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The strands of the Forest School implementation challenges: A literature review

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Abstract

The literature proposes that Forest School, which is a form of outdoor and environmental education, can improve the children's overall wellbeing. Yet, the implementation of this promising and distinctive educational concept can be hindered by several barriers. In this paper, I draw on relevant resources to introduce the main obstacles to the implementation of Forest School and the factors that could mitigate them. Four criteria guided the selection of the resources: a) the source, type, and content of the paper, (b) the subject matter, (c) the publication date, and (d) the publication language. The present review of literature yielded five main Forest School implementation challenges encompassing the (1) adults' risk perceptions and attitudes associated with Forest School outdoor activities; (2) meeting curriculum and stakeholders' expectations; (3) cost and logistical difficulties; (4) finding an appropriate site and using the facilities, and (5) the administrative work. I then discuss these challenges based on relevant literature, present various mitigating factors, and introduce some implications of this review for research and practice.

Keywords: Forest School; implementation; challenge; outdoor education; literature review

Introduction

Forest School can be considered a form of outdoor and environmental education (Knight, 2018; Leather, 2018) through which children repeatedly visit a specific natural place for an extended time to engage in a multitude of outdoor activities. Forest School concept was brought from the Scandinavian context into the UK in 1993 by a group of staff from Bridgwater College, Somerset (Maynard, 2007) before burgeoning across the world (Knight, 2016). The systematic literature review by Dabaja (2022a; 2022b) showed that Forest School can help promote the children's (1) social and cooperative skills; (2) physical skills; (3) self-confidence and self-esteem (4) learning performance and cognitive skills; (5) emotional and mental wellbeing; (6) risk management skills; and (7) environmental awareness and sense of belonging. This result aligns, to a great extent, with Waite, Bølling, and Bentsen's (2016) review of literature pertaining to English Forest School and Danish Udeskole.

Yet, it appears that the implementation of Forest School is hindered by many challenges. For instance, the same literature review conducted by Waite et al. (2016) pinpointed several Forest School implementation barriers in the English context

encompassing the cost of transportation and extra staff, covering the crowded curriculum, funding for outside providers to deliver outdoor sessions, and safety concerns. Comparable findings were proposed by Whincup, Allin, and Greer (2021), who explored the Forest School implementation challenges faced by 12 primary school teacher-Forest School leaders in the UK. In this paper, I systematically locate and select relevant resources, from the UK context and beyond, to present the Forest School implementation challenges. I later tap into additional literature to introduce a set of factors and strategies that could mitigate these implementation challenges.

Methodology

In order to locate relevant Forest School resources, I used *Scopus* search engine and looked for the terms "forest school" OR "forest schools" in the abstracts, keywords, and titles of all articles that were published between 2000 and 2020. I then applied the "subject area" filter by selecting resources pertaining to "social sciences", "environmental science", and "arts and humanities" to obtain a total of 96 documents. The same procedure was replicated using *Scholars Portal* search engine producing 47 results. Thus, a total of 143 documents were generated from the initial searching phase.

The selection criteria

Fink (2010) proposed 13 typical practical screening (i.e., inclusion and exclusion) criteria to guide the literature review searches. These suggested criteria were publication language, journal, author, setting, participants or subjects, program/intervention, research design, sampling, date of publication, date of data collection, duration of the data collection, content (topics, variables), and source of financial support. For the purpose of this review of literature, I employed four criteria to inform the selection of the Forest School resources: (a) the source, type, and content of the paper, (b) the subject matter, (c) the publication date, and (d) the publication language.

The source, type and content of paper

Only articles with primary data and published in academic journals were selected. Other resources, such as literature reviews, discussion papers, and book chapters or book reviews were not considered.

1. **The subject matter:** In order to be selected, the article had to allude to challenges that could impact the implementation of Forest School or similar outdoor nature-based programs that follow the same ethos but adopt different names *(*Dabaja, 2022a; Dabaja, 2022b).
2. **The publication date:** The resources published from January 2000 to December 2020 were considered.
3. **The publication language:** The included articles had to be disseminated in English regardless of their geographic areas.

The selected material

After the application of the selection criteria, the original number of 143 documents was reduced to 18 accessible resources proposing various Forest School implementation challenges (see table 1). It is noteworthy to underscore that one of the selected articles was co-authored by the lead author. This article was included in the review after satisfying all the selection criteria.

Findings and Discussion

The selected resources were thematically analysed both inductively and deductively (Braun & Clarke, 2006) to identify what the literature has proposed as challenges that could hinder the implementation of Forest School and similar outdoor nature-based programs. In terms of the deductive analysis, I drew upon the literature review conducted by Waite et al. (2016) who presented, among other findings, the barriers for implementing English Forest School (EFS) and Danish Udeskole (DU).

Table 1: An overview of the 18 selected resources

Resources	Study Purpose	The context	Methodology		
			Data Collection	Type of Study	Participants
Boileau & Dabaja (2020)	Exploring the nature of Canadian Forest School programs and how they are being implemented.	Canada	Online Survey	Qualitative & quantitative (i.e., descriptive statistics)	Forest School educators
Button & Wilde, 2019	Exploring Practitioners' perspectives about risk when delivering Forest School before and after engagement in five Forest School sessions.	UK	Focus-group & semi-structured interviews	Qualitative	Forest School student practitioners & nursery practitioners
Connolly & Haughton, 2017	"[I]nvestigat[ing] how risk perception amongst teachers within […] Forest School, both shape and are shaped by their understandings of childhood, pedagogy and their own professional identity" (p. 105).	UK	Focus-group interviews	Qualitative	School teachers who were trained or were training to become Forest School leaders
Elliot & Krusekopf, 2018	Exploring the different steps of creating and running a nature kindergarten.	Canada	Narrative	Qualitative	The article authors & other key players in the program initiation process.
Elliott, 2015	Exploring the feasibility of creating a Forest School programme in a inner city school context.	UK	Unstructured interviews & questionnaires	Qualitative	Primary school staff & students' families
Harper & Obee, 2020*	"[E]xplor[ing] the [practitioners'] articulation of outdoor risky play, pedagogical practices pertaining to risk and how they navigate tensions between regulatory policies and idealized practice." (p. 1).	Canada	Interview	Qualitative	Early childhood education Forest School practitioners
Harris, 2017	"[I]nvestigat[ing] how forest school practitioners are facilitating learning at forest school" (p. 273).	UK	Interviews	Qualitative	Forest School practitioners

***** This article was located and included in the review before being issued as: Harper, N. J., & Obee, P. (2021). Articulating outdoor risky play in early childhood education: voices of forest and nature school practitioners. *Journal of Adventure Education and Outdoor Learning, 21*(2), 184-194.

Table 1 (continued)

Resources	Study Purpose	The context	Methodology		
			Data Collection	Type of Study	Participants
Kemp, 2020	"[E]xplor[ing] the way in which Forest School is enacted in English primary schools." (p. 373).	UK	semi-structured interviews	Qualitative	Staff from rural primary schools
Kemp & Pagden, 2019	Exploring the school leaders' reasons for considering the adoption of Forest School.	UK	Interviews	Qualitative	Senior leaders from rural primary schools
Masters & Grogan, 2018	Comparing seven nature kindergarten programmes in Australia (i.e, 4) and New Zealand (i.e., 3).	Australia & New Zealand	observations & semi-structured interviews	Qualitative	Teachers & adult helpers
Maynard, 2007	"[T]ell[ing] the story of an encounter between two early years teachers and two Forest School workers" (p. 379).	UK	Interviews	Qualitative	Forest School workers & early years school teachers
O'Brien & Murray, 2007	A part of a larger project on the evaluation of Forest School in England.	UK	observations & interviews	Qualitative	Teachers & parents
Pimlott-Wilson & Coates, 2019	"[E]xplor[ing] the integration of formal and informal Education [i.e, Forest School], and the consequences for children's experiences of learning." (p. 269).	UK	Semi-structured interviews	Qualitative	A Forest School practitioner in one school, one classroom teacher who led Forest School sessions in the other school, head teachers, & children at both primary schools
Ridgers, Knowles, & Sayers, 2012	"[E]xamin[ing] children's perceptions, knowledge and experiences of play in the natural environment" before and after a 12-week Forest School (p. 49).	UK	Focus-group discussions	Qualitative	Primary school children
Savery et al., 2017	"[I]nvestigat[ing] perceptions of risk associated with the outdoors, held by children, their parents and practitioners, and whether accessing Forest School impacts on these perceptions of risk" (p. 519).	UK	Questionnaire & individual interviews	Mixed-methods	Parents, practitioners, & children

Table 1 (continued)

Resources	Study Purpose	The context	Methodology		
			Data Collection	Type of Study	Participants
Slade, Lowery, & Bland, 2013	Evaluating the impact of the Forest School experience.	UK	Semi-structured interviews	Qualitative	teacher, teaching assistants, the family and pastoral support officer, volunteers, the headteacher of the school, parents/carers, & pupils.
Swarbrick, Eastwood, & Tutton, 2004	"[E]xplor[ing] the relationship between self-esteem and successful learning through the forest school."	UK	Questionnaire	Qualitative	Adults working with children
Takriti, Wright, Alhosani, & Schofield, 2020	Describing the adaptation of a Forest School into a Desert School in the United Arab Emirates.	United Arab Emirates (UAE)	Narrative	Qualitative	The Forest School coordinator

Table 2: A comparison of the Forest School implementation challenges based on two literature reviews.

Barriers associated with the implementation of English Forest School (EFS) and Danish Udeskole (DU) by Waite et al. (2016)	Forest School implementation challenge themes from the present literature review
Safety concerns (EFS)/ Difficult for teachers to find support for practice (DU)	Adults' risk perceptions and attitudes associated with Forest School outdoor activities
Crowded Curriculum (EFS)/ Crowded curriculum and academisation of schools (DU)	Meeting curriculum and stakeholders' expectations Cost and logistical difficulties
Cost of transportation and extra staff (EFS)/ Travel time, cost of transportation and extra teachers (DU)	Finding an appropriate site and using the facilities The administrative work
Funding for outside providers to deliver (EFS)/ Upgrading of teacher qualifications (DU)	

In total, I identified five main Forest School implementation challenges encompassing (1) the adults' risk perceptions and attitudes associated with Forest School outdoor activities, (2) meeting curriculum and stakeholders' expectations, (3) cost and logistical difficulties, (4) finding an appropriate site and using the facilities, and (5) the administrative work. Table 2 juxtaposes the implementation challenges that emerged from the present review of literature with the barriers proposed in Waite et al. (2016).

The risk perceptions as a strand of the Forest School implementation challenges

In this subsection, I introduce and discuss the risk perceptions and attitudes of the educators and parents/guardians that are associated with the outdoor activities.

The risk perceptions and attitudes held by educators

Here, the term *educators* represents all adult individuals involved in the implementation and operation of Forest School programs, such as school teachers and administration as well as Forest School leaders/practitioners who run or work in private programs outside the formal school system.

To begin with, the literature suggests that safety concerns related to risky outdoor activities (e.g., the use of sharp tools, building fire, running, and tree climbing) that might engender accidents are among the main challenges that could impede the implementation of Forest School (Boileau & Dabaja, 2020; Button & Wilde, 2019; Masters & Grogan, 2018; Maynard, 2007; Savery et al., 2017; Slade et al., 2013). One of the key studies on that topic was conducted by Connolly and Haughton (2017) who explored how risk perceptions of 37 Forest School practitioners, including 27 qualified classroom teachers, "shape and are shaped by their own understandings of childhood, pedagogy, and their own professional identity" (p. 105). This research took place in South Wales, UK. Findings suggested that, due to the predominantly risk-averse society, several practitioners felt vulnerable and even at risk if any accident would happen to any of the children during Forest School sessions. One of the participants stated, "[d]eep down I know that they will be fine but I can't help worrying what if… at the end of the day I'm responsible for someone else's child" (p. 115). This cultural sensitivity of children being at risk seemed to have compromised the practitioners' motivation to implement one of the most prominent Forest School ethos of providing children the opportunities to learn and develop while taking good risks. In consequences, some of the participants reported adapting their practices to conform to the dominant risk-averse discourse by implementing "no risk" strategy. One practitioner, for instance, banned tree climbing for safety reasons, while another reported that she needed to be able to see the children all the time (Connolly & Haughton, 2017). Similar adaptations were communicated by Boileau & Dabaja (2020).

This excessive caution could be triggered by the prevalent risk-averse culture where educators might fear blame (Button & Wilde, 2019) or even litigation (Connolly & Haughton, 2017) for any incident associated with outdoor activities. One Forest School educators from a Canadian context underscored the tension between policy and risky play by stating,

> The fact that we are so penalized as providers who are licensed if we have any incidents. It's ridiculous… We all want to be a low-risk facility, but we are seeing that? We want to be allowing more risk play, but if we are being penalized for it, it doesn't make sense for us to allow that to happen (Harper & Obee, 2020, p. 6).

In response, the literature showcased some *safety nets* that appeared to mitigate the educators' sense of vulnerability and concerns vis-à-vis the stakeholders' potential reaction to an outdoor accident. One of these safety nets is the performance of risk assessment which appeared to comfort practitioners (Harper & Obee, 2020). This was emphasized in the statement of a UK nursery practitioner who advanced,

> Accidents happen whether up in Forest School, whether you're in the nursery or whether in the garden, accidents happen all the time anyway, so it doesn't really matter where we are as long as all the children you know have

> been *risk assessed* (Button & Wilde, 2019, p. 30, emphasis added).

Comparably, a Forest School practitioner from the same context communicated, "for me they [i.e., risk assessments] provide a safety net or a security blanket. Yes, the whole thing is a bit over the top but I know that if something goes wrong, god forbid, then I will be protected (Connolly & Haughton, 2017, p. 117). Learning the necessary skills, including how to perform risk assessments, are acquired through Forest School training programs that also seem to play a significant role in shaping the educators' outdoor practice. One practitioner commented,

> … without this [i.e., risk assessment] then I'd feel exposed you know, in front of parents, in front of the head [i.e., administration]. By undergoing this *training and learning how to do the assessment* allows me to convince those who are worried that it's safe for the children. (Connolly & Haughton, 2017, p. 117, emphasis added).

Beside performing risk assessment, the literature proposed that engaging in Forest School might shape the risk perceptions and attitudes of educators to become less risk-averse. For instance, Button and Wilde (2019) explored how engaging in five Forest School sessions would impact the risk perceptions associated with outdoor activities of eleven college undergraduate students in early years education and four staff members from a nursery. The study was conducted in a rural English area at a Forest School site and onsite nursery with thirty children aged 3 to 4 years. Pre and post Forest School sessions qualitative data were collected through two focus group (with the eleven undergraduate student practitioners) and eight individual interviews (with the four nursey practitioners). Findings suggested that the practitioners' "[p]erceived risks regarding play in the natural environment were significantly minimised after participation", especially when participants were able to evidence the benefits of Forest School sessions on the children's well-being (p. 35). In other words, a balance between risk perceptions associated with outdoor settings and activities (e.g., tree climbing, campfire, tool use, irritating plantations) and benefits (e.g., improved social skills, creativity, imagination) was established (Button & Wilde, 2019).

This echoes findings from Maynard (2007) and Savery et al. (2017). More specifically, the quantitative data analysis in the latter study showed that educators who had experienced Forest School appeared to hold a lesser risk-averse attitude compared to those who had not. Comparably, Maynard's (2007) accounts highlighted the way two classroom teachers, who originally held a risk-averse attitude, decided, as they further engaged in Forest School, to loosen their control and give the children more opportunities to engage in hands-on outdoor activities "because children can get so much from it" as one of the teachers commented (p. 387). In fact, both classroom teachers communicated their willingness to develop the outdoor school site by building dens and a mud bath. In retrospect, research findings from Button and Wilde (2019), Maynard (2007), and Savery et al. (2017) provide some evidence that the learning experiences acquired through engaging in Forest School have helped educators to lessen their pre-existing risk-averse attitude.

The risk perceptions and attitudes held by parents/carers

Getting abducted, drowning in a big ditch, or disappearing in the woods represent some examples of what a group of English parents perceived as risks to which their children may be exposed in Forest School (Savery et al., 2017). Comparable types of risks were those suggested by participant children, from the same English context, who reported that parental safety concerns, such as fears of abduction, heavy road traffic, and risk of injuries constrained them from playing outdoors (Ridgers et al., 2012). Other parental concerns associated with Forest School practice were related to going outside in all weather conditions and its potential effects on the children's health (Elliott, 2015). Even the conditions of the children's clothes and their appearance were scrutinized and questioned by some parents (Connolly & Haughton, 2017).

To gain a better understanding of the parents' risk perceptions related to Forest School, Savery et al.

(2017) conducted a mixed methods study in which they, among other purposes, compared the risk perceptions of parents who had a previous experience in Forest School and those who had not. The quantitative findings revealed no significant differences between both groups of parents (i.e., with and without Forest School experience). However, on the qualitative side, most of the parents' data included both risk attitudes; being risk-averse and permissive at the same time. For instance, one parent communicated,

> It was nice because I knew that it was, in the nicest possible way that they were penned in to a point…that meant they could just be free [i.e., a permissive attitude] in a safe controlled environment [i.e., a risk-averse attitude], if that makes sense (p. 8).

In other words, parents wanted their children to have the opportunity to actively engage in outdoor tasks as long as risks are minimized in a controlled setting.

Furthermore, and similar to educators, some parents were mentioning *risk assessment* as a comforting element vis-à-vis outdoor risk. One of them advanced, "I'm quite happy for my children to be climbing trees, again as long as there has been risk assessments in place […..]" (Savery et al., 2017, p. 526). In fact, one of the many reasons for which parents tended to report a lesser risk-averse attitude in their approach to Forest School was their confidence in the "staff['s] training and adherence to procedures, including risk assessments" (p. 526). This was noted in a parent's statement, "I know that [the staff] would be in the woods beforehand and […] would have done the risk assessments and looked at anything that may have changed over the week and so I was confident that all the safety aspects have been covered" (p. 526). Thus, undergoing Forest School adequate training that includes learning how to perform necessary procedures, such as "risk assessments", seems to not only comfort Forest School educators to feel covered in case of an unforeseen accident, but also assure parents and encourage them to send their children knowing that qualified practitioners will be in charge (Connolly & Haughton, 2017).

In addition to having skilful practitioners, involving parents in Forest School was proposed to help "allay concerns [… they] may have about risks, the process of learning or exposure to inclement weather" (O'Brien & Murray, 2007) and motivate them to endorse the program (Boileau & Dabaja, 2020). In contrast, the parents' lack of knowledge regarding the ethos and ideals of Forest School, which is mainly caused by a scarcity of communication between Forest School staff and the children's parents (Elliott, 2015; Savery et al., 2017; Slade et al., 2013), was perceived as a detrimental factor which may engender scepticism and justified concerns vis-a-vis the children's safety. One misinformed parent even wondered, "[i]s your Forest School a forest, or is it just a hut?" (Elliott, 2015, p. 726). Thus, numerous resources emphasized the significance of appropriately informing parents about the principles and characteristics of Forest School, such as the associated benefits and potential risks (Button & Wilde, 2019), as well as getting them involved in the programs (Button & Wilde, 2019; Elliott, 2015; Harper & Obee, 2020; O'Brien & Murray, 2007; Savery et al., 2017; Slade et al., 2013). The prominent impact of involving parents in Forest School was apparent in the statement of one of them:

> I feel fully confident in all the activities that are taking place – there is just the right level of risk, the opportunities we've had to go to Forest School, we've been talked through the element of risk and how the risk thing is quite important so I feel quite comfortable with it (Savery et al., 2017, p. 525).

To wrap up, the present review of literature showed that the educators' and parents' perceptions of risk related to Forest School could hinder its implementation. Comparable findings emerged from relevant literature (Edwards-Jones et al., 2018; Rickinson et al., 2004; Waite et al., 2016; Whincup et al., 2021). At the same time, the literature proposed that experiencing Forest School added to getting adequate training and performing risk assessment can help alleviate the concerns of both educators and parents when it comes to dealing with risky outdoor situations. Additionally, there were several instances in the literature when educators reported adapting

the practice of outdoor activities to mitigate risk concerns and conform to the prevalent risk-averse culture, such as banning or restricting tree climbing (Connolly & Haughton, 2017) and "using 'alternate ways to introduce skills, without introducing open blades, open fire, [and] large climbing obstacles.' (Boileau & Dabaja, 2020, p. 233).

Being overly concerned about the children's safety in Forest School is not surprising because contemporary societies have been increasingly adopting a risk averse stance (Schepers, 2017). This overprotective attitude is restricting the children's access to the outdoors (Gill, 2007; Jenkins, 2006) and therefore denying them the developmental and health benefits that could be associated with outdoor risky play (Gill, 2007; Gleave, 2008). In fact, the exhaustive systematic review by Brussoni et al. (2015) showed that engaging children in risky outdoor play can promote their health and active lifestyles. Therefore, the authors highlighted "the need to encourage action to support children's risky outdoor play opportunities" (p. 6424). The latter recommendation is consistent with Harper's (2017) who pushed toward a restructuring of risk conversation to generate shifts in risk-perception and perhaps re-establishing societal norms where it is acceptable for children to take reasonable and meaningful risks that are indispensable for a healthy development. This would encourage, according to the latter author, "[Forest School] practitioners, teachers, and other child and youth care practitioners to allow for outdoor risky play in their programs without fear of litigation" (p. 329).

Meeting curriculum and stakeholders' expectations

Another Forest School key implementation challenge that emerged from the literature was dealing with pressures related to meeting the curriculum and stakeholders' expectations as a part of the dominant achievement-based and test-driven school policies, especially for school teachers (e.g., Elliot & Krusekopf, 2018; Kemp, 2020; Pimlott-Wilson & Coates, 2019). This was clear in the statement of one UK classroom educators who commented on the integration of Forest School in her teaching:

> At the end of the day we're confined by the National Curriculum and we have targets and we've got to focus on those . . . Letting the child learn as it wants to . . . it's a risk. And the parents want to see what the children have learnt (Maynard, 2007, p. 387).

Comparably, a primary school headteacher from the same context communicated,

> I think parents perceive school as what have you learnt today, have you done any reading, have you done any writing, have you done any maths, and that seems to be the main thing … You're not tested on any other part of the curriculum… they associate the outdoors with playing, not working (Pimlott-Wilson & Coates, 2019, p. 272)

In fact, the reviewed corpus of work showcased an ongoing tension between the performance measurement-based mainstream traditional school discourse and the Forest School philosophy that focuses on the holistic development of the students through an alternative child-centred hands-on learning environment (e.g., Kemp, 2020; Kemp & Pagden, 2019; Pimlott-Wilson & Coates, 2019; Maynard, 2007). This tension left some educators torn between both discourses as it was advanced by a UK experienced primary classroom teacher:

> There are mounting pressures on children … and us really I guess to achieve … I mean to get results especially in English and Maths. Don't get me wrong I know that's an important part of education but there are other things that are important too outside the classroom. I think we need to be careful we don't lose sight of these things too (Connolly & Haughton, 2017, p.114).

To counter this challenge, relevant literature proposed that the learning which takes place in Forest School could be used to help children improve their knowledge of many classroom-related subjects, such as language skills (e.g., Kemp & Pagden, 2019; Harwood & Collier, 2017), mathematics (McCree et al., 2018), plants and animals (e.g., Boyd, 2019; Murray & O'Brien, 2005), and visual arts (Murphy, 2018). More recently, Whincup et al., (2021) underscored a set of pedagogical strategies for

tracking and documenting learning progress. For instance, some teacher-Forest School leaders reported feeding back to either classroom teachers or parents about the activities that were performed during the Forest School sessions. Others communicated using learning journals "where staff and learners can add comments, drawings and photographs" and "digital portfolio apps to evidence progress, where children can reflect on previous sessions with teachers, adding comments to their photographs." (p. 6). Similar learning evidence techniques, that drew on taking photographs and creating pictograms and scrapbooks, were presented in Edwards-Jones, Waite, and Passy (2018) who examined the challenges associated with learning in natural environment (LINE) based on the narratives of 119 staff members from 12 schools in south-west England.

It is noteworthy that, in contrast with opinions that perceived Forest School as a potential vehicle to teach curriculum related mainstream subjects, other perspectives were more cautious when it came to blending these two learning environments. For example, a group of experienced Forest School practitioners in Harris (2017) "did not appear to see forest school as an opportunity for delivery of the national curriculum, even though potential links were identified (especially in science, geography, but also language and writing)." (p. 286). It was even suggested that "transposing curriculum requirements into an outdoor setting through directed activities with specified learning outcomes undermines the child-led ethos of Forest School and its emphasis on open-ended learning" (Pimlott-Wilson & Coates, 2019, p. 276).

Cost and logistical difficulties

The cost of accessing a suitable site (e.g., securing transportation to and from the Forest School sites) was underscored as a potential implementation challenge by Kemp (2020), Masters and Grogan (2018), O'Brien and Murray (2007), and Swarbrick et al. (2004). The latter two studies also alluded to financial difficulties related to recruiting the necessary staff to facilitate Forest School sessions while Boileau & Dabaja (2020) mentioned the burden of training practitioners. This financial obstacle could be mitigated through building partnerships with local communities as it was suggested by Forest School educators from the Canadian context who emphasized the significance of collaborating with different stakeholders, including city officials and community members (Boileau & Dabaja, 2020). Developing community partnerships was equally reported in other relevant literature as a means to implementing outdoor education programs and activities (Dabaja, 2022c; Gillis, 2016). In addition, teacher-Forest School leaders from Whincup et al. (2021) reported applying to external agencies for grants as well as organizing fundraising events to overcome the financial burden associated with the implementation of Forest School.

Finding an appropriate site and using the facilities

An additional implementation barrier was related to finding and securing a suitable site on which Forest School session can take place (Boileau & Dabaja, 2020; Kemp, 2020; Masters & Grogan, 2018). To counter this challenge, participants in Edwards-Jones et al. (2018) proposed investing in the development of green outdoor spaces on the school premises or at a close distance to facilitate LINE sessions. This suggestion was, in fact, put into practice by three schools located in South East England that developed Forest School sites on the school grounds (Kemp, 2020). Although this strategy could be perceived as adequate, Murray and O'Brien (2005) emphasized that "it is woodlands (and their essentiall [*sic*] 'wildness') that has a particular advantage over other habitats as their structure and layout allows for greater adventure and mystery" providing a more conducive environment to children's development (p. 74).

Even after securing the program's site, educators in Boileau & Dabaja (2020) and Masters and Grogan (2018) reported barriers pertaining to accessing and using amenities on the site, such as outdoor "bathrooming or toileting", moving equipment each day, having warm-up spaces and shelters in case of extreme weather. A set of barriers that could be overcome through financial support.

Closely related to the effect of weather and climate conditions on the implementation of Forest School

(Masters & Grogan, 2018), Takriti et al. (2020) showcased the challenges related to establishing an outdoor education project in the "inhospitable environments" of the desert in the United Arab Emirates where a Forest School was adapted into a Desert School (p. 52).

The administrative work

A group of Forest School educators in Canada suggested that dealing with official regulations, school board policies, childcare legislation about indoor space, and licensing protocols were some of the administrative challenges that might deter the implementation of these outdoor programs (Boileau & Dabaja, 2020). Other issues were related to administrative work demands and obtaining appropriate insurance. On this last point, one Forest School founder noted that it "took about four months at the beginning to find an insurance company willing to insure [the] school" (p. 233).

Before moving forward, it is worth noting that overcoming many of the introduced implementation challenges required from Forest School educators to be perseverant, persistent, and patient (Boileau & Dabaja, 2020) as well as persuasive while advocating for the pedagogical value of Forest School (Whincup et al., 2021).

Conclusion

The literature proposes that engaging in Forest School can improve the children's (1) social and cooperative skills; (2) physical skills; (3) self-confidence and self-esteem (4) learning performance and cognitive skills; (5) emotional and mental wellbeing; (6) risk management skills; and (7) environmental awareness and sense of belonging (Dabaja, 2022a; Dabaja, 2022b).

Still, to provide a clearer picture of the Forest School experience, I drew on 18 resources to present the potential challenges that could hinder the implementation of this promising outdoor nature-based education program. These identified challenges included (a) risk perceptions related to outdoor activities; (b) meeting curriculum and stakeholders' expectations, (c) funding and logistical difficulties, (d) finding an appropriate Forest School site and using the facilities, and (e) the administrative work. Several of these barriers mirror what is proposed in relevant literature (Waite et al., 2016; Whincup et al., 2021). Still, one eminent aspect of the present review lies in introducing the various factors and strategies that can play a role in mitigating these implementation challenges.

A limiting factor of this review is the use of the term "Forest School(s)" to search for relevant articles. This could have restricted the selection of resources to those written in English, and therefore, affected the comprehensiveness of the review's outcomes because other English and non-English speaking countries could be using different nomenclatures to refer to similar outdoor nature-based education (Dabaja, 2022a). Yet, findings from the present work shall enrich existing literature pertaining to the burgeoning practice of Forest School and similar outdoor nature-based programs. More specifically, this review would be insightful for policymakers and individuals who aspire establishing and running Forest School programs as well as for those who are planning to become Forest School practitioners.

In addition, the present review showed that the majority of the Forest School resources came from the UK context. This necessitates conducting further research to investigate the various factors that might shape the implementation of Forest School in other global settings, especially that contexts can shape the delivery of Forest School programs (Knight, 2018; Leather, 2018; Waite et al., 2016). These potential studies could, for instance, draw on the Bronfenbrenner's Bio-Ecological Model as a potential "guiding theoretical framework to analyse the [Forest School] approach to learning in the context it occurs" as it was proposed by Murphy (2020, p. 197).

Finally, societies in this era are facing several challenges on many levels. For instance, contemporary children are increasingly adopting a sedentary lifestyle to become further disconnected from the outdoors (Mullan, 2019), including natural environments (Louv, 2008). Children's sedentary behaviour, such as television viewing, using computers, playing video games, was associated with a poor health-related quality of life when it comes to their physical, psychological, and social wellbeing (Wu

et al., 2017). Furthermore, the excessive reliance on fossil fuels has been playing a major role in global warming and climate change. This has led to devastating consequences, such as the frequent occurrence of extreme weather conditions (e.g., heatwaves, heavy precipitations, tropical cyclones), the melting of ice sheets, and the rise of sea levels (United Nations, n.d.). Forest School, however, can play a role in deterring these societal challenges through promoting the children's physical, psychological, and social health in addition to their connection to nature and environmental awareness (Dabaja, 2022a; Dabaja, 2022b). Hence, the present review of literature proves to be informative in the provision of effective Forest School programs while representing a steppingstone for further investigation into the factors that could shape the implementation of this promising outdoor nature-based education concept on a global scale.

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