooperative learning: structured team-based activities promote mutual support, responsibility, and collective success.
- Reflective practice: ongoing opportunities for individual and group reflection deepen the impact of experiences and enable meaning-making.
- Transformational learning: powerful and emotionally significant experiences that challenge assumptions and encourage perspective shifts.
- Challenge by Choice: respects individual autonomy and allows learners to opt into challenges at their own pace and comfort level.
- Problem-based learning: learning is driven by real-world problems that require collaboration, inquiry, and decision-making.
- Situated learning: learning is embedded in meaningful contexts that mirror real-life applications, enhancing motivation and relevance.
- Outdoor learning: physical, sensory, and affective engagement with the natural world facilitates holistic learning.

These approaches are not mutually exclusive and are often blended to respond to learners' needs, goals, and group dynamics. The educator's role is to facilitate this process with sensitivity, competence, and flexibility balancing structure with openness, and guidance with learner autonomy.

Inclusivity and responsiveness

Management also involves ensuring inclusive practices adapting experiences to accommodate different abilities, learning styles, backgrounds, and emotional needs. This includes thoughtful grouping, differentiated facilitation, and the creation of safe, welcoming spaces for all participants.

Facilitation and learner-centredness

Effective OAE facilitation is characterized by a non-directive, flexible, and inclusive style. Learners are given agency to set goals, make choices, and experience the consequences of their decisions (Sutherland & Legge, 2016). Educators adapt to emergent learning opportunities and support personalized learning pathways. This approach requires a strong understanding of group development, individual differences, and social-emotional dynamics (Neville et al., 2023). The educator's role is not to control but to guide, adapt, and co-create experiences with learners in a psychologically and physically safe environment.

Reflection and feedback

Effective OAE management builds in cycles of reflection and feedback not only for learners but also for educators. Structured debriefings, self-assessment, and group dialogue serve as essential tools for consolidating learning and making it transferable to other life contexts (Meerts-Brandsma, et al., 2020).

DYNAMIC INTEGRATION OF CURRICULUM DIMENSIONS AND IMPLICATIONS FOR CURRICULUM INTEGRATION

All four curriculum dimensions: *goals, content, methods, and management* are dynamically interconnected. When thoughtfully aligned and implemented, they enable the curriculum to unfold in ways that are meaningful, relevant, and transformative for learners.

SEL soft/meta skills and competencies are not isolated outcomes they are interconnected, multifunctional, and inherently interdisciplinary. Their development requires a comprehensive and cyclical learning process in which *facilitating, experiencing, and reflecting* play a central role. In this context, shaping SEL competencies must be an intentional and explicit goal of all OAE activities. In other words, the OAE subject matter within the broader physical education curriculum functions as a vehicle for promoting SEL (Vlček et al., 2025a, p. 19). This relationship is illustrated in the following model (Figure 3):



Figure 3. OAE/SEL Model (Vlček et al., 2025a)

Integrating OAE into school curricula requires a shift in how physical education is conceptualized – from a performance-oriented model toward a developmental model that emphasizes personal growth and wellbeing. The reviewed evidence suggests that OAE can serve as a legitimate and effective component of such a model. However, for meaningful integration, educational policies and curriculum documents must provide space and support for non-traditional pedagogies and recognize the value of SEL in physical education.

CONCLUSION

This article has examined OAE as a meaningful contributor to SEL within physical education. Based on a conceptual curriculum review carried out under the Erasmus+ OutAdvEd project, the study synthesized key evidence from empirical and review literature and aligned these insights

with curriculum theory. The curriculum approach developed within the OutAdvEd project offers a clear and structured strategy for integrating OAE into formal education, particularly through physical education and teacher preparation.

The findings highlight that OAE can serve not only as a framework for physical activity but more significantly as a pedagogical model that supports holistic development. In addition to promoting resilience, empathy, cooperation, and self-awareness, OAE fosters learners' capacity for emotional regulation, interpersonal responsibility, creative problem-solving, and goal-setting. These skills are increasingly recognised as essential for success in both school and life. These outcomes emerge not simply from the physical challenges of outdoor settings but from the structured use of reflection, group processes, and facilitation strategies that deepen personal insight and social connection.

Moreover, OAE encourages learning in contexts that are often underutilized in traditional schooling, such as natural environments, public spaces, or informal learning settings, thereby expanding the ecological validity and inclusivity of education. It supports differentiated and multimodal learning, allowing for a broader range of student strengths and needs to be addressed. Importantly, the integration of OAE into curriculum frameworks reinforces the idea that physical education can be a transformative space not only for bodily/motor competence but also for emotional and social growth.

For successful implementation, the evidence points to the need for trained educators, appropriate institutional support, and alignment with broader educational goals. The framework and model developed within the OutAdvEd project (Vlček et al., 2025a, b) provides a foundation for future teacher education and curriculum planning. As education systems across Europe face growing demands to address student wellbeing, equity, and engagement, OAE presents a compelling, flexible, and evidence-based tool for innovation in physical education and beyond.

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