A critical look at Adventure Education programs

Una mirada crítica a los programas de Educación de Aventura

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Summary

Programs based on Adventure Education models are increasingly applied in schools, thanks, among other reasons, to the inclusion of physical activity in the natural environment as a compulsory part of current educational legislation. Scientific literature has demonstrated over the years the wide-ranging benefits that these educational models offer students in terms of personal aspects, social aspects, health and the habit of staying active, among others. For a better application of this model, it is necessary to identify the different existing programs that use *"adventure"* as a means to educate and, through this, select the most appropriate model for the target group, available space and opportunities. For all these reasons, the aim of the present study was to analyze and compare the characteristics of the best known and most widely used Adventure Education models on the international scene, highlighting those most widely used in Spain. For the elaboration of this work, the models addressed were: outdoor adventure education, adventure learning, experiential learning, challenge rope courses, adventure pedagogy and adventure education. Following analysis of each of these educational models, it is concluded that for correct educational application knowledge is required about the way in which each typology should be applied, as well as the differential benefits they produce.

Keywords: Outdoor adventure education, adventure learning, experiential learning, challenge rope courses, adventure pedagogy and adventure education.

Resumen

Los programas basados en modelos de Educación de Aventura son cada vez más aplicados en los centros educativos, gracias entre otras razones, a la inclusión de la actividad física en el medio natural como parte obligatoria en la actual legislación educativa. La literatura científica ha demostrado a lo largo de los años los amplios beneficios que estos modelos educativos ofrecen a los estudiantes a nivel personal, social, en la salud y en el hábito por mantenerse activos, entre otros. Para una mejor aplicación de este modelo, es necesario conocer los diversos programas que existen y que usan *"la aventura"* como medio para educar y así seleccionar el más apropiado para el grupo con el que se trabaja, el espacio del que se dispone y las posibilidades que ofrece. Por todo ello, el objetivo del presente estudio ha sido analizar y comparar las características de los modelos de Educación de Aventura más conocidos y trabajados en el panorama internacional, destacando aquellos más empleados en España. Para la elaboración de este trabajo, los modelos abordados han sido: outdoor adventure education, adventure learning, experiential learning, challenge rope courses, pedagogía de aventura y el adventure education. Tras un análisis de cada uno de estos modelos educativos, se concluye la importancia y necesidad de conocer cómo aplicar cada tipología, así como los beneficios que producen de forma diferenciada, para una correcta aplicación educativa.

Palabras clave: Outdoor adventure education, adventure learning, experiential learning, challenge rope courses, pedagogía de aventura y adventure education.

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Introduction

Today's society is struggling to cope with unhealthy living conditions immersed in a world of new technologies, stress and urban chaos, where scientific evidence shows that children in 21st century society are spending more and more of their free time engaged in indoor activities related to TV, social media, the internet and so on. In contrast, literature shows that young people are spending less and less of their leisure time playing outdoors, exploring, discovering and engaging with the natural environment (Frost et al., 2004; Ginsberg, 2007; Kevin et al., 2018). This increasingly everyday situation seems to mean that contact with the natural environment is increasingly being forgotten among today's young people (Prieto et al., 2020; Zulaika et al., 2020). Empirical literature shows that physical activity in the natural environment (PA-NMA) is a very important training resource thanks to the benefits it provides in physical, psychological, sociological and training aspects (Peñarrubia et al., 2016).

The physical activity in the natural environment has grown in interest in recent years to become one of the main topics of interest in the subject of Physical Education (PE) (González-Rivas, 2021; Marinho, 2017). Baena Extremera (2011) and Caballero (2012) highlight the environment in which activity is engaged in as a particular characteristic, with this typically being an unfamiliar natural environment. Furthermore, the space in which this activity is engaged in must be unfamiliar to participants and offer a real or apparent risk, a new and unknown physical challenge, whose practice is separated from the routine of everyday life. Further, there must be unique rules to follow and certain aesthetic and emotional qualities must be present (Lekies et al., 2015). However, the teacher must be careful not to use this space as a simple vehicle of sensations, but must take advantage of its educational potential and the personal and group benefits offered by this type of activity (Prieto et al., 2020).

Due to the diverse ways of working on these contents or basic knowledge of the curriculum, it is necessary to understand that perhaps the usual way of teaching that we are using in our classes is not the best way to get the most out of them. In this sense, in recent years pedagogical models are being applied that transform PE sessions into a reality for the success of individuals (Pérez et al., 2021), among which Adventure Education (AE) is a scientifically and pedagogically recognized educational model. It is widely accepted and increasingly followed at a social and educational level, promoting multiple benefits for students (Baena-Extremera et al., 2021; Baena- Extremera et al., 2012; Hortigüela et al., 2018).

EA programs are not new to education, but date back to the 1940s. The forerunner of these models was Kurt Hahn, who was asked by Lawrence Holt during World War II to investigate the reasons why, when British merchantmen were sunk in icy waters by German U-boats, younger and supposedly fitter men died at a higher rate than older men. After his analyses, Hahn concluded that the reasons for this were due to a lack of self-confidence. He resultantly set up a program of progressively tougher challenges in Aberdovy, Wales, to help new recruits develop both the inner strength and confidence to survive the tough physical challenges of the army (Outward Bound, 2006).

This program was an immediate success. It eventually acquired the name *Outward Bound*, after Holt's name, referring to the moment when a ship leaves port and heads out to sea. The standards and practices of this program became the benchmark for the development of most subsequent experiential and adventure education models (Flurie, 2006).

Due to its success, the *Outward Bound* program spread to different places, reaching countries such as Australia and the USA (Priest & Gass, 1997). In 1965, it became evident that there was a need for well-trained outdoor instructors to lead these projects and the first *National Outdoor Leadership School* (NOLS) was created in Colorado (Backert, 1990). Subsequently, in 1971, Adventure Programs (APs) related to the *Outward Bound* program were created. APs were initially integrated into the EF program, with the intention of working on team building and problem solving as part of student development (Prouty, 1990). In later years, these outdoor activities were joined by other activities such as mountaineering or canoeing, along with a refinement of the objectives that sought greater personal growth and self-discovery (Freeman, 2011). Today, *Outward Bound* and similar programs have become very popular and are linked to the acquisition of social, recreational, educational, therapeutic and other goals (Mutz & Müller, 2011; Mutz & Müller, 2016). The objectives proposed in AD programs, together with the shortcomings of today's society of consumerism, technology and individualism, ego, stress, etc., give enable AD-based activities to come back to the forefront (Prieto et al., 2020).

Basically, the aim of EA programs is to attend to individuals and their integral development. To this end, these educational models emphasize the combination of students, adventure activities and the natural environment, which is important for improving self-esteem, cooperation, relationships with and care for the natural environment, and self-confidence (Gehris et al., 2011; Merino & Lizandra, 2022).

Although these programs have been given different names, they have such similar characteristics that it is sometimes difficult to differentiate one program from another (Gibbons et al., 2018; González-Melero & Baena-Extremera, 2022; Merino & Lizandra, 2022). With "adventure" being the main theme of these educational models, they offer a great variety of methodologies that can form a part of EA programs. With regards to their shared characteristics, Baena-Extremera (2011) and Prieto et al. (2020) outline five fundamental principles found in these models:

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1. Experience: adventure activities provide direct experiences that allow students to learn through practice and reflection.

2. Challenge: adventure activities are challenging and require students to step out of their comfort zone, which encourages learning and personal development.

3. Cooperation: adventure activities encourage teamwork, effective communication and cooperation between students.

4. Nature: adventure activities take place in natural and challenging environments, which encourages a connection with nature and care for the environment.

5. Duration: programs take place in several sessions spread over a minimum of 2 to 4 weeks.

Thus, the use of AE models to promote AFMN has been the subject of a variety of research around the world, leading to numerous educational and leisure interventions. The empirical literature around AE models is based on two central themes: the school environment and health.

On the one hand, benefits in the school environment have been analyzed from the perspective of both teachers and students. With regards to students, aspects such as psychosocial traits (responsibility, respect, honesty, independence, interpersonal relationships) have been evaluated. For instance, a publication by Mindrescu and Manea-Tonis (2022) highlights the way in which outdoor education enrichen personality traits such as initiative, perseverance, enthusiasm, tenacity and organizational skills. Kevin et al. (2018) found that after a five-day intervention for five hours a day at a day camp, children were much more active outdoors compared to in the traditional school environment. Other factors that have been evaluated are satisfaction, motivation, self-concept and self-efficacy. Indeed, studies such as those conducted by Hortigüela et al. (2018) y Revelo-Arévalo et al. (2023) found significant improvements in all examined aspects following an AD program. Likewise, in recent years, the impact of such programs on the personal, social and academic development of students has been studied, as well as their effectiveness in improving socioemotional skills, self-concept and self-esteem (Bølling et al., 2021; Breunig et al., 2014; Iversen, 2021). Benefits for PE teachers carrying out AE in PE sessions have also been studied. Ray and Jakubec (2018) conducted a review of the motivational factors and deterrents for teachers' participation in outdoor education field experiences. Notable outcomes included the relaxed and supportive environment created between students and teachers (Fagerstam, 2014) and the increase in professional motivation (Ernst, 2007).

In addition, the inclusion of AFMN as part of didactic programming should also be considered. González-Melero et al. (2023) revealed that a large majority of teachers included these activities in their programming, although a lack of training means that included activities tended to be based on orienteering, hiking, first aid and nature games, with EA models not being applied in the majority of cases. However, not all research related to AD programs is confined to educational centers, as these programs also offer health benefits, as demonstrated by Gutiérrez et al. (2018). These authors analyzed the effect of an AD program on improving quality of life in patients with Parkinson's disease. Outcomes showed a significant improvement in the functional capacity and quality of life of patients participating in the program, suggesting that this type of intervention can be beneficial for the health of individuals with chronic pathologies. In this line of research, Zachor et al. (2017) examined an intervention based on PA in nature with autistic children. Outcomes showed a significant improvement in terms of social communication, as well as in the subdomains of cognition, social motivation, autistic mannerisms and crises suffered by participants.

In Spain, research and interventions with EA models in schools have also demonstrated their effectiveness in improving the personal, social and academic development of students, as well as their potential to promote environmental education and sustainability. These experiences constitute a valuable opportunity to enrich the education and training of young people, contributing to their comprehensive education and their commitment to society and the environment. Such contributions must be designed to be able to reach the greatest number of individuals, especially the disadvantaged, since, on many occasions, the most disadvantaged require additional resources and, in turn, are the most in need. In consideration of all of the above, better application of EA will require knowledge of the different programmes that use adventure to educate. This would enable the most appropriate model to be selected for the target group, available space and opportunity on offer. For all these reasons, the aim of present study is to analyze and compare the characteristics of the best known and most widely used EA models, highlighting those most widely used in Spain.

Adventure Education Models

There are various EA models that have been created and successfully used in the population. Despite the diversity of models, we are going to focus on those that have been most widely used and evaluated in the empirical literature. These are the following: Outdoor Adventure Education (OAE), Adventure Learning (AL) and Challenge Ropes Courses (CRC). The following will also be considered due to being the most prominent in Spain: Adventure Pedagogy (PA) and Adventure Education (EA).

Outdoor Adventure Education

Within the framework of adventure pedagogy (Newman et al., 2020; Priest & Gass, 1997) the term Outdoor Adventure Education (OAE) was proposed as a pedagogical model in

which programmed activities with exhaustive preparation by the teacher using the environment and nature converge with direct experience in student learning (Prieto et al., 2020; Williams & Wainwright, 2020) and learning by doing (Prieto et al., 2020; Williams &Wainwright, 2020).

The OAE aims to move away from teaching based on direct instruction and content through new models based on the one proposed by Kirk (2010). This has led to a shift from the traditional approach to activities in the natural environment, seeking sustainability and egalitarianism (Loynes, 2002). From this new perspective of AFMN, risk is recognized as a fundamental element. Such risk influences all aspects of student development (physical, social, psychological and emotional), while also affecting interpersonal and intrapersonal relationships as part of a task that involves a challenge with the need to solve a problem (Priest & Gass, 1997).

When implementing OAE, it is important to know that it is based on different educational schemes, including Experiential Learning Theory (experience as the basis for learning; Kolb, 1984), Constructivism (knowledge is constructed through active participation; Vygotsky, 1978) and outdoor environmental education (development of environmental concern and awareness; Beames et al., 2012).

In summary, OAE aims to develop skills with practice in the natural environment, in which there is a real and uncontrolled risk such as insects, animals and weather. Thus, skill and safety knowledge on behalf of the teacher or professional is needed, as well as extensive experience in delivering the included activities, especially those considered risky (Timken & McNamee, 2012, p. 24).

Adventure Learning

Adventure Learning (AL) is understood as a pedagogical approach that combines online learning and outdoor education. This methodology uses adventure experiences such as exploring remote places or carrying out controlled risk activities to promote learning through problem solving and critical reflection (Doering, 2006; Eyre & Millar, 2016). Examples of such learning can be found in projects such as Go North! (2006-2009) and ArticTransect (2004). Both of which have had a majorinternational impact.

One of the main features of this model is the integration of technology as part of learning in which participants use mobiles, tablets, computers and othermultimedia resources to gather and share information during their adventure (Doering, 2006). In this way, technology becomes a means of bridging formaleducation and the wilderness experience (Doering &Vetselianos, 2008).

The use of technology during AL engagement allows learners to connect with experts and students from around the world, which fosters collaboration along with the exchange of knowledge and perspectives (Eyre & Millar, 2016). This helps learners develop critical thinking skills,

decision-making in complex situations and dialogue and understanding (Eyre & Millar,2016).

Additionally, the AL model fosters experiential learning, as students learn by facing challenges in real time and having to reflect on their own experiences (Stodel et al., 2006). This prepares the learner to apply their knowledge and skills to future complex and/or challenging situations they may encounter throughout their lives (Kirschner et al., 2006).

Thus, AL can be particularly effective in engaging students with learning difficulties in the classroom or students who are not motivated by traditional methods. As Moos and Honkomp (2011) conclude, the correct implementation of the AL model can be a great tool for fostering meaningful learning, motivation, and student engagement.

Challenge Ropes Courses

Challenge Ropes Courses (CRCs) are challenge courses or ropes challenge courses that have been used for decades as an adaptation of the Outward Bound program (Kriel et al., 2016). They are adventure activities that take place in the natural environment, although they can be adapted to indoor spaces if necessary, and consist of going through a series of obstacles suspended in the air, with both low and high altitude elements (Bowen et al., 2016). The aim is to work as a group with the intention of achieving a common, unifying outcome (McKenzie et al., 2018). Participation involves a series of confidence-building and problem-solving activities, followed by a physically demanding course using cables, beams, rope, pulleys, harnesses, trellises and/or trees (Baena-Extremera & Granero-Gallegos, 2013; Bettman et al., 2018). Here, the subjective risk generated by height and the overcoming of an unusual obstacle is used as a fundamental resource. As athletes are secured with personal protective equipment (harness, helmet, carabiners...) at height, the real risk is zero, however, risk perceptions are greater leading participants to adapt physically, mentally and emotionally.

CRCs are increasingly accepted, being used in hospitals, educational centers, family therapy programs, etc. This has led to research into these programs, such as that conducted by Bowen et al. (2016) who analyzed the effects of a CRC-based program on delinquent behavior, revealing significant improvements in participants. Further, Stewart et al. (2016) and Whitney et al. (2016) found improvements in students' self-esteem, group cohesion, communication, trust and problem-solving skills.

Other health-based research, such as that conducted by Scheinfield et al. (2017) with military veterans, revealed an improvement in the mental health status of participants. These results are consistent with those found by Bettman et al. (2018), who found an improvement in mental health status coupled with a more positive perception of mental health care seeking. Further, family cohesion has obtained positive results in aspects such as dealing with adolescents,

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reducing suicidal behavior or feelings of family closeness and bonding (Faddis & Cobb, 2016; Faulkner, 2001); in addition to having a positive impact on trust, respect, problem solving, communication and motivation, as shown by Kriel et al. (2016).

Within the CRCs, Lower Ropes Courses can be differentiated, which Priest and Gass (2005) define as low challenge activities that require observation. These activities generally focus on group problem solving, with a height that can vary from sitting to a maximum of 4 meters in height (Rohnke et al., 2007). Obviously here the uncertainty and subjective risk generated by height is lower.

In contrast, High Ropes Courses (HRC) are highly challenging activities (Priest and Gass, 2005). This activity requires physical and mental skills, such as coordination, balance, strength and the ability to overcome fears and personal limitations (Cordle, Van Puymbroeck, Hawkins, & Baldwin, 2016). In this case, the subjective risk of altitude brings into play personal variables that are more decisive than in low altitude courses, such as self-management, self-determination and self-confidence.

With this model, students are taken out of their comfort zone, which leads them to experience the activities as high risk, despite actual risk being minimal and controlled. When the difficulty of the challenge gradually increases, individuals typically perform better on the program (Kimball & Bacon, 1993). It is, therefore, a suitable activity for students, as it is a tool that develops social, emotional and physical skills, as well as environmental awareness (Ferrell, 2017).

In addition to the psychological benefits, HRC can also improve physical fitness, especially in areas such as coordination, balance and muscle strength. However, it is important to keep in mind that HRC can also present risks and challenges that need to be addressed appropriately. According to a study by Balagué et al. (2012), the activity must be well planned and organized, staff must be adequately trained and safety measures must be implemented to minimize risks in line with existing regulations.

Adventure Pedagogy

According to Caballero (2012), Adventure Pedagogy can be understood as a methodology based on the theoretical principles of experiential learning. These are defined as (Caballero and Domínguez, 2015, p. 46):

"A methodology based on the theoretical principles of experiential learning, which consists of educating through direct experiences through physical activities in the natural environment (and/or through challenge/adventure activities), in nature or in urban environments, with the aim of contributing to the process of humanization of people (both the pupil and the educator)".

Adventure Pedagogy emerged in the 1990s with Manuel Parra as leader, with the intention of addressing the AFMN content block in primary and secondary education. It is based on the methodological principles of Dewey's experiential learning and the positive development of Seligman and Csikszentmihaly. This methodology is based on direct experiences in contact with the natural environment and challenging or adventurous activities in order to achieve more comprehensive human development (Caballero et al., 2020).

Parra et al. (2009) point out the following as the main characteristics of Adventure Pedagogy:

- The teaching-learning process as a teaching challenge with student participation.
- The momentum of interaction.
- The creation of an appropriate and caring climate.

Parra et al. (2009) also consider that the active participation of students should be promoted by fostering the following conditions:

- Security situations.
- Appropriate climate in which students feel relaxed.
- Promoting individual and collective success.
- Propose open-ended tasks.
- Create spaces, materials and activities that encourage learning.

Adventure Pedagogy is presented in nine steps, which we will set out in the Table 1 for better understanding.

Over time, some interventions based on the model have been carried out that show the benefits at the learning and positive evolution of the student, through the contents or basic knowledge of the natural environment related to sports: climbing, orienteering, mountain biking, canoeing, caving, canyoning, etc. Therefore, it is a model especially suitable for working on adventure sports, applied to the educational environment.

Baena-Extremera (2011), defines the EA model as the set of activities adapted from adventure sports and content in which interaction with the natural environment takes place and which involve an element of real or apparent risk, which produces uncertain results depending on both the participants and the environment itself. He also states that the application of this pedagogical model in nature educational level, highlighting the work with students of the Degree of Physical Activity and Sport Sciences. Caballero-Blanco and Salas-Litago (2021) in their intervention with university students over a period of 4 months, evaluated the effects on the classroom social climate and found that students perceived a positive classroom climate during the intervention that contributed to the perception that they have obtained better personal and professional development.

On the other hand, Caballero (2015) evaluated the changes produced in terms of personal and social

responsibility in students of the training cycle in conducting physical-sports activities in the natural environment. The results showed significant improvements in terms of personal and social responsibility in the experimental group, as well as professional qualification.

Table 1. Methodological steps in Adventure Pedagogy

Methodological steps	Common Guideline/Objective
1. Introduction, relaxation, familiarization and getting-to- know-you activities	"Feel at ease". OB: Creating a pleasant environment
2. Sensory rediscovery and basic skills development activities	"Discover fully". OB: Exploring one's own sensations
3. Activities of affirmation, individual or collective self- assessment	"Love yourself OB: Developing skills related to self-esteem, identity and self-awareness.
4. Simple communication and cooperation activities	*"Help and let them help you"*. OB: develop capacities related to the development of skills and resources for the improvement of social competence.
5. Basic confidence and technical activities	"Pamper yourself and others". OB: Develop skills related to responsibility, decision- making, cooperation and respect for self and others.
6. Complex cooperative and problem-solving activities	*"Listen, contribute and help*". OB: Improving social competences and managing emotions in stressful situations
7. Activities of instinct, initiative and decision	*"Surrender globally".* OB: Developing capacities with inner balance, decision- making skills, wisdom in decisions and self- improvement.
8. Complex adventure activities and adventure sports	"Feel fully". OB: Coping with the kind of activities that take place in the natural environment in order to combat the confrontation with oneself in the struggle against the free force of nature.
9. Assimilation and reflection activities	"Think about what you felt and how you felt it". OB: To develop skills related to self-awareness and self- reflection, wisdom, capacity for effort and intellectual work.

Adventure Education

It should be noted that this model is especially focused on the correct organization and planning of teaching by the teacher, and in turn, to promote the favors the active participation and motivation of teachers and students. Following the same line of research, Navarro et al. (2020) highlight other benefits in the application of this model:

- Problem solving : the learner is in a hostile environment where he/she is presented with a problem to which he/she must find a solution.

- Overcoming barriers: faced with this fear and the activities proposed, students face new mental and personal barriers such as fear and resilience.

- Cooperation : solving the problems posed requires, on a large number of occasions, collaboration between peers.

- Creative use of spaces and materials: the need to simulate adventure spaces, especially in school settings, requires creativity and adaptation in the use of spaces and materials.

- Playful context: the importance of student motivation, together with the need to reduce the anxiety that can be caused by the sensation of real or apparent risk, means that it is in the interest of the activities to be designed in a playful environment.

Baena-Extremera (2011) differentiates between two phases within the EA model: the program work phase and the experiential learning phase. These will be conditioned by the characteristics of the students, previous knowledge and experience, the type of material and facilities available, the final objectives, among others. If the starting point is a group of students with little or no experience/knowledge in these adventure activities, the model created by this author would be as follows:

Phase 1: Experiential and knowledge phase:

1.1 Self-awareness activities and their possibilities.

1.2 Activities for getting to know each other and the possibilities as a working group.

1.3 Familiarization activities of the specific equipment and facilities. Confidence in this.

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1.4 Group reflection and self-reflection activities.

Phase 2: Practice phase:

2.1 Challenging activities and problems with modification of the real situation, where the knowledge acquired in the previous phases is used.

2.2 Challenge activities and problems with small modifications of the real situation.

2.3 Analytical practice of the real situation.

2.4 Challenge activities and problems with real global situation.

2.5 Group reflection and self-reflection activities.

During the first phase, Baena-Extremera (2011) recommends the development of activities going through the four stages of the program or even interspersing them. In order for the results to be significant in this phase, great importance should be given to a participatory methodology, using cognitive teaching styles such as problem solving or problem-based learning, challenges, etc.

Within the phases of the AE model, if there are students with experience and/or knowledge related to the contents or basic knowledge to be dealt with, it would be possible to start directly with phase 2, the practice phase. If necessary, a reminder session on the knowledge necessary to put the model into practice could also be held. And, unlike the experiential and knowledge phase, this phase should be worked on following the order of each of the points.

Since Baena-Extremera (2011) created the didactic proposal on the EA model, several studies have demonstrated the benefits produced in schoolchildren at different levels of student development.

Baena-Extremera and Granero-Gallegos (2013 and 2015b), Baena-Extremera et al. (2012) and Hortigüela et al. (2018) have analyzed in two articles the effects of an EA program in secondary school students on aspects such as satisfaction-boredom, motivation and learning orientation, obtaining in all areas a significant improvement in the three basic psychological needs, motivation and satisfaction. Similarly, the positive predictive relationship between intrinsic motivation and enjoyment has been verified.

In addition, the scientific literature includes publications by Olmedilla-Zafra et al. (2016), which evaluated the effect of an EA program in the natural environment on the socioemotional and academic development of primary school students. The results also indicated that the students who participated in the program showed a significant improvement in their socioemotional skills, especially in empathy and self-control, as well as in their academic performance.

On the other hand, Revelo-Arévalo et al. (2023) examined the impact of an EA program on the improvement of self-esteem and self-concept in secondary school students.

Outcomes revealed that participants experienced a significant improvement in self-esteem and self-concept, as well as in team-working and conflict resolution. In the field of social education, López (2015) evaluated the impact of an EA program called "Learning in Action" on the personal and social development of young people at risk of exclusion. Study outcomes indicated that the program had a positive effect on the personal and social development of young people, contributing to improving their self-esteem, self-concept, social skills and ability to cope with risk situations.

Finally, González-Melero (2023) carried out an intervention program with a nationally representative sample of 416 secondary school students. Analysis through linear mixed models and structural equation models revealed significant improvements in a multitude of variables such as self-efficacy in PE, motivation, school satisfaction, self-regulated learning, cognitive strategies, sporting intention and intention to engage in physical activity. These highly promising outcomes support further use of this model.

Conclusion

EA stands out as a valuable pedagogical methodology that fosters participation, cooperation, problem solving and a variety of cognitive, social and emotional benefits (Priest & Gass, 2005). As can be seen, there are a variety of models that can be applied according to the priorities of the educator. Despite the diversity of the models applied, the studies cited above consistently support effectiveness of the models at different stages of educational development, although it is emphasized that adequate training for educators is crucial for its effective implementation. Correct use of such models is not a simple matter of introducing an element of 'adventure' into the curriculum. Instead, AE is a more holistic pedagogical approach that, when applied correctly, can transform the educational experience in a meaningful and highly positive way for both the learner and the teacher.

The literature cited above highlights the need for education professionals to receive adequate training (which is unfortunately often not the case with Physical Activity and Sport Sciences and intermediate and advanced training cycles) in order to avoid practices that minimize the educational potential of AD. Failure to do so could lead to experiences that generate strong sensations but lack pedagogical depth, thus losing valuable opportunities for learning and to promote the personal and group development of students.

EA emerges as a pedagogical model that goes beyond mere instruction, offering an enriching educational experience that aligns with a variety of learning objectives and has the potential to benefit students in multiple aspects of their lives. The body of research surrounding EA reinforces its value and applicability in the modern educational context, justifying its inclusion and expansion

in future educational plans and policies (Hattie et al., 1997). In addition to the research cited above, there is a multitude of scientific evidence supporting the use and applicability of EA in schools. As can be seen throughout this work, a large number of empirical studies have been conducted which relate AD to the social, cognitive, affective and physical development of individuals from an early age. The results of scientific research exhibit and support the wide-ranging benefits for participants in aspects such as improved relationships with others, improved psychological outcome, such as better self- concept, self-esteem, self-improvement, greater capacity for teamwork, greater intention to remain physically active and better health. This being said, achievement of these benefits depends on training and appropriate application of EA models.

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