Outdoor Adventure Education Curriculum Framework for Youth Social and Emotional Learning

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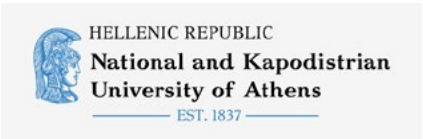

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1. INTRODUCTION

The ongoing educational reforms and rapid societal changes have a substantial impact on the teaching profession and in the era of social distancing, empowering educators[1] with skills and competences to support youth mental health and well-being is crucial. New understanding of the **Teacher Education (TED)** quality has emerged (cf. Korthagen, 2011; Korthagen et al., 2001), necessitating curricula that are flexible and relevant.

Hence, the project Outdoor Adventure Education through Physical Education (OutAdvEd) attempts to connect **Outdoor Adventure Education (OAE)** and TED (initial, induction and continuous professional development), with a special focus on the promotion of Youth **Social and Emotional Learning (SEL)**.

SEL plays a pivotal role in holistic education, encompassing skills such as self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making. The incorporation of SEL into the Physical Education curriculum is essential for nurturing learners' physical and emotional well-being. OAE presents an innovative approach to integrate SEL seamlessly into physical education, emphasizing experiential and active learning. This rationale outlines some reasons for creating a curricular framework for OAE to support SEL within the physical education, drawing from relevant research and scholarly sources.

Research indicates that OAE have positive effects on mental well-being (Pretty et al., 2007). Exposure to nature during OAE can reduce stress, anxiety, and enhance emotional resilience, aligning with SEL goals. Moreover, OAE often involves group-based activities that foster teamwork, cooperation, communication, and empathy (Gass, 2013). These collaborative experiences are instrumental in developing social and interpersonal skills, essential components of SEL. OAE inherently involves risk assessment and decision-making, promoting SEL skills like problem-solving and responsible risk-taking (James & Sorenson, 2016) and learning to make informed choices in outdoor settings

1 As Neville at al., (2023) point out, within the outdoor education literature, the nomenclature of 'instructor' is common, however the term 'educator' was selected for this curriculum framework as it is a broader term that requires a greater emphasis on quality learning and effective pedagogies (cf. Brown & Fraser, 2009).

prepares learners for life's challenges. Furthermore, overcoming physical challenges in outdoor adventures builds resilience and grit (Hattie et al., 2017). The perseverance required in OAE aligns with SEL objectives by equipping learners with emotional coping mechanisms. OAE encourages learners to develop a deeper connection with the environment, fostering environmental awareness and empathy (Zelenski et al., 2015). These attitudes closely align with SEL competencies such as empathy and social responsibility.

Developing a curricular framework for OAE in physical education ensures inclusivity and equity, providing all learners, regardless of background or ability, with equal access to transformative learning experiences (Tillmann et al., 2018). Longitudinal studies indicate that OAE programs have lasting positive effects on both socio-emotional skills and physical health (Berman et al., 2008). This supports the integration of OAE into the physical education curriculum as a means to promote lifelong SEL.

Incorporating OAE into the physical education curriculum offers a dynamic approach to fostering SEL while promoting physical health. The evidence from research highlights the alignment between OAE experiences and the development of SEL competencies (see *Section 1.1*). By crafting a curricular framework that seamlessly integrates OAE into physical education, educators can create enriching educational experiences that empower learners with the socio-emotional and physical skills and competences necessary for success in both their academic and personal lives.

The development of a set of OAE/SEL curriculum guidelines is the primary objective of the OutAdvEd work package number 2 (consisting of three results: R1 – OutAdvEd Curriculum Framework; R2 – OutAdvEd Curriculum Template and R3 – OutAdvEd Teaching Resources) to ensure that specific recommendations are given to guide the work to be completed throughout the implementation phase of the project (see *Chapter 6*).

Specifically, the objective of this text[2] is to contribute to the project aims by developing the *Outdoor Adventure Education Curriculum Framework for Youth Social and Emotional Learning* that will summarise and highlight research and applied findings regarding OAE and SEL curricula and programmes. These guidelines will enable teachers and teacher educators to design evidence based OAE programmes with an emphasis on SEL.

2 See the OutAdvEd project proposal; work package n.°2/R1, p. 36.; https://erasmus-plus.ec.europa.eu/cs/projects/search/details/2022-1-LU01-KA220-HED-000088846

1.2 Literature Review

In literature and among various stakeholders and organizations, the prevailing view is that OAE activities provide learners with valuable opportunities to develop interpersonal and intrapersonal skills through meaningful engagement in SEL. To thoroughly investigate the validity of this assertion and examine whether there exists professional and scientific evidence, the project partners undertook a review of recent scholarly literature resources, which aimed to seek answers to the following 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?

What correlations exist between OAE and SEL?

The reviews were conducted using a methodology called **rapid reviewing**, a streamlined approach that synthesizes evidence in a timely manner (Khangura, Konnyu, Cushman, et al., 2012).

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).

To gather evidence, searches were performed on various academic databases (Google Scholar, Scopus, SportDiscus), as well as academic social networking sites, including ResearchGate and Academia.edu. Recommendations from the OutAdvEd project team also contributed to the search.

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 + PE/TED/teaching/teacher training/schools + learners/ young people/youth;

Study investigated OAE outcomes either as the sole or substantial focus;

Empirical/theoretical study, systematic review, OAE/SEL models conceptual discussion.

Initially, searches were conducted in English, followed by searches in the local language of each project partner to ensure inclusivity. The literature review involved a purposive search, integration, and translation of relevant literature related to the contexts of OAE and SEL.

Results

The review comprises an examination of **twelve empirical and theoretical studies along with seven systematic reviews** contributing to the understanding of the integration of OAE into Physical Education and its correlation with SEL. The scholarly works included in this review are diverse, providing comprehensive insights into the multifaceted relationships between OAE and physical education, particularly focusing on personal and social development, emotional intelligence, and learners' SEL outcomes in the educational setting.

Empirical and theoretical studies

The integration of OAE into physical education brings about **various advantages**, as evidenced in a range of studies. Griffin (2020) posits that OAE, once neglected, is now showing substantial promise as a viable educational model, expanding beyond traditional sports-based PE and catering to diverse learning needs. Numerous works highlight the **supplementary value** brought by OAE to the physical education curriculum. Cooley's study (2015) suggests that OAE significantly enhances groupwork skills, attitudes, and self-efficacy, leading to improved academic performance, confidence, satisfaction, integration, and employability. Additionally, Wurdinger and Carlson (2010) describe multiple experiential learning approaches closely linked to OAE, offering a deeper understanding of this educational model.

Regarding the **correlations between OAE and SEL**, Opper's research (2013) focuses on developing emotional intelligence during adolescence through a specific 23-day adventure education program. While it resulted in an initial increase in all EQ subskills, the sustained effect on certain aspects like interpersonal and stress management skills was limited.

Studies exploring the impact of OAE interventions shed light on its implications. Donnelly (2013) notes the influential role of OAE in reducing disaffection, promoting inclusive practice, and decreasing the risk of exclusion for vulnerable primary school children. Similarly, Hattie et al. (2017) discuss how shared OAE experiences enhance social connectedness, self-efficacy in

leadership competencies, and self-perception among adolescent girls, emphasizing the transformative potential of OAE beyond the classroom.

In addition, Ressler's work (2012) suggests the need for in-service teacher training and support in adventure-based learning for effective implementation in physical education. The findings advocate for a deeper content knowledge in adventure-based learning and reflective pedagogies. Moreover, Williams and Wainwright (2016) propose a pedagogical model for OAE, emphasizing the key components of mainly outdoor activities, experiential learning, challenge by choice, and managed risk.

Overall, the **empirical and theoretical studies** demonstrate the substantial benefits of integrating OAE into physical education, providing insights into its diverse advantages and implications, particularly in fostering holistic development, social connectedness, and learning outcomes (Griffin, 2020; Cooley, 2015; Wurdinger & Carlson, 2010; Opper, 2013; Donnelly, 2013; Richmond et al., 2017; Ressler, 2012; Williams & Wainwright, 2016).

Systematic reviews

The rapid reviewing of systematic reviews also investigated the implications of integrating OAE into physical education classes and curriculum, focusing on the three key aspects.

- **Principal benefits of integrating oae into physical education:** Authors Opstoel et al. (2019) emphasized the cross-sectional and quantitative nature of evidence that predominantly focuses on prosocial behaviour, cooperation, and work ethic, with a neglect of other critical outcomes such as decision-making and problem-solving. This study outlined the primary focus of current research on personal and social development in physical education and sports.
- **Additional value in the physical education curriculum:** Heather (2021) highlighted the lasting impacts of outdoor adventure experiences on young individuals. The study identified self-confidence, independence, and communication skills as lasting impacts stemming from the intensity and challenge presented by OAE. Durlak et al. (2011) demonstrated that enhancing learners' SEL through school-based universal interventions yields positive impacts. Their meta-analysis contributes to the empirical evidence supporting the effectiveness of SEL programs in educational settings. Lee and Zhang (2019) conducted a systematic review emphasizing the positive impact of adventure education on learners' learning outcomes,

particularly in areas such as peer relationships and emotional growth within physical education.

- **Correlations between OAE and SEL:** Mateer et al. (2023) highlighted the social-emotional growth associated with Outward Bound and OAE. Despite mixed results, they pointed out the substantial benefits, such as confidence, goal-setting skills, and interpersonal growth.

The collective findings from these studies shed light on the multifaceted benefits and implications of integrating OAE into the PE curriculum, focusing on personal and social development, learning outcomes, and the correlation between outdoor adventure education and social-emotional learning (Opstoel et al., 2019; Heather, 2021; Durlak et al., 2011; Lee & Zhang, 2019; Mateer et al., 2023).

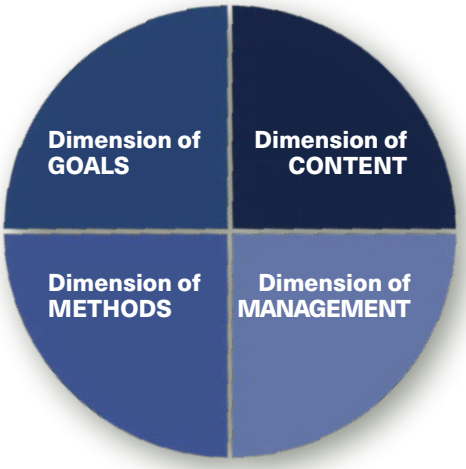
Discussion

OAE programs, explored by various authors, have shown significant potential in positively influencing children and youth. Prince (2021) emphasizes the increase in self-confidence and independence among participants, while Hattie et al. (1997) and Richmond et al. (2018) highlight the development of leadership competencies and self-efficacy. Cooley (2015) notes the improvement in groupwork skills and academic performance, with Lee & Zhang (2019) underlining enhanced peer relationships and emotional well-being. Mutz & Müller (2016) suggest the promotion of mental health and resilience among young participants.

The OAE/SEL programs act as catalysts for transformative learning, fostering personal and cognitive shifts (Meerts-Brandsma et al., 2020). They offer unique opportunities for participants to confront challenges and enhance social connectedness. Mateer et al. (2023) highlight the crucial role of educators in facilitating meaningful experiences, while Brown (2010) suggests emphasizing the dynamics of social interaction within OAE to improve the learning experience. The literature reviews underscore the diverse outcomes and the potential benefits of OAE and SEL, requiring a thoughtful design and facilitation, as highlighted for example by the English outdoor council (2018).

1.2 On the Curriculum Theory

Curriculum research is based on two main paradigms, depending on how we interpret the term "curriculum". The first, narrower approach focuses on investigating specific curriculum documents, for example syllabi. The broader approach seeks answers to various questions, such as the reasons for education, who is involved, what content is taught, how it is taught, when it takes place, and under what circumstances, all with desirable outcomes in mind (Kridel, 2010). Consequently, the term "curriculum" can be defined narrowly as a teaching program, or more broadly, encompassing all learning that occurs in educational settings, whether planned or unplanned (Lawton & Gordon, 1993).



Maňák et. al. (2008) proposed a model to describe the complexity and intricacies of the curriculum, by dividing the curriculum into individual spheres. They distinguished four dimensions as shown in *Figure 1*.

Figure 1. Dimensions of a curriculum (Vlček, 2019, cf. Maňák et. al., 2008).

- **Dimension of GOALS**
- **Dimension of METHODS**
- **Dimension of CONTENT**
- **Dimension of MANAGEMENT**

The dimension of goals is primarily about values, aims, concepts, goals and learning objectives, and the dimension of content is about the selection and organisation of the subject matter, expected outcomes, standards etc. The dimension of methods refers to the process and approaches how the curriculum is delivered. The dimension of management is about the organisation of the environment in which the curriculum is delivered; for example, the physical conditions of facilities or adequacy of teaching resources (Vlček, 2019).

Two key approaches to curriculum research can be distinguished (cf. Posner, 1992; Thijs & Van den Akker, 2009).

1. The first, the **structural (static) approach**, focuses on the specific elements or the forms of the curriculum and tends to describe the curriculum objectively as a product (for example in its written form).
2. The second, the **functional (dynamic) approach**, deals with the processes that occurred 'before' the curriculum was designed and what happened 'after'. It includes the processes of conceptualising, designing, implementing and assessing the curriculum. The functional approach allows for interpretative questions such as, 'what did the curricula makers (the educators) mean' and more importantly 'how is the curriculum interpreted by those concerned'.

A key **structural approach** distinguishes three sequential levels of the curriculum existence, namely the **intended curriculum, implemented curriculum, and achieved curriculum** (cf. Keeves & Adams, 1997). Průcha (2002, see also Vlček, 2019) expanded the three-level curriculum model into **five different structural forms of the curriculum existence.**

- *Concept form* – Vision, rationale or "basic philosophy" underlying a curriculum;
- *Designed form* – Official documents (syllabi) usually prescribed at both the government level (the educational framework) and at the school level;
- *Implemented form* – Curriculum as interpreted and used (especially by teachers and educators);
- *Results form* – Outcomes of the actual process of teaching and learning;
- *Effects form* – The impact of the acquired and attained learning outcomes on learners.

Janík et al. (2010) have extended this model to include a **functional approach**. The functional processes that connect the various forms are conceptualizing, designing, implementing, realizing, and internalizing (Janík, 2010; Vlček & Janík, 2010). Each of these individual processes can be explained as follows:

- Conceptualising is a process of formalising values and ideas into a basic concept;
- Designing is the process of developing the curriculum documents and consists of defining learning objectives and educational content;
- Implementing is the process of introducing the curriculum to teachers and educators in schools;
- Realizing is the process in which teachers interpret the curriculum and teach it to their pupils to achieve results;
- Internalising is the process of incorporating the curriculum into everyday life.

Both the static and dynamic perspectives on the curriculum are crucial for this curriculum framework, for example, when reflecting on and evaluating educational outcomes and effects (see e.g., *Figure 10*).

The structural view of the curriculum is essential in preparing individual curriculum materials, educational aids, certificates (innovative educational methodologies, IT-material, websites, publications) and ensuring their overall quality. However, the quality of the preparation process plays an important role. The functional (dynamic) perspective is vital for assessing the quality of implementation and realization of individual interventions and programs, as in OAE/SEL processes together with products are assessed (see *Chapter 5*).

Following the logic of the curriculum forms, in the next section, we focus on the concept form this OAE/SEL curriculum framework. This form typically includes statements about underlying values, conceptions of learning, the main aims, purposes, and tasks of education, etc. (Vlček, 2019).

1.3 Basic Terminology

Williams and Wainwright (2016) use the term **Outdoor Adventure Education (OAE)** to advocate for the development of a pedagogical model for promoting a better alignment of teacher planning and delivery for learner learning. From their perspective, the major theme of OAE is personal growth through an adventure which is grounded in the four non-negotiable features of: being mainly outdoors, experiential learning, challenge by choice, and managed risk.

Outdoor education: Donaldson and Donaldson (1958) suggest the following definition: "Outdoor education is education in, about and for the outdoors." The concept of **outdoor education** is defined in the literature on six main points: 'Outdoor education:

1. is a method of learning;
2. is experiential;
3. takes place outdoors;
4. requires the use of all senses and fields;
5. is based on multidisciplinary subjects;
6. includes relationships involving people and natural resources (Priest, 1986, p. 13).

Outdoor education is also defined as a learning system that includes adventurous activities to encourage personal and social growth (Fiskum & Jacobsen, 2013).

Sutherland and Legge (2016) discussed how OAE pedagogical approaches vary dependent on the socio-cultural context. They recommended using the approach of **adventure-based learning** (ABL). The non-negotiables of adventure-based learning include, ´experiential learning, sequence and flow of activities, learner-centred facilitation, processing (brief and debrief), emotional and physical safety (including Challenge by Choice and Full Value Contract), and cultural responsiveness´ (Sutherland & Legge, 2016).

Integrated adventure-based learning and PE curriculum are based on five concepts: challenge, cooperation, risk, trust, and problem solving (Prouty, Panicucci, & Collinson, 2007).

Adventure-based groupwork promotes social skills by engaging participants in intentionally sequenced experiential activities, which are often in outdoor settings (Norton & Tucker, 2010). Further & Tucker (2009) have identified several key components of adventure-based groupwork such as interpersonal learning, social skill development, sequencing, concrete and immediate consequences, problem-solving, the novel environment, physical trust, as well as emotional and physical safety considerations.

There exist additional concepts that share proximity with OAE and utilizing its elements. For instance, Experiential Education is a specialized pedagogical approach frequently conducted outdoors. Adventure Therapy or Wilderness interventions are often employed as forms of group therapy. These ideas hold potential as sources of inspiration for OAE programs, with the possibility of their components intertwining harmoniously.

In the context of this curriculum framework, we use the term "Outdoor Adventure Education – OAE" to refer to 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.

Hopkins and Putnam (2013) maintain that the elements comprising OAE should not be perceived in isolation; instead, they should be considered holistically, as illustrated in *Figure 2*. The combination of these components allows participants to acquire knowledge, skills and expertise through participating in adventure activities in an outdoor setting, and to be involved in **SEL**.

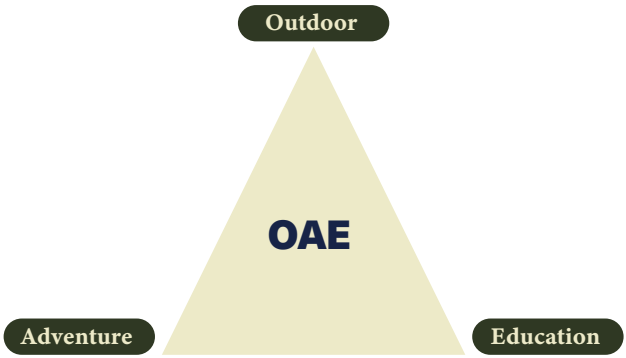


Figure 2. Components of outdoor adventure education (Opper, 2013).

SEL, as defined by EASEL Lab (2023)[3], has often been used as an umbrella term to represent a wide array of non-academic skills that individuals need in order to set goals, manage behaviour, build relationships, and process and remember information. These skills and competencies develop across our lives and are essential to success in school, work, home, and community. Generally speaking, this set of skills can be organized into three interrelated areas: cognitive, social, and emotional. Importantly, these skills and competencies develop and are in dynamic interaction with attitudes, beliefs, and mindsets as well as character and values, all of which are fundamentally tied to characteristics of settings.

According to the OECD model (2018), which will be used in the following text, ***social and emotional skills refer to the abilities to regulate one's thoughts, emotions and behaviour. These skills differ from cognitive abilities such as literacy or numeracy because they mainly concern how people manage their emotions, perceive themselves and engage with others, rather than indicating their raw ability to process information. But, like literacy and numeracy, they are dependent on situational factors and responsive to change and development through formal and informal learning experiences. Importantly, social and emotional skills influence a wide range of personal and societal outcomes throughout one's life.***

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3 EASEL Lab explores the effects of high-quality social-emotional interventions on the development and achievement of children, youth, teachers, parents, and communities.

2. CONCEPT OF THE CURRICULUM FRAMEWORK

"Information is not knowledge.
The only source of knowledge is experience."
– Albert Einstein

Constructivism historically served as the theoretical framework for OAE. It draws inspiration from John Dewey's work[4] and emphasizes learning, which places great importance on the experience itself, combined with reflective practice to facilitate learning. Dewey's progressive educational philosophy highlighted **the learner as the central figure in the learning experience. According to Dewey (1938), the most impactful learning occurs when learners actively engage in posing and solving problems to construct meaning and enhance comprehension[5].**

The aim of OAE/SEL is to provide all learners with a set of (soft/meta) skills and essential competencies that they can achieve, preparing them for their future education and societal roles. The competencies related to SEL consist of a

4 Also, Komenský, Piaget, Vygotsky, Freire, Hahn and others…

5 Experiential learning, a cornerstone in the educational landscape, is approached through various perspectives. Both the humanistic and Deweyan schools of thought shape the discourse on experiential learning pedagogy. In current academic discussions, the need for a clear definition of the term ‚experience' is underscored, especially when considering prevalent models like Kolb's broadly-recognized experiential learning cycle, which has its roots in humanistic underpinnings. Despite extensive discussions, a notable absence persists in the realm of comprehensive experiential learning models firmly grounded in empirical research and theoretical frameworks for practical implementation. Critics, including the insightful perspectives of for example Jayson Seaman highlight the deficiencies within Kolb's model (more on Experiential Learning articles and critiques of David Kolb's theory cf. https://reviewing.co.uk/research/experiential.learning.htm). In a different context, John Dewey, a pioneering figure in educational philosophy, aimed to address enduring philosophical dilemmas while envisioning education's role in shaping industrial democracy. His sophisticated and comprehensive concept of ‚experience' stands in contrast to the more limited perspectives within the humanistic approach (Seaman & Quay, 2020).

comprehensive set of knowledge, skills, abilities, attitudes, and values essential for an individual's personal development and societal engagement.

SEL soft/meta skills and competencies are not isolated occurrences, rather, they are interconnected, multifunctional, and possess an interdisciplinary nature. They can only be acquired through a comprehensive learning process in which facilitating, experiencing, and reflecting play a pivotal role[6]. Consequently, shaping and developing SEL soft/meta skills and competencies must be the primary and explicit objective of all OAE activities. In other words, the OAE subject matter, as part of the physical education curriculum, serves as a pathway (means) to promote SEL soft/meta skills and competencies which can be illustrated by the following OAE/SEL model.

Figure 3. OAE/SEL Model (Vlček, n.d.).

After discussing the concept form, we can turn our attention to the design form of this curriculum framework. We will proceed according to the four curriculum dimensions: **the dimension of goals, content, methods, and management** (see *Section 1.2*).

6 We will focus on these three fundamental processes influencing OAE/SEL in the following text.

3. CURRICULUM DESIGN

> "We should teach what we plan to assess & we should assess what we are expected to teach"[7]

Designing a curriculum involves a systematic and thoughtful approach to ensure that the curriculum meets the desired learning outcomes. For this purpose, we proceed according to the curriculum dimensions as outlined in *Chapter 1.2*, starting with the dimension of goals. **Nevertheless, it is important to realize that all dimensions are interrelated and form one common (four-dimensional) space as also highlighted in *Section 3.4*.**

3.1 Dimension of Goals

The primary goal of OAE/SEL curriculum (as defined above) is **the development of SEL soft/meta skills and competencies**. The aim of an OAE educator is to create well-structured programs that integrate intentional SEL outcomes. These are developed while achieving activity-specific (OAE) goals, and as Schoel et al. (1988) emphasize, participants are more likely to experience success if they can define their own applicable and realistic goals. Some sources indicate that both individual and group goal setting are critical components of adventure education programs (McKenzie, 2000; Sibthorp & Jostad, 2014).

The goal of the OAE/SEL activities is to employ suitable methods and management styles **to guide individuals towards mastering activity-specific expected outcomes, aiming to promote SEL.**

Hence, the project OutAdvEd aims to connect OAE, with a specific emphasis on promoting youth SEL, the goals can be distinguished into two fundamental types:

7 This statement expresses an opinion that is generally accepted, though not universally (cf. Biggs, 2003; Brandl-Bredenbeck & Sygusch, 2017; Egger, 2005; Vlček, 2019).

1. the subject-specific physical education /OAE goals and
2. the transdisciplinary SEL goals.

Because the aim of this document is to present a universal curriculum document applicable internationally, we will leave specific physical education goals on the countries´ curriculum documents. **In general, we view Physical Education as an essential subject in the school curriculum, which focuses on becoming acquainted with one's personal abilities and interests in physical activity, as well as understanding the impacts of certain physical activities on physical fitness and emotional and social well-being.**

Regarding the transdisciplinary SEL goals, there is a wide range of frameworks that concentrate on the development of SEL. An overview of current frameworks[8] is provided by EASEL Lab (2023). By drawing insights from EASEL Lab (2023), we have selected the OECD's (2018) framework for SEL. The Organization for Economic Co-operation and Development (OECD)[9] provides a framework outlining a specific set of social and emotional skills associated with positive personal and societal outcomes. Cantered around the Big Five personality traits (*Figure 3*), this framework focuses on the cognitive, social, and emotional skills essential for success in today's world and addressing the challenges of the 21st century. The primary reason for selecting the OECD framework for this curriculum framework is its purpose: to provide guidance for an extensive international assessment of learners' social and emotional skills and competences, primarily intended for leaders, policy advisors, and education stakeholders, as well as to explore the influences of family and school factors on the development of the SEL.

The OECD (2018) model organizes skills hierarchically into five general categories:

- Openness to experience (open-mindedness)
- Conscientiousness (task performance)
- Emotional stability (emotional regulation)
- Extraversion (engaging with others)
- Agreeableness (collaboration)

8 …which are 1. Representative of a wide range of disciplines, 2. Widely adopted, and 3. Include descriptive skills, traits, competencies, strengths, mindsets, and/or attributes that are defined and can be coded.

9 All participating countries in the OutAdvEd project are members of the OECD.

Each category encompasses various interrelated skills. For instance, task performance covers achievement orientation, reliability, self-control, and persistence. These groupings not only display similarities but also ensure a systematic consideration of individuals' social and emotional skills (Figure 4.).

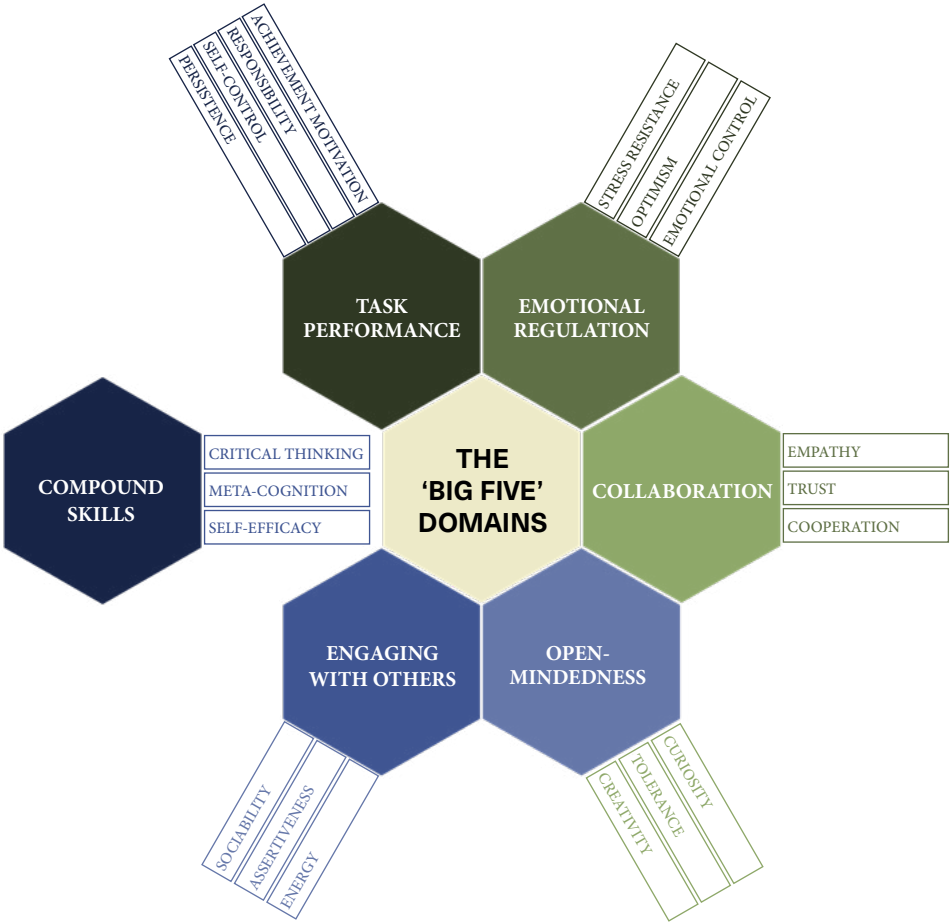

Figure 4. Structure of Social and Emotional Skills (OECD, 2018).

Moreover, the model introduces ´compound´ skills, which combine multiple individual skills. For instance, self-efficacy combines skills from the Big Five's conscientiousness, emotional stability, and extraversion categories. These compound skills are beneficial for understanding behaviour and often have significant impacts on life outcomes. *Table 1* presents short description of each of the skills, accompanied by some typical skill-related behaviour.

Table 1: Description of the skills included in the OECD's model on SEL (OECD, 2018).

THE 'BIG FIVE' DOMAINS	SKILLS	DESCRIPTION	BEHAVIOURAL EXAMPLES
TASK PERFORMANCE (Conscientiousness)	ACHIEVEMENT ORIENTATION	Setting high standards for oneself and working hard to meet them.	Enjoys reaching a high level of mastery in some activity. Opposite: uninterested in career development.
	RESPONSIBILITY	Able to honour commitments, and be punctual and reliable.	Arrives on time for appointments, gets chores done right away. Opposite: doesn't follow through on agreements/promises.
	SELF-CONTROL	Able to avoid distractions and focus attention on the current task in order to achieve personal goals.	Doesn't rush into things, is cautious and risk averse. Opposite: is prone to impulsive shopping or binge drinking.
	PERSISTENCE	Persevering in tasks and activities until they get done.	Finishes homework projects or work once started. Opposite: Gives up easily when confronted with obstacles/ distractions.
EMOTIONAL REGULATION (Emotional Stability)	STRESS RESISTANCE	Effectiveness in modulating anxiety and able to calmly solve problems (is relaxed, handles stress well).	Is relaxed most of the time, performs well in high-pressure situations. Opposite: worries about things, difficulties sleeping.
	OPTIMISM	Positive and optimistic expectations for self and life in general.	Generally in good mood. Opposite: often feels sad, tends to feel insecure.
	EMOTIONAL CONTROL	Effective strategies for regulating temper, anger and irritation in the face of frustrations.	Controls emotions in situations of conflict. Opposite: gets upset easily; is moody.
COLLABORATION (Agreeableness)	EMPATHY	Kindness and caring for others and their well-being that leads to valuing and investing in close relationships.	Consoles a friend who is upset, sympathises with the homeless. Opposite: Tends to disregard other person's feelings.
	TRUST	Assuming that others generally have good intentions and forgiving those who have done wrong.	Lends things to people, avoids being harsh or judgmental. Opposite: is suspicious of people's intentions.
	COOPERATION	Living in harmony with others and valuing interconnectedness among all people.	Finds it easy to get along with people, respects decisions made by a group. Opposite: Has a sharp tongue, is not prone to compromises.

THE 'BIG FIVE' DOMAINS	SKILLS	DESCRIPTION	BEHAVIOURAL EXAMPLES
OPEN-MINDEDNESS (Openness to Experience)	CURIOSITY	Interest in ideas and love of learning, understanding and intellectual exploration; an inquisitive mindset.	Likes to read books, to travel to new destinations. Opposite: dislikes change, is not interested in exploring new products.
	TOLERANCE	Is open to different points of view, values diversity, is appreciative of foreign people and cultures.	Have friends from different backgrounds. Opposite: dislikes foreigners.
	CREATIVITY	Generating novel ways to do or think about things through exploring, learning from failure, insight and vision.	Has original insights, is good at the arts. Opposite: seldom daydreams, dresses conventionally.
ENGAGEMENT WITH OTHERS (Extraversion)	SOCIABILITY	Able to approach others, both friends and strangers, initiating and maintaining social connections.	Skilled at teamwork, good at public speaking. Opposite: avoids large groups, prefers one-to-one communication.
	ASSERTIVENESS	Able to confidently voice opinions, needs, and feelings, and exert social influence.	Takes charge in a class or team. Opposite: waits for others to lead the way, keeps quiet when disagrees with others.
	ENERGY	Approaching daily life with energy, excitement and spontaneity.	Is always busy; works long hours. Opposite: gets tired easily.
COMPOUND SKILLS	SELF-EFFICACY	The strength of individuals' beliefs in their ability to execute tasks and achieve goals.	Remains calm when facing unexpected events. Opposite: avoids challenging situations.
	CRITICAL THINKING/ INDEPENDENCE	The ability to evaluate information and interpret it through independent and unconstrained analysis.	Good at solving problems, at ease in new and unknown situations. Opposite: dependent on others' guidance.
	SELF-REFLECTION/ META-COGNITION	Awareness of inner processes and subjective experiences, such as thoughts and feelings, and the ability to reflect on and articulate such experiences.	Good exam preparation strategies, able to master skills more effectively. Opposite: over- or under-estimates time needed for exam preparation or project completion.

As we outlined in *Section 1.2*, the forms and processes of the curriculum should be ideally combined to create a curriculum ring (*Figure 5*).

The designed form of curriculum is closely related (reflects) the results form. It is a challenge of OAE/SEL educators to constructively **align the curriculum design with the teaching-learning process and reflective assessment** (cf. Biggs, 2003).

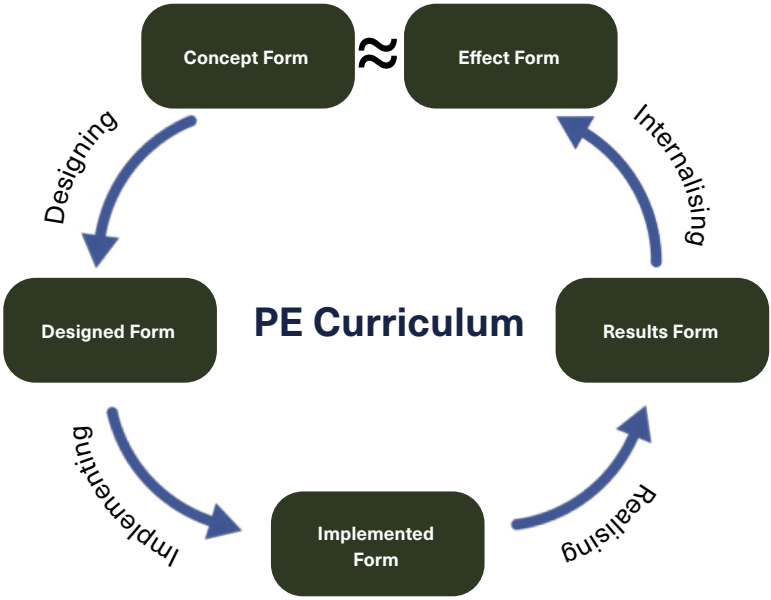

Figure 5. The curriculum ring (Vlček, 2019).

As Bredenbeck and Sygusch (2017) stress, the curriculum maker needs to keep in mind that we should teach (facilitate) what we want to assess, and we should assess what we are expected to teach (the expected outcomes) as defined in the designed curriculum.

3.2 Dimension of Content

The OAE content is intended to serve as a means to attain activity-oriented expected outcomes and, consequently, facilitate the development of social and emotional learning skills and competences. The educational content enables the integration of themes and OAE activities at the interlinked level.

OAE content

In outdoor adventure education, participants engage in various activities such as **hiking, rock climbing, camping, canoeing, sailing, kayaking, orienteering, ropes courses, and wilderness expeditions** as well as new and emerging activities such as **slack-lining, paddle boarding and parkour etc[10].** These activities are designed to provide opportunities for individuals to **step outside their comfort zones, develop soft skills and competences such as resilience, problem-solving skills, build self-confidence, and cultivate a deeper appreciation for nature.** What matters in all these activities, as highlighted by Williams and Wainwright (2016) is that participants are physically engaged and have the opportunity to develop basic knowledge and skills in moving, living and being safe outdoors in land and water environments.

Caballero-Blanco et al. (2022) propose 10 steps for adventure pedagogy, each characterized by common features and defined objectives to attain. The activities belonging to a particular step might not be limited to that step alone, as they can contribute to the objectives of multiple steps.

- **Activity introduction: get to know each other and the environment:** Activities in this stage focus on getting to know others and familiarizing oneself with the group, materials, or new spaces. Participants share personal details like name, city of origin, and tastes, fostering an understanding of their group members. These activities also help acquaint individuals with the materials and setting they'll be engaging with.
- **Relaxation and disinhibition: feeling at ease through interaction:** This stage aims to create a comfortable, relaxed environment promoting interaction through movement, dance, and songs. It seeks to ease group tension and encourage disinhibition while encouraging energy release and enjoyment.

10 Teachers can collaboratively choose outdoor adventure activities with learners, depending on the context, specific skills of educators and learners, and the environment. It is not our intention to list all activities as the selection is context-dependent.

- **Sensory rediscovery: awaken your senses and engage with your surroundings:** These activities aim to awaken the senses, encouraging participants to interact with their environment. Participants decipher activities through trial-and-error techniques, fostering observation and self-learning. This step includes sensory activities activating touch, sight, hearing, taste, self-perception, balance, pain, and the sense of heat.
- **Trust-building: fostering trust and responsibility:** Trust activities involve collective challenges that encourage mutual support and care. Participants engage in collective challenges, learning to trust others, the environment, and basic adventure sport techniques, building trust and a sense of responsibility towards each other.
- **Cooperation: group problem-solving and effective communication:** Activities focus on resolving group challenges, promoting basic communication rules and conflict resolution. Challenges with multiple solutions are proposed, requiring effective communication and creative problem-solving. These activities enhance interpersonal communication, nurturing habits like active learning and dialogue.
- **Initiative: decision-making and risk assessment:** This phase focuses on decision-making, self-assessment, and risk-taking. Activities require courage, a sense of responsibility, and prior analysis of one's skills and the situation, fostering sound decision-making.
- **Instinct: emotional and physical engagement:** Instinct activities engage participants intellectually, emotionally, and physically. These games involve simulation and role-playing, provoking emotional engagement and intellectual interactions.
- **Basic techniques: learning outdoor sports fundamentals:** This stage emphasizes learning basic techniques applicable to outdoor sports, utilizing games and proposals to teach simple sports materials and techniques.
- **Outdoor adventure sports: real-life challenges and safe practice:** Activities aim to provide a direct experience, incorporating apparent or real risk. Participants practice complex sports in natural or mixed environments, adhering to safety protocols.
- **Reflective thinking: learning from experience:** Reflection activities encourage participants to analyse events, behaviours, and moral principles encountered throughout the process. The step aims to contribute to learners' humanization process, fostering self-awareness and personal growth.

SEL content

Social learning in outdoor adventure education refers to the process through which individuals acquire knowledge, attitudes, and skills by observing and interacting with others in a group or team setting (Jucker & von Au, 2022; Prouty, Panicucci, & Collinson, 2007; Payton et al., 2000; Stremba & Bisson, 2009). Some important expected outcomes related to social learning in outdoor adventure education are the following:

- **Communication skills**: Effective communication is crucial in outdoor adventure activities as participants need to convey information, express ideas, give and receive feedback, and coordinate actions. Communication skills encompass active listening (ability to listen attentively to others, understand their perspectives, and respond appropriately), clear articulation (capacity to express thoughts and information clearly and succinctly), verbal communication (effective articulation and expression of ideas, thoughts, and instructions), nonverbal communication (understanding and utilizing body language, facial expressions, and gestures to convey messages), and the ability to adapt communication style to different situations and individuals.
- **Collaboration and teamwork**: Outdoor adventure activities often require participants to work together in teams or groups to solve problems, accomplish goals, and navigate challenges. Skills related to collaboration and teamwork include cooperation (working together with others towards shared goals and objectives), trust-building (establishing trust and mutual respect among team members to enhance collaboration), conflict resolution (resolving conflicts or disagreements that may arise within the group), shared decision-making (involving all members in the decision-making process and reaching consensus), and effective delegation (assigning tasks and responsibilities based on individual strengths and capabilities).
- **Leadership skills**: Leadership is an essential component of social learning in outdoor adventure education. Participants have opportunities to take on leadership roles, guide and motivate others, make decisions, and manage group dynamics. Leadership skills involve communication (ability to effectively communicate goals, instructions, and expectations to team members), decision-making (making informed and timely decisions while considering the input and perspectives of others), problem-solving (identifying and resolving challenges and obstacles that

may arise during outdoor adventures), empathy (understanding and considering the emotions, needs, and perspectives of team members), and the ability to inspire and motivate others to achieve individual and group goals.

- **Interpersonal skills**: Interpersonal skills are vital for building and maintaining positive relationships with others. Participants in outdoor adventure education develop skills such as empathy (showing understanding, compassion, and sensitivity towards others), respect (treating others with respect, regardless of their background, opinions, or abilities), active listening (paying attention to others, acknowledging their viewpoints, and responding appropriately), conflict resolution (managing conflicts and disagreements in a constructive and respectful manner), and the ability to give and receive constructive feedback (providing and receiving feedback in a supportive and helpful manner). These skills facilitate effective collaboration and enhance the overall social learning experience.
- **Cultural competence**: Outdoor adventure education often brings together individuals from diverse backgrounds and cultures. Developing cultural competence involves understanding and appreciating different perspectives, recognizing, and respecting cultural differences, promoting inclusivity (by creating an inclusive and welcoming environment that embraces diversity), and fostering intercultural communication (effectively communicating and collaborating with individuals from diverse cultural backgrounds), and cooperation.
- **Self-awareness and reflection**: Social learning in outdoor adventure education is enhanced when participants engage in self-reflection and self-awareness. Skills related to self-reflection include introspection, self-evaluation, recognizing personal strengths and weaknesses, and being open to personal growth and development.
- **Problem-solving and decision-making**: Outdoor adventure activities present participants with various challenges and obstacles that require problem-solving and decision-making skills. These skills involve analysing situations, generating alternative solutions, evaluating potential consequences, and making informed choices.

It is important to note that the specific skills emphasized in outdoor adventure education programs may vary based on the goals, objectives, and target population of the program.

***Emotional learning in outdoor adventure** education* involves developing skills related to understanding and managing emotions, fostering emotional intelligence, promoting personal growth and well-being, as well as emotional regulation through experiential activities in natural settings. This approach recognizes the importance of emotions in the learning process and emphasizes the integration of emotional skills alongside cognitive and physical skills. It is important to note that emotional learning in outdoor adventure education is a multifaceted topic, and the skills mentioned above can overlap or interconnect with other aspects of social and experiential learning. A general overview of the skills related to **emotional learning** in outdoor adventure education are the following setting (Jucker & von Au, 2022; Prouty, Panicucci & Collinson, 2007; Stremba & Bisson, 2009):

- **Emotional self-awareness**: Participants engage in self-reflection and self-discovery to develop an understanding of their own emotions, triggers, and behavioral patterns. They become aware of how their emotions influence their experiences, interactions, and decision-making in the outdoor adventure context.
- **Emotional regulation**: Outdoor adventure activities provide opportunities for participants to experience a range of emotions, including fear, excitement, frustration, and joy. Through these experiences, participants learn to recognize and manage their emotions effectively. They develop strategies to cope with stress, regulate anxiety, and maintain emotional balance in challenging situations.
- **Empathy and interpersonal skills**: Outdoor adventure education encourages participants to develop empathy, the ability to understand and share the feelings of others. By working closely with peers and engaging in cooperative activities, participants learn to consider and respond to the emotions and needs of others. This fosters stronger interpersonal connections, teamwork, and collaboration.
- **Social awareness**: Being aware of and responsive to the emotions and social dynamics within a group or team setting, including recognizing and understanding the emotions of others. Participants become aware of how their emotions influence their behavior and decision-making in the outdoor adventure context.
- **Emotional resilience**: Outdoor adventure activities often involve uncertainty, risk-taking, and stepping out of one's comfort zone. Participants develop emotional resilience by facing and overcoming

challenges. They learn to manage setbacks, adapt to changing circumstances, and maintain a positive mindset in the face of adversity.

- **Emotional expression and communication**: Outdoor adventure education provides a supportive environment for participants to express and communicate their emotions. This includes both verbal and nonverbal forms of communication. Participants learn to articulate their feelings, needs, and boundaries effectively, promoting open and authentic communication within the group.
- **Integration and transfer of emotional learning**: Participants are encouraged to apply the emotional skills they develop during outdoor adventure activities to their daily lives. This involves recognizing and regulating emotions in various contexts, such as school, work, and personal relationships. The goal is to foster emotional intelligence that extends beyond the outdoor adventure setting.
- **Self-reflection and self-growth**: Outdoor adventure education encourages participants to reflect on their emotions, experiences, and personal growth. Self-reflection promotes deeper understanding, self-discovery, the integration of emotional learning into daily life, and fosters personal growth and development.
- **Empathy**: Through interactions with others in the outdoor adventure setting, participants develop empathy, the ability to understand and share the feelings of others. This skill enhances teamwork, communication, and cooperation.

Emotional learning in outdoor adventure education is supported by the notion that emotions play a significant role in individual growth, interpersonal relationships, and overall wellbeing. The philosophy of OAE emphasizes hands-on learning, reflection, and the transfer of skills and knowledge gained in the outdoor environment to real-life situations. Teaching/learning process often incorporates elements of risk and challenge, which encourage learners to overcome obstacles, develop trust, and work collaboratively within a group. Games are a good resource too. They encourage curiosity, uncertainty and motivation (Caballero & Rodríguez, 2022).

3.2 Dimension of Methods

Several theories support the concepts of social and emotional learning in outdoor adventure education Hattie et al., 1997). A few prominent theories that are often applied in this context are the following:

- **Experiential learning theory (ELT):** Developed by David Kolb, ELT emphasizes learning through direct experience and reflection. It posits that individuals learn best when they actively engage in concrete experiences, reflect on those experiences, draw conclusions, and apply their learning to new situations. In outdoor adventure education, ELT provides a foundation for experiential activities and reflective practices that promote social and emotional learning.
- **Social learning theory (SLT):** Proposed by Albert Bandura, SLT highlights the importance of observation, modeling, and imitation in the learning process. According to this theory, individuals learn by observing the behaviors and outcomes of others and then replicating those behaviors. In the context of outdoor adventure education, SLT suggests that participants can acquire social and emotional skills by observing and emulating positive behaviors exhibited by instructors, guides, or peers.
- **Adventure education theory:** Adventure education theory encompasses various frameworks and models specifically tailored for outdoor adventure education. This theory emphasizes the use of challenging and experiential activities to promote personal and interpersonal growth, including social and emotional learning. The models within adventure education theory, such as Project Adventure's Experiential Learning Model or Kurt Hahn's Outward-Bound philosophy, often incorporate elements of experiential learning, group dynamics, reflection, and individual challenge.

These theories provide frameworks and concepts that inform the design and implementation of social and emotional learning in outdoor adventure education. By adequately applying these theories, educators can create intentional experiences, facilitate reflection and debriefing, foster positive role modeling, and promote the development of social and emotional skills within participants.

Experiential learning theory, developed by David Kolb (1984), is highly relevant and applicable to learning in outdoor adventure education. It provides a

framework for designing and facilitating meaningful experiences that promote active learning, critical reflection, and skill development. Here's how Experiential Learning Theory can support learning in outdoor adventure education:

- **Concrete experience:** Experiential Learning Theory recognizes the importance of direct, hands-on experiences as a foundation for learning. In outdoor adventure education, participants engage in real-life experiences such as rock climbing, hiking, or orienteering. These concrete experiences provide the basis for acquiring new skills, confronting challenges, and building knowledge.
- **Reflective observation:** After engaging in outdoor adventure activities, participants engage in reflective observation. This involves stepping back, observing their experiences from different perspectives, and reflecting on what happened. Facilitators guide participants in examining their thoughts, feelings, and reactions during the activities, fostering deeper understanding and insight.
- **Abstract conceptualization:** Experiential Learning Theory encourages participants to make sense of their experiences by abstract conceptualization. This involves drawing connections between their concrete experiences and existing knowledge, theories, or concepts. In outdoor adventure education, participants may analyze their experiences in light of concepts such as risk management, leadership, problem-solving, or teamwork.
- **Active experimentation:** After reflecting and conceptualizing, participants engage in active experimentation, applying their new understanding and insights to new situations. In outdoor adventure education, this can involve taking on new challenges, practicing newly acquired skills, or experimenting with alternative strategies. Through active experimentation, participants refine their skills, build confidence, and gain a deeper understanding of their capabilities.
- **Cyclical learning process:** Experiential Learning Theory views learning as a cyclical process rather than a linear one. It recognizes that learners continuously engage in concrete experiences, reflection, abstract conceptualization, and active experimentation. In outdoor adventure education, participants cycle through this learning process repeatedly as they engage in different adventure activities, reflect on their experiences, and apply their learning to new challenges.
- **Individual learning styles:** Experiential Learning Theory acknowledges that individuals have different learning styles and preferences. Some

individuals may have a preference for concrete experience and active experimentation, while others may lean towards reflective observation and abstract conceptualization. In outdoor adventure education, facilitators can provide a variety of learning opportunities and instructional methods to accommodate different learning styles and optimize learning outcomes.

Educators utilizing Experiential Learning Theory, design experiences to promote active learning, critical reflection, and skill development. This approach connects participants' experiences with reflection, conceptualization, and experimentation, fostering their learning and personal growth.

Albert Bandura's Social Learning Theory (Bandura, 1977) can support learning in outdoor adventure education by emphasizing the importance of observation, modeling, and social interaction in the learning process. Here's how Bandura's theory can be applied in the context of outdoor adventure education:

- **Modeling:** Social Learning Theory highlights the role of modeling, where individuals learn by observing and imitating others. In outdoor adventure education, facilitators and instructors can serve as positive role models by demonstrating desired behaviors, problem-solving strategies, and risk management techniques. By modeling effective skills and behaviors, they provide participants with examples to observe and emulate.
- **Observational learning:** According to Social Learning Theory, individuals can learn by observing the consequences of others' behaviors. In outdoor adventure education, participants can observe and learn from their peers' actions and experiences. By witnessing the outcomes of different approaches and strategies, they can make informed decisions and adjust their own behaviors accordingly.
- **Vicarious learning:** Bandura's theory suggests that individuals can learn through vicarious experiences, meaning they can learn from the successes and failures of others. In outdoor adventure education, participants can observe and learn from the experiences of their peers or instructors. By witnessing how others handle challenges, manage emotions, and navigate unfamiliar situations, participants can gain valuable insights and knowledge without having to directly experience every scenario themselves.
- **Social interaction:** Social Learning Theory emphasizes the importance of social interaction in the learning process. In outdoor adventure education, collaborative activities, group discussions, and cooperative

learning opportunities provide platforms for participants to engage with one another. These social interactions foster the exchange of ideas, perspectives, and feedback, enabling participants to learn from one another and enhance their own skills and knowledge.

- **Reinforcement:** Bandura's theory also recognizes the role of reinforcement in learning. In outdoor adventure education, positive reinforcement can be used to reward and encourage desired behaviors and achievements. This can include providing verbal praise, recognizing accomplishments, and creating a supportive and encouraging learning environment. Reinforcement helps reinforce the learning process and motivates participants to continue engaging in positive behaviors.

By incorporating Bandura's Social Learning Theory in outdoor adventure education, facilitators can create a rich learning environment that promotes observation, modeling, social interaction, and reinforcement. This approach enables participants to learn from one another, develop new skills, and enhance their understanding of effective strategies for outdoor adventure activities.

Adventure education theory, is a framework that supports learning in outdoor adventure education. It provides principles and strategies for designing and facilitating meaningful experiences that promote personal growth, skill development, and social interaction. By applying Adventure Education Theory, facilitators can create purposeful and impactful learning experiences in outdoor adventure education. This approach supports skill development, personal growth, and the integration of learning into participants' broader lives (Prouty et al., 2007; Stremba & Bisson, 2009). Adventure Education Theory can support learning in outdoor adventure education in the following ways:

- **Experiential learning:** Adventure Education Theory is rooted in the principles of experiential learning, emphasizing the importance of hands-on experiences and reflection. It recognizes that active engagement in adventure activities, such as rock climbing, backpacking, or kayaking, provides a powerful context for learning. By directly participating in challenging and novel experiences, individuals have opportunities to develop skills, gain knowledge, and make personal connections.
- **Outcomes-based approach:** Adventure Education Theory focuses on designing experiences with specific outcomes in mind. These outcomes can include personal development, teamwork, leadership skills, problem-solving abilities, and environmental awareness. By setting clear

learning goals, facilitators can structure activities and debriefing processes to guide participants toward achieving these outcomes.

- **Sequencing and progression:** Adventure Education Theory emphasizes a sequential and progressive approach to learning. Activities are carefully sequenced, starting with simpler tasks, and gradually increasing in complexity and challenge. This allows participants to build foundational skills, gain confidence, and develop a sense of competence. Sequencing and progression ensure that participants are appropriately challenged while maintaining a supportive learning environment.
- **Experiential processing:** Adventure Education Theory emphasizes the importance of reflection and processing experiences to deepen learning. Facilitators guide participants through debriefing sessions where they explore the emotions, thoughts, and lessons learned during the adventure activities. This reflective process helps individuals make meaning from their experiences, connect them to real-life situations, and apply their learning beyond the adventure context.
- **Group dynamics and teamwork:** Adventure Education Theory recognizes the significance of group dynamics and teamwork in outdoor adventure education. It promotes collaboration, communication, and mutual support among participants. Adventure activities often require teamwork and cooperation to accomplish goals, solve problems, and navigate challenges. Facilitators create opportunities for participants to develop effective interpersonal skills and cultivate positive group dynamics.
- **Transfer and generalization:** Adventure Education Theory emphasizes the transfer and generalization of learning to real-life situations. Participants are encouraged to apply the skills and knowledge gained in outdoor adventure settings to other aspects of their lives, such as school, work, or personal relationships. Facilitators provide guidance on how to transfer learning and support participants in recognizing the relevance and applicability of their experiences.
- **A facilitative teaching style.** In OE, the learner is the primary actor in the learning process and they should have choices about what and how they will learn. In this less directive approach to teaching learners make decisions for themselves and experience the consequences of their choices and actions (Sutherland & Legge, 2016). A facilitative teaching style must be flexible enough to work with the emergent learning opportunities that present themselves (Blenkinsop et al., 2016).

For effective learner-cantered teaching, understanding learners' interpersonal, intrapersonal development, and group dynamics within learning experiences is crucial (Neville et al., 2023). This knowledge guides the selection and sequencing of activities. However, it doesn't mean that all learners will engage in the same tasks. Educators use management expertise to customize learning, encourage inclusivity, and nurture learner agency, empowering individuals to make impactful choices in their lives (Martin, 2004).

3.4 Dimension of Management

Designing an experiential learning curriculum requires careful consideration of various factors to ensure effective learning outcomes. The 4CID (Four-Component Instructional Design; van Merriënboer, 2019) model is a valuable framework that can be incorporated into the curriculum to enhance the learning experience. The 4CID model aims to assist instructional designers in developing educational programs for teaching complex skills or professional competencies. It delineates educational programs as composed of four primary components: learning tasks, supportive information, procedural information, and part-task practice (*Figure 6*).

Figure 6. The 4CID – The Four-Component Instructional Design Model (van Merriënboer, 2019).

Some design principles for an experiential learning curriculum are stated below[11]:

- **Real-world context**: Integrate real-world scenarios and contexts relevant to the learners' experiences, interests, and future goals. This provides meaningful connections between theory and practice, enhancing motivation and engagement (Merrill, 2002).
- **Learning by doing**: Emphasize hands-on, active learning experiences that encourage learners to engage with the subject matter directly. Provide opportunities for problem-solving, critical thinking, and practical application (Kolb, 1984).
- **Authentic assessment**: Utilize authentic assessments that mirror real-life tasks and challenges. These assessments should focus on the application of knowledge rather than rote memorization, providing a more accurate measure of learners' abilities (Mueller, 2008).
- **Constructive alignment**: Ensure that learning activities, assessment methods, and learning outcomes align with each other and with the overall goals of the curriculum. This promotes coherence and consistency in the learning process (Biggs & Tang, 2007).
- **Active learning strategies:** Incorporate a variety of active learning strategies such as brain-storming, question-storming, group discussions, role-playing, simulations, case studies, and project-based learning. These strategies stimulate curiosity, collaboration, and deep understanding (Prince, 2004).
- **Reflection and feedback:** Include regular opportunities for learners to reflect on their experiences, learning progress, and challenges. Provide constructive feedback to help learners refine their understanding and skills (Boud, Keogh & Walker, 1985).
- **Inclusive design**: Consider the diverse needs, backgrounds, and learning styles of the learners when designing the curriculum. Ensure that the learning environment is inclusive and accessible to all participants (Rose & Meyer, 2002).
- **Continuous improvement**: Implement a feedback loop to continuously evaluate the curriculum's effectiveness and make necessary improvements. Encourage learners to provide feedback on their learning experiences as well (Dick & Carey, 1990).

11 For each of the areas, we also provide resources that can assist in more in-depth study.

By integrating these design principles, along with the emphasis on real-world tasks and experiences, learners can have a more engaging, relevant, and effective experiential learning journey.

Outdoor adventure education incorporates various pedagogical approaches that facilitate learning in natural and adventurous settings. Commonly used pedagogies and management styles to support outdoor adventure education are the following:

- **Place-based education:** Place-based education focuses on connecting learners with the local environment and community. It utilizes the natural and cultural resources of a specific place to provide meaningful learning experiences. In outdoor adventure education, place-based education encourages participants to develop a deeper understanding of the natural environment, cultural heritage, and ecological systems through activities in specific outdoor locations.
- **Adventure-based learning:** Adventure-based learning integrates adventure activities with educational goals. It emphasizes personal and group development, problem-solving, and skill acquisition through adventure experiences. Participants engage in challenging activities that require them to work together, communicate effectively, and develop critical thinking skills. It involves designing activities that require participants to collaborate, problem-solve, communicate effectively, and develop leadership skills while engaging in adventurous experiences.
- **Challenge education:** Challenge education involves presenting participants with intellectually, physically, or emotionally challenging tasks. These challenges are carefully designed to promote personal growth, self-efficacy, and problem-solving skills. In OAE, challenge education uses outdoor activities to create opportunities for participants to push their limits, overcome obstacles, and develop resilience.
- **Cooperative learning:** Cooperative learning promotes collaboration, teamwork, and positive interdependence among participants and is commonly used in OAE. It involves structured group work where individuals work together to achieve common goals. In OAE, cooperative learning encourages participants to work in teams, communicate effectively, and support each other in achieving shared objectives. Collaborative and cooperative learning foster teamwork, communication, and interpersonal skills.

- **Reflective practice:** Reflective practice involves structured reflection on experiences, thoughts, and emotions to enhance learning and personal growth. In OAE, reflective practice encourages participants to debrief and discuss their outdoor experiences, identify lessons learned, and connect those experiences to their own lives and the broader world. This involves structured discussions, journaling, and guided reflection on experiences, emotions, and lessons learned during outdoor adventures.
- **Transformational learning:** Transformational learning focuses on deep personal transformation and shifts in perspective. It involves challenging participants' existing beliefs, assumptions, and values, leading to new insights and personal growth. In outdoor adventure education, transformational learning aims to expand participants' understanding of themselves, others, and the natural world through adventurous and reflective experiences.
- **Challenge by Choice:** This approach respects individual autonomy and allows participants to choose the level of challenge they are comfortable with. It emphasizes personal decision-making and encourages participants to stretch their limits, take risks, and step outside their comfort zones while participating in outdoor adventure activities.
- **Problem-based learning:** This is a learner-cantered approach in which learners learn about a subject by working in groups to solve an open-ended problem. This problem is what drives the motivation and the learning.
- **Situated learning:** This approach involves learners in cooperative activities where they are challenged to use their critical thinking and kinesthetic abilities. These activities should be applicable to learners' homes, communities, and workplaces.
- **Outdoor Learning: I**n Outdoor Learning participants learn through what they do, through what they encounter and through what they discover. Participants learn about the outdoors, themselves and each other, while also learning outdoor skills.

The pedagogical approaches can be combined and adapted to suit specific learning goals, participant needs, and the unique context of OAE. Educators and facilitators often draw from multiple pedagogies to create rich and impactful learning experiences in natural and adventurous settings.

In conclusion, *Chapter 3* emphasizes the need to integrate flexible teaching approaches and cater to diverse learner needs. Strategies involve adjusting to various learning speeds, supporting learners, and challenging advanced learners to actively engage in the learning process. Continuity in the curriculum, aligning with previous and subsequent education levels, ensures smooth transitions between learning stages, fostering ongoing skill and knowledge development. Our progression in this chapter aligned with the four curriculum dimensions presented in *Section 1.2*. These dimensions collectively form a unified four-dimensional space. The curriculum dynamically evolves across the interconnected dimensions. This four-dimensional view of the curriculum resembles the concept of the tesseract[12], where all dimensions intersect in space and time, which needs to be constantly reflected upon (see *Figure 3.*).

12 See https://en.wikipedia.org/wiki/Four-dimensional_space

4. IMPLEMENTATION

> "Tell me, and I will forget. Show me, and I may remember.
> Involve me, and I will understand."
> ***– Confucius***

Research consistently shows OAEs are effective in supporting diverse forms of social-emotional learning, including competencies for ***independence*** **and** ***self-understanding,*** **i*nterpersonal skills, perseverance, leadership, self-confidence, and responsible decision-making.*** The learning models for these programs emphasize challenges, especially physical challenges, as a central driver of learning and engage in new activities out of normal comfort zone. The programs take participants to unfamiliar wilderness environments and engage them in novel and demanding activities including backpacking, canoeing, and rock climbing etc., as outlined in the *Section 3.2*. The interpersonal challenges participants face in working together are also recognized as opportunities for social-emotional learning (Orson et al., 2020).

4.1 Pedagogy and Educational Process

AOE is a goal-oriented process, where chosen technical methods and pedagogical strategies are tools for achieving goals. Neville et al. (2023) developed three themes model for outdoor education. The three interrelated components (the environment, the learner and the educator) require consideration to gain maximum benefit from outdoor (adventure) learning experiences. The model supports educator to plan and facilitate immersive outdoor experiences that promote learning.

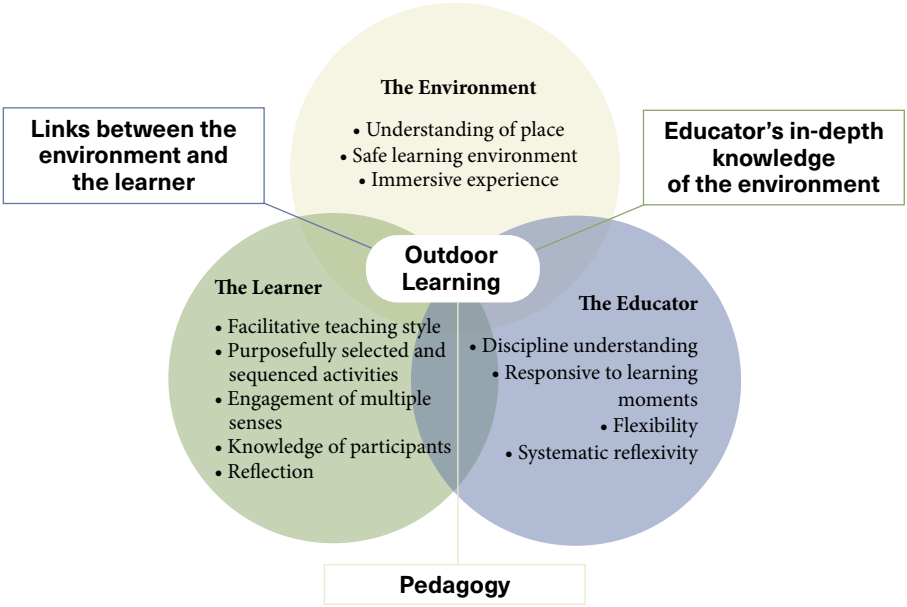

Figure 7. Pedagogical practices that support outdoor learning experiences (Neville et al. 2023).

4.2 Environment

Neville et al. (2023) suggest that educators committed to integrating the outdoors into their practice are encouraged to consider the 'four zones of outdoor learning' identified by Beames et al. (2012). This approach considers areas in, around and beyond the school, and Neville et al. (2023) recommend educators design initial experiences in environments that they know and are easily accessible (e.g., school grounds and local neighbourhoods, respectively and progressively work towards the inclusion of more distant locations that can provide increasingly demanding experiences (e.g., day excursions and field trips requiring group transport; and finally residential outdoor education centres and overnight expeditions (cf. Beames et al., 2012; McKenzie, 2000).

Selecting suitable, authentic natural settings offers the best opportunities for OAE but respective activities can also be conducted in urban environments. The literature about outdoor (adventure) learning (see Section 1.1) environments

suggests that there are many options and intentional activities educators can explore to offer an immersive experience outside the traditional classroom setting (Hindmarsh & Hunt, 2020). Identifying appropriate contexts and locations that can support OAE is crucial for achieving success (cf. Neville et al., 2023).

The concept of "place" and place-based pedagogy has gained significant attention in the outdoor (adventure) education literature (see Section 1.1). Acknowledging the environment or place as both a co-educator and a source of curriculum is crucial for optimizing learning. Being familiar with the context and location of OAE enables educators to identify and maximize educational opportunities as they arise (cf. Blenkinsop et al., 2016).

Therefore, when planning and implementing OAE experiences, it's essential to recognize that certain environments are better suited for fostering wonder, reflection, quietness, or releasing energy. Having knowledge, awareness, and sensitivity to different places allows educators to choose an environment that facilitates an immersive and safe learning experience, aligned with the desired learning or curriculum outcomes (cf. Neville et. al., 2023)

4.3 Learner

The trend clearly shows that children and adolescents are spending less time outdoors and more time engaged in sedentary screen time, utilizing an increasingly diverse range of technology-related devices. Consequently, some young individuals perceive the outdoors as distant, enigmatic, and intimidating (Larkin, 2011). The school setting offers an excellent opportunity to introduce children and adolescents to the natural environment through thoughtfully designed learning experiences, which enable them to recognize the interrelationships between their education, environment, home life, and future (Dyment, 2005).

As outlined in *Section 3.3*, the learner is the primary actor in the learning process, and they should have choices about what and how they will learn. In this less directive approach to teaching learners make decisions for themselves and experience the consequences of their choices and actions (Sutherland & Legge, 2016). Effective outdoor educators need to understand the developmental characteristics of learners to best tailor programs to capitalize upon their capabilities. To the extent that learning is a primary objective of outdoor education programs, understanding the learners' intellectual processes,

specifically, can enhance the effectiveness in achieving this goal (Collins et al., 2012). Incorporating outdoor learning (as stated by Neville et al., 2023) offers educators a chance to: enhance learners' comprehension of the environment and sustainable development topics; make curricula more engaging, as learners can interact with and experience the materials they are learning about through touch, smell, sight, sound, and even taste; and promote physical activity, leading to health and well-being.

4.4 Educator/Facilitator

While there are no standardized or universally defined competences for an outdoor adventure educator focusing on socio-emotional learning, there are several key areas of knowledge and skills that can be beneficial (cf. McKenzie, 2000; Priest & Gass, 2005; Glanz, 2002; Graham, 2002). Some specific competences to consider, along with references that can provide further insights and guidance are named below:

- Understanding of socio-emotional learning (SEL) frameworks: Familiarize yourself with established SEL frameworks such as the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework. This will provide a foundation for understanding the core competencies and skills associated with SEL (e.g., CASEL, 2023)
- Knowledge of developmental psychology and human behaviour: Gain an understanding of developmental stages, human behaviour, and the factors that influence socio-emotional development. This knowledge will help you tailor your activities and interventions to meet the needs of participants at different age levels (e.g., Berk, 2017).
- Facilitation and experiential learning techniques: Acquire facilitation skills that promote active engagement, reflection, and experiential learning. Explore methodologies such as debriefing techniques, challenge-by-choice, and guided reflection to enhance participants' social-emotional growth through outdoor adventure experiences. (e.g., Priest & Gass, 2018).
- Communication and active listening: Develop strong communication skills to foster effective dialogue, active listening, and empathy with participants. Effective communication enhances your ability to create a

supportive and inclusive environment that promotes social-emotional learning (e.g., Pearce, 2004).

- Group dynamics and team building: Understand the dynamics of group interactions and how to facilitate team building activities that foster positive relationships, cooperation, and collaboration. This competence is crucial for creating a supportive and cohesive group environment that supports social-emotional learning (e.g., Forsyth, 2018).
- Emotional intelligence and self-reflection: Develop your own emotional intelligence and self-awareness. Cultivate skills in recognizing and managing your own emotions, as well as understanding and empathizing with others. Self-reflection practices can deepen your own growth and model the importance of reflection for participants (e.g., Goleman, 1995).
- Trauma-informed practices: Familiarize yourself with trauma-informed practices to create a safe and supportive environment for participants who may have experienced trauma. Understand how trauma can impact socio-emotional development and learn strategies for promoting resilience and healing (e.g., SAMHSA, 2014).

Neville et al. (2023) explain links between the environment and the learner; educators´ in-depth knowledge of the environment and pedagogy.

- **Links between the environment and the learner** represent the overlap of the environment and the learner. For rich learning experiences that extend learners exposure and connection to place/s and produce cognitive, behavioural, and attitudinal changes, purposeful selection of the environment and scaffolded learning activities are required. Adoption of these strategies and practices enables the learner's individual and collective agency, permits learner input into differentiation of learning tasks to promote inclusion, and encourages learners to make authentic decisions. Thus, maximising the likelihood that learners will experience an authentic and powerful learning experience.
- According to Neville et al. (2023), **educator's in-depth knowledge of the environment** embodies the overlay of the environment and the educator. As identified by Itin (1999), one of the educator's primary roles encompasses the selection of the environment and suitable experiences to enable learners to be engaged emotionally, intellectually, socially, spiritually, physically, and politically. In addition, educators are responsible for posing problems, developing safe learning environments, facilitating the learning process (through interaction between leaners, learner and

educator, and learner and the environment), guiding reflection, and providing the necessary information to support learning (Itin, 1999).

- Finally, Neville et al. (2023) conclude that **pedagogy** represents the bond between the learner and the educator, encompassing three acknowledged and interconnected components of effective pedagogy. These components entail innovative curriculum design and implementation to engage learners in their learning, the selection of instructional strategies that foster skill development and conceptual understanding within the context, and the utilization of management techniques to establish and sustain supportive learning communities (Marzano, 2007; Thomas, 2015; see *Section 3.4*).

Numerous learning cycles or models inform OAE, but Kolb's experiential learning cycle stands out as the most widely used (Priest & Gass, 2005, cf. *Section 3.3*). This cycle involves an individual engaging in a concrete experience, then observing and reflecting upon it, leading to the formation of abstract concepts that can be applied to new situations beyond the initial experience. Therefore, Kolb's cycle can be used as a pedagogical tool to organise/facilitate OAE/SEL[13].

Kolb's (1984) four-step learning process consists of concrete learning, reflective observation, abstract conceptualization, and active experimentation.

- **Concrete experience** – the learner encounters a concrete experience. This might be a new experience or situation, or a reinterpretation of existing experience in the light of new concepts.
- **Reflective observation of the new experience** – the learner reflects

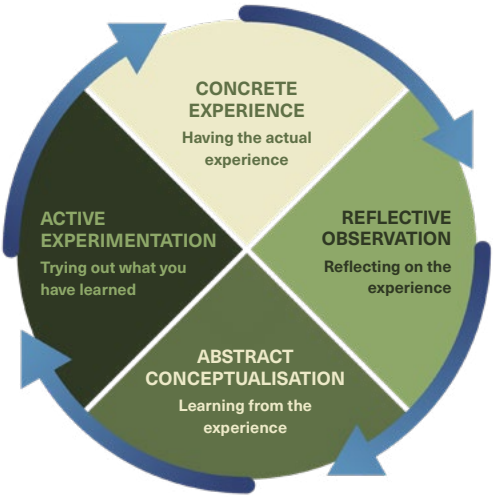

Figure 8. Kolb's (1984) four-step learning process.

13 It's important to note that Kolb´s model should not be viewed as practical or practice-oriented guideline in every context. Critics argue that the theory's rigid learning stages do not accurately reflect the intricate nature of how individuals truly learn. Learning is multifaceted and does not neatly fit into predefined stages.

on the new experience in the light of their existing knowledge. Of particular importance are any inconsistencies between experience and understanding.

- **Abstract conceptualization** – reflection gives rise to a new idea, or a modification of an existing abstract concept (the person has learned from their experience).
- **Active experimentation** – the newly created or modified concepts give rise to experimentation. The learner applies their idea(s) to the world around them to see what happens.

Implementation needs in relation to four non-negotiable aspects of a model for OAE, key assumptions about teaching and learning behaviours and important assessment and validation concerns are considered by Williams and Wainwright (2016; *Figure 9.*).

As the figure shows, key concerns arising from the implementation of these non-negotiable features are considered by Williams and Wainwright (2016; see also Sibthorp & Jostad 2014).

They include encouraging pupils to take more responsibility for their own learning, developing closer links between school OAE and local opportunities, supporting educators in making judgements about learners managing their own risk, developing educators' expertise in reviewing and developing assessment tools that measure learners' affective learning.[14]

14 Creation of the follow-up curriculum texts and innovative materials (see. Section 1.2) builds upon the provided curriculum framework, enabling the implementation and assessment of results and processes focused on OAE/SEL (see Chapter 6).

	NON NEGOTIABLE FEATURES OF OUTDOOR AND ADVENTURE EDUCATION MODEL:	TEACHER EXPERTISE	PUPIL READINESS FOR LEARNING	ASSESSMENT	VALIDATION
PHYSICAL EDUCATION AT KEY STAGES 2, 3, 4	• Mainly Outdoors. • Experiential Learning Approach • Challenge by Choice • Managed Risk	• ***Pedagogic Content Knowledge***: Use of full range of teaching approaches with particular emphasis on pupil-centered approaches Reviewing techniques to support transfer of learning. • Content Knowledge (for Non-Specialist Primary teachers): Basic understanding of skills, techniques and knowledge related to OAE experiences in school eg Outdoor Learning Cards and overnight camps in the school grounds. For specialist PE teachers in Secondary school): National Governing Body Certification, Duke of Edinburgh Award, Certificate of Off-Site Safety Management, Basic First Aid, Local Authority Residential Outdoor Centre	• Pupils' awareness of learning approach. • Pupils' co-construction of knowledge. • Pupils' awareness of main learning outcome. • Differentiated tasks.	• Assessment tools are appropriate and tested. • Prioritises affective learning outcomes. • Acknowledges contribution to psychomotor and cognitive learning. • Supports lifelong physical literary transfer. • Addresses National Curriculum requirements.	• Based on research findings. • Informed by 'best practice' Craft Knowledge of teacher and peers. • Informed by professional judgment of teacher as Intuitive Knowledge.

PERSONAL GROWTH THROUGH ADVENTURE

Figure 9. Outdoor adventure education model (Williams & Wainwright, 2016).

5. RESULTS ASSESSMENT AND REFLECTION

"We do not learn from experience.
We learn from reflecting on experience."
– John Dewey

The OAE/SEL programs should be organised/facilitated by trained instructors and educators who provide guidance, support, and opportunities for reflection and debriefing. Thus, one important aspect of pedagogical content knowledge that may require additional professional development beyond normal teacher training experiences is the specific knowledge of a range of pupil-centred formative assessment and reviewing techniques to underpin pupil learning and maximise learning transfer (cf. Williams & Wainwright, 2016).

Outdoor educators aim to enhance teaching and learning through hands-on experiences; however, for such encounters to carry meaning and practical relevance, instructors must guide learners in learning through meticulously structured and guided reflection sessions. One of the key theories underlying OAE, which is often described as a four-stage cycle (see *Section 4*), in which participants do an activity, reflect on the activity, relate the activity to more abstract concepts, and revise their actions as they prepare to do the activity again (Meerts-Brandsma et al,. 2020). Also, the OAE pedagogical model by Williams and Wainwright (2016, see figure 8) advocates for the need to support pupil learning through positive reviewing with opportunities for pupils to think independently and construct their own meaning from experience and that teacher professionalism should determine precisely when, where and how that should happen (Williams & Wainwright, 2016).

An instructional activity holds educational value only when learners grasp its significance and can apply their comprehension in subsequent situations. OAE/SEL educators are expected to both **provide and receive feedback** that is specific, relevant, and timely (Richardson et al., 2014).

Similarly, within this OAE/SEL curriculum framework, **feedback is deemed a vital element; it serves as the pathway for the exchange of ideas, perspectives, and recommendations.** In Chapter 3.1, we pointed out that

the designed curriculum is closely linked to the resultant curriculum. It is a major challenge to constructively align the curriculum design with the teaching-learning process and assessment. The OAE/SEL educators need to keep in mind the statement by Brandl-Bredenbeck and Sygusch (2017; *Section 1.2*) that we should teach what we want to assess, and we should assess what we are expected to teach (the expected outcomes) in the designed curriculum. The aim of OAE/SEL is to provide all learners with a set of social-emotional learning (soft/meta) skills and competencies, preparing them for their future education and societal roles. The SEL skills and competencies consist of a comprehensive set of knowledge, skills, abilities, attitudes, and values essential for an individual's personal development and societal engagement. **The skills and competences related to SEL, which can be developed through OAE, have been specifically defined in *Section 3.1* and *3.2*. Both summative and formative assessment of the OAE/SEL outcomes should precisely target these expected outcomes.**

Denham (2016, see also Durlak, et al., 2015) describes several behaviour ratings scales that fulfil many of the criteria important for effective SEL screening, progress monitoring and **summative assessment**.

Educators who use **formative assessment** do not compare learners to each other and do not assess normatively. They focus on the achievement of learning goals for each of the learner. It allows each of them to experience satisfaction from work done and gain the appropriate confidence in their abilities and supports the development of learning competence (Green et al., 2022).

Formative assessment is based on:

- emphasis on communication between pupil and educator and learners with each other
- regular and frequent evaluation of learner work (providing feedback – information about what has been achieved, what needs to be focused on in the future and how specifically to proceed)
- setting learning goals and monitoring the progress of each learner on the way to these goals.

Learning can build on what the learner already knows when the educator gives more evidence about the learners' previous learning and experience, and an understanding of where the learner is currently in relation to where they need to go. In the long term, formative assessment can help learners develop skills and competences which OAE/SEL targets on, such as self-reflection, critical thinking and the capacity for self-directed learning (cf. Green et al., 2022).

Effective formative assessment processes involve partnering with learners to incorporate the following five practices into cycles of responsive teaching and learning (Beard, 2023).

- **Clarifying learning goals and success criteria within a broader progression of learning.** Learners should have context for what they're learning: why they're learning it, how it connects to previous lessons and their own interests, and what success looks like. Having goal clarity, purpose, and a path promotes learner motivation and agency.
- **Eliciting and analysing evidence of learner thinking.** Whether it's capturing ideas on a whiteboard, responding to an online survey, or giving a thumbs-up or down in response to a check for understanding, an effective process centres on knowing learning goals, then gathering, interpreting, and responding to learning-goal evidence.
- **Engaging in self-assessment and peer feedback.** This type of assessment is more than providing feedback from teacher to learner. As explained by Beard (2021) having learners reflect on their progress helps them become active participants in their learning. The process should also involve learners collaborating with each other, asking questions, making observations, celebrating successes, and suggesting improvements in ways that support them in attaining challenging learning goals.
- **Using actionable feedback.** Once learning evidence is collected, teachers work with learners to ensure that they have both the time and processes to apply feedback in ways that move learning forward.
- **Responding by adjusting learning strategies or next instructional steps.** This practice is the "why" of formative assessment. To make the process effective, we must collaborate with learners to use evidence and insights to propel learners toward shared and personal short- and long-term goals.

Educators use a variety of assessment strategies and activities[15] to elicit information about learner learning. These strategies should be triangulated to

15 Examples of Tools for Formative Assessment and Reflection:
Lambert (2012): https://www.utwente.nl/en/examination/faq-testing-assessment/60formativeassessment.pdf; Tools for Formative Assessment: https://www.utwente.nl/en/examination/faq-testing-assessment/60formativeassessment.pdf; 7 Smart, Fast Ways to Do Formative Assessment: https://www.edutopia.org/article/7-smart-fast-ways-do-formative-assessment/; Formative Assessment Strategies: A teacher's guide: https://www.structural-learning.com/post/formative-assessment-strategies-a-teachers-guide; Love every challenge (2023) https://www.salto-youth.net/downloads/toolbox_tool_download-file-1484/Outdoor%20Adventure%20Education_Tool%20Kit_2016.pdf

include learner-teacher conversations, and, observation of processes and products (cf. *Section 1.2*) as shown in the *Figure 10*.

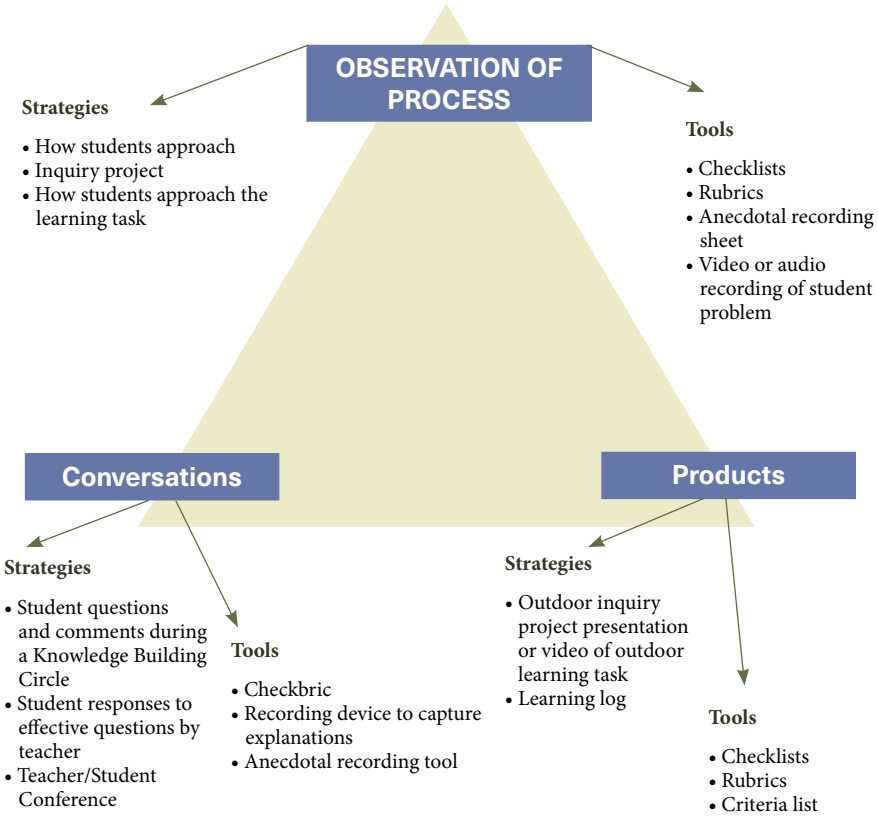

Figure 10. Triangulation of Data – Learning Evidence for Assessment of Learning (STAO, 2023).

Pearson and Smith (1988) focused on the process of reflecting (or debriefing) on experiences. The authors provide **six factors that contribute to its effectiveness:**

1. committing to its importance and central role in experience-based learning;
2. deliberately planning for an adequate opportunity to reflect;
3. realizing that a high level of facilitating skill is needed;
4. establishing clear intentions, objectives, and purposes for all activities;

5. identifying ways of knowing and types of knowledge that the experience represents and establishing appropriate structures and relationships in which the process will take place; and
6. establishing an environment based upon trust, acceptance, risk-taking, and mutual respect of individuals' feelings, perceptions, and theories.

Incorporating the reflective assessment and contemplation of the learner's connection with oneself, peers, and the environment is an established element of the learning journey in outdoor education. As noted by Neville et al. (2023), it's a defining feature that reflective assessment occurs at the conclusion of an experience, enabling participants to derive significance from their encounters and extend their newfound knowledge to various facets of their lives. Several reflective models can be found in the literature.

Reflective model according to Rolfe et al. (2001; cf. Driscoll, 2007) is based on three questions:

What? – This element of the process is concerned with describing the event or occurrence being reflected upon and defining one's self-awareness in relation to it.

So what? – This aspect of the Rolfe model analyses the situation being reflected upon and begins to make evaluations of the circumstances being addressed.

Now what? – This is the element of Rolfe's model which is concerned with synthesising information and insight, as we move from the previous elements to think in more detail about what to do differently in the future (or perhaps, if it is more appropriate to maintain the previous course of action) and so be prepared for what might be done if similar situations present themselves again.

Figure 11. The reflective model according to Rolfe et al. (2001).

The reflective model according to Gibbs (1988) is more complex, yet commonly used. This model is based on several stages, during which are the learners required to answer several questions to go as deep as possible with their reflections. The idea of this model is to systematise reflections and isolate feelings. The different stages usually help to slow down the thought processes preventing us from reaching conclusions too hastily. Gibbs suggests the following stages:

Figure 12. The reflective model according to Gibbs (1988).

Description: This element requires a factual description of the incident. At this stage, no conclusion is drawn, the focus is on the information; that too which is relevant. Some prompt questions are: What happened? How did it happen? Where? When? Who else was there? Did someone react? How did they react? Why were you there? What did you do? What happened at the end? This builds up the background and a better understanding of the incident.

Feelings: Here any emotion felt during the incident is discussed. Questions like, what did you feel before the incident? During it? After it was all over? What do you think other people felt? What do you feel about the incident now? What do you think others feel about it now? helps answer this part accurately. For writers, it's cautioned to not make this part wordy and chatty.

Evaluation: Objectively evaluate the situation. What went well? What did not? What were the negatives and the positives of the situation? How did you

and the others contribute to it (positively or negatively)? For writers, this is a good part to add in theories and references as they evaluate and judge the incident.

Analysis: Think about what might have hindered or helped the situation. This part can be improved by reference to a literary article (for writers) or a previous experience if needed. Link the theory and experience together.

Conclusions: Consider what did you learn from the situation. What else could you have done in that situation? What skills will help you cope with it better next time? How differently would you react if you face a similar situation again? If the outcomes were negative, how would you avoid that? If the outcomes were positive, how could you improve it for yourself and everyone else?

Personal action plan: This area deals with the plan of how to effectively handle and improve the situation next time. Any training, skill, or habit that can equip you with handling the situation better if it occurs again? Is there something more to be learned for a better outcome?

Reflective cycles and strategies (see also Korthagen & Nuijten, 2022) **help learners think clearly and systematically about learning experiences**. Reflecting on a learning experience helps improve performance while it's happening. It also helps the learners do better in the future. Accordingly, to maximise authentic opportunities for learning and growth, consideration should be given to how **learner-led reflective processes can be structured and facilitated throughout a learning experience**. A combination of traditional approaches (e.g., collaborative discussions with educators, solo experiences, personal reflections or group ponderings, (Blenkinsop et al., 2016) and more innovative methods (e.g., storytelling, artwork, poetry, journaling and creative writing, (Thomas, 2015) may provide one strategy.

Neville et al. (2023) conclude that combination of these reflective practices is likely to provide an appropriate foundation to support learners in **constructing meaning from their experiences, developing sensitivity to the natural environment around them, and transferring new skills, values, knowledge and understanding to other areas of their lives.**

6. SUMMARY AND FOLLOW-UP RESOURCES

The key objective of the project **Outdoor Adventure Education through Physical Education - OutAdvEd** is to encourage discourse around the provision of guidance, recognition and validation of teaching competences across the teaching continuum, starting with the continuum of physical education. OutAdvEd addresses the existing need for validating coherent material and educational policies, at the European level, which helps teachers and educators seize the opportunities for high quality education mindful of tackling teaching challenges head-on.

This *Outdoor adventure education curriculum framework for youth social and emotional learning* contributes to the OutAdvEd objectives by establishing guidelines enhancing the skills, knowledge, and understanding of educators to design evidence-based OAE programs with an emphasis on SEL.

As stated above, the project OutAdvEd attempts to connect OAE and TED (initial, induction and continuous professional development), with a special focus on the promotion of youth SEL within physical education. To boost the confidence and capabilities of pre-service teachers and educators in implementing outdoor (adventure) education, TED and training programs should contemplate incorporating corresponding pedagogies and experiences that demonstrate how to integrate OAE/SEL throughout the curriculum. This approach would aid pre-service teachers and educators in cultivating the intellectual and technical skills necessary for a successful implementation of OAE/SEL. In adopting or implementing learning opportunities, educators require profound pedagogical content knowledge (Neville et al., 2023; Hofmann & Svobodová 2021), which is the integration of pedagogical knowledge and subject matter knowledge (Dyment et al., 2018). In the frame of OutAdvEd project, creation of additional ready-to-use curriculum materials supporting the pedagogical content knowledge have been developed. Please refer to the immediate follow-up resource, **the WP 2/R 2 – Outdoor Adventure Education Curriculum Model: Template for Youth Social and Emotional Learning** (Vlček, Hřebíčková, & Skotáková et al. 2025).

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8. FIGURES

9. TABLES

10. APPENDIX

Table 2. Empirical and theoretical resources

Empirical and theoretical resources				
Authors	**Tittle**	**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

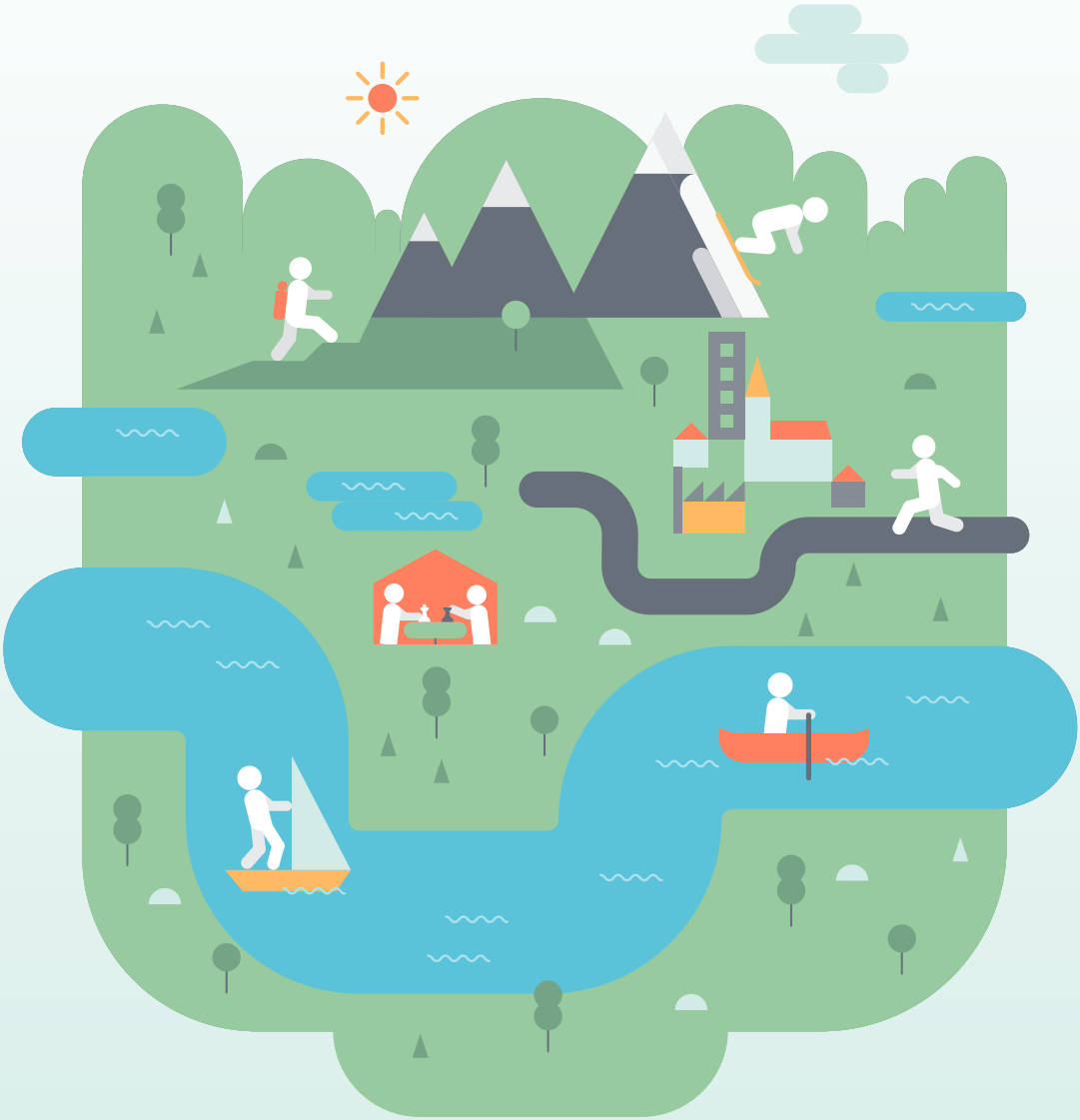
Empirical and theoretical resources				
Authors	**Tittle**	**Resource type/ Methods**	**Results**	**DOI/URL/ISBN**
Jirásek, I., & Turcová, I. (2017)	The Czech approach to outdoor adventure and experiential education: the influence of Jaroslav Foglar´s work	Introducing Foglar, his personality and work 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	Outdoor Adventure Education 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

Table 3. Systematic reviews.

Systematic reviews			
Authors/Country	**Tittle**	**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 outdoor adventure education: 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



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Outdoor Adventure Education Curriculum Framework for Youth Social and Emotional Learning

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The objective of this text is to contribute to the project aims by developing the *Outdoor Adventure Education Curriculum Framework for Youth Social and Emotional Learning* that will summarise and highlight research and applied findings regarding OAE and SEL curricula and programmes. These guidelines will enable teachers and teacher educators to design evidence based OAE programmes with an emphasis on SEL.

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