

## Education 3-13

International Journal of Primary, Elementary and Early Years Education

ISSN: (Print) (Online) Journal homepage: [www.tandfonline.com/journals/rett20](http://www.tandfonline.com/journals/rett20)

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To cite this article: M. Papadopoulou & K. Vincent (27 Feb 2025): Making the invisible visible: the pedagogical affordances of outdoor learning in a nursery and a primary school, Education 3-13, DOI: [10.1080/03004279.2025.2469724](https://doi.org/10.1080/03004279.2025.2469724)

To link to this article: <https://doi.org/10.1080/03004279.2025.2469724>



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Published online: 27 Feb 2025.



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# Making the invisible visible: the pedagogical affordances of outdoor learning in a nursery and a primary school

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## ABSTRACT

Despite the extensively researched benefits of outdoor learning, educators often report lack of knowledge, confidence and institutional support in developing place-responsive pedagogies. This paper discusses some of the findings of a grassroots, Participatory Action Research methodology we developed with pedagogues from a nursery and a primary school in England, to generate knowledge about ways of supporting children's learning outdoors. Drawing on an ecological framework, we invited our partners to video-record themselves in-action, then watch and reflect on the educational affordances they perceived and pedagogies they employed. Participants theorised about their pedagogies and reflected on their role in supporting children's autonomy and agency outdoors. They discussed the opportunities but also complexities of trying to align outdoor with indoor learning and generated knowledge about ways of combining the two, in line with curricular demands.

## ARTICLE HISTORY

Received 10 January 2025  
Accepted 10 February 2025

## KEYWORDS

Outdoor learning; affordances; place-responsive pedagogies; participatory action research; curricular demands; teacher control

## Introduction

The pedagogical benefits of learning outdoors are far reaching (Green and Rayner 2020) and widely recognised nationally and internationally (Prince and Diggory 2023). Educators, as the protagonists of their practice and agents of change (Prince 2019), are in the best place to discover, experiment with and develop ways of supporting children's learning out-of-doors. Yet, they often express uncertainty, lack of knowledge, confidence and institutional support in implementing outdoor pedagogies (Kiviranta et al. 2023; Patchen et al. 2022; Prince 2019). They refer to logistical challenges, lack of resources and overcrowded curricula (Prince 2019; Waite 2010); but also, to the lack of training, as outdoor learning is rarely a significant part of Initial Teacher Education (ITE) programmes (Prince 2019).

This paper attempts to address the gaps in professionals' knowledge and confidence in developing outdoor learning pedagogies. It reports on a Participatory Action Research we conducted with educators from two settings: a nursery and a primary school. Our study had a grassroots, self-development agenda. The aim was to support our partners to generate their own, context and curriculum specific knowledge and develop confidence about their outdoor learning pedagogies. We thus invited our partners to record and watch themselves in-action, reflect on aspects of their (often implicit and invisible) pedagogies, discuss these in focus groups and thus learn from their own and each other's praxis. Drawing on Gibson's (2015) ecological theory as our conceptual framework, we asked practitioners to focus on their engagements with the children outdoors and identify the educational, relational and structural affordances they perceived.

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## Literature review

### *Outdoor learning and its benefits*

Outdoor Learning is learning outside the classroom (Remmen and Iversen 2022). Its location, its 'where', is fundamental in shaping its characteristics and outcomes. Outdoor learning environments can vary significantly, from school grounds to museums, adventure parks and city parks, and have been used in several ways to meet different educational purposes. The type of outdoor learning employed in this study is school-based outdoor learning. This refers to play, teaching and learning in natural environments for children in formal education and care settings and is closely aligned to curricular demands (Waite 2020).

There is a significant body of research claiming a plethora of benefits that outdoor learning has for children in all areas of development, well-being, academic achievements and dispositions. Numerous studies have documented its academic benefits in science (Khan, McGeown, and Islam 2018; Passy 2014); mathematics (Fägerstam and Grothéus 2018; Fägerstam and Samuelsson 2014); English creative writing skills (Neville, Petrass, and Ben 2023); pupils' overall attainment, engagement and positive behaviours (Khan et al. 2020). Learning in and with nature has also been claimed to have holistic benefits: cognitive, socioemotional and mental health advantages (Jucker and von Au 2022); social, emotional, cognitive, environmental, mental health and physical outcomes (Mann, Gray, and Truong 2022). In their meta-analysis, Kuo et al. (2018) refer to improvements in children's behaviours, motivation and active engagement when they learned in nature; a sense of calmness and peace, better impulse control, self-control and advanced social skills, improvements in collaboration and relationships with peers and adults.

Despite this wealth of knowledge about the benefits of learning out-of-doors, there is still need for a better understanding and critical reading of the physical, social, cultural attributes of place (Green and Rayner 2020). Taking learning outside the classroom is more than just a change of place. It requires a different praxis; a dynamic, interactive, place responsive approach; a place specific pedagogy. The outdoor *space* becomes a pedagogical *place* (Gessiou 2022) that affords new opportunities for the emergence of certain intentions, interactions and behaviours.

### *The learning ecology that lives outdoors*

The ecological approach studies the animal in its environment. The two are in a close, mutually constituting relationship. 'Animal and environment make an inseparable pair' (2015, 4). Each implies the other. The animal constantly searches for information that is specific to itself and to the environment it inhabits. It uses its senses and perception to detect conditions, possibilities, obstacles and risks; surfaces that can be 'sat on' or hidden under, objects that can be manipulated. Perception enables organisms to actively extract and assign meaning to environmental information (2015). Perception precedes and informs behaviour.

The physical environment is made up of objects and surfaces. It may be surrounded by walls or open spaces; it may be cluttered, have pathways, barriers or obstacles. These structures offer possibilities for certain action and restrict others. This is what Gibson (2015, 19) calls 'environmental affordances', defined as what the environment 'offers the animal, what it provides or furnishes'.

Environments also consist of others. Social environments are highly complex, dynamic and ever-changing systems. Others afford opportunities for interactions and relationships. They offer possibilities for nurturing, protection, collaboration, play, fighting, competition or threat. Others, in our shared environments, offer the richest and most elaborate affordances in the form of behaviours and interactions. 'Behaviour affords behaviour' (Gibson 2015, 126), depending on one's perception of what others' behaviours offer.

This ecological framework is used as a lens to examine learning environments, their affordances, ways these are perceived and used by practitioners and children. Classroom spaces are separated by walls that create boundaries; have desks in certain arrangements, whiteboards and books that invite

certain actions and prohibit others; bells and behaviour charts that trigger certain responses. These environmental affordances, among many others, are used to shape the thoughts and actions of their inhabitants (Blenkinsop, Telford, and Morse 2016). In a similar vein, lesson plans and assessment regimes afford opportunities for types of learning that follow a specific, predetermined route and are pre-structured, close ended and measurable (Waite and Pratt 2017).

Natural spaces are open, less confined and more spacious, providing different structural affordances. There is often great variation between the terrains and features of different outdoor spaces. They include different objects and materials in different arrangements; offer greater diversity, changeable conditions and less predictability. The less constrained outside world affords new opportunities to use the body and senses (Armbrüster and Witte 2022); for exploratory learning, for wonder, for greater freedom of movement, for release of energy or for relaxation (Blenkinsop, Telford, and Morse 2016). It affords opportunities for slow pedagogy, for embodied, sensual, perceptual and place-based experiences (Gessiou 2022).

Taking learning outside the classroom is much more than a change of environment. It involves a change of pedagogical purposes and methods, a different mindset that embraces opportunities for serendipitous, informal learning (Bernstein 1996); for explorative, hands on, enjoyable learning experiences (Waite and Pratt 2017); for collaboration and co-construction of knowledge (Waite, Bølling, and Bentsen 2016) and for emergent, discovery learning (Beauchamp et al. 2022). Becoming sensitive to the affordances of natural environments is fundamental in teaching and learning. It involves recognising place as a co-educator and a curricular source. Place sensitive pedagogy is flexible, adaptable and opportunistic. It tolerates unpredictability and embraces surprise, to benefit from the new affordances a changing environment may offer.

The learning that 'lives' outdoors, otherwise called the outdoor classroom discourse (Green and Rayner 2020), generates more questions than answers. It thrives in uncertainty and unpredictability; it stokes children's curiosity and wonder and treats the unknown as a pedagogical opportunity and a teachable moment (ibid). This discourse, however, seems to be at odds with the broader political climate in English primary schools (Waite, Bølling, and Bentsen 2016) and now, increasingly early years settings.

### **The English context**

Teaching outside the classroom is seen as an integral and integrated part of the school curriculum in several countries (Jucker and von Au 2022; Kiviranta et al. 2023; Prince and Diggory 2023; Waite 2020). Yet, its role in the English curricula is ambiguous and lacks continuity. It is recognised as a mandatory area of learning in the Early Years Foundation Stage (DfE 2023) but not in the National Curriculum (DfE 2013). Early years settings are expected to offer access to outdoor environments and support children's engagement with the outdoors daily. But as soon as children start primary school, the outdoors becomes disconnected from the curriculum. It is used at playtime, for extracurricular activities and residential trips (Prince and Diggory 2023), but not as a learning environment. The lack of consistency between the two curricula creates a sense of fragmented, piecemeal approach and an abrupt transition from Reception to Key Stage 1.

The misalignment of pedagogical intentions and praxes between indoor and outdoor pedagogies may also suggest that the National Curriculum (DfE 2013) favours another type of learning, one that is bite sized, compartmentalised, observable and measurable; planned, delivered and assessed by the teacher (Ball 2003). This type of learning can only follow a predetermined route and has an end point (Mølsted and Prøitz 2018). The structure of the classroom environment and lesson plans afford opportunities for teacher control, behavioural management and continuous assessment (Winter 2017). In this learning ecology there is not much room for ambiguity, uncertainty or fuzziness, or for negotiation and co-construction of learning. Teachers are trained to deliver fixed and pre-determined outcomes, but not the freedom to negotiate or change these (Grenville-Cleave and

Boniwell 2012). Even when outdoor learning happens, it is often colonised by short term, measurement regimes that align with the performativity agenda (Waite 2020).

Attempts to incorporate outdoor learning pedagogies to the primary curriculum have thus been sporadic, idiosyncratic and fraught with challenges as settings lack guidance, training and resources to develop this area of practice. A number of studies (see for example Blenkinsop, Telford, and Morse 2016; Green and Rayner 2020; Jucker and von Au 2022; Lausset and Zosso 2022; Prince 2019; van Dijk-Wesselius et al. 2020; Waite and Pratt 2017) have reported teachers' confusion and uncertainty about ways of supporting emergent pedagogies: their unfamiliarity with the aims and types of learning children can achieve outdoors and ways of measuring and assessing it; with the diminished adult control and the end point of learning; with the unpredictability of outdoor settings and ways of managing children's concentration and behaviour in open spaces. The misalignment between outdoor learning ecologies and curricular demands creates a vacuum of guidance and support for teachers, who may feel unprepared to engage with open ended, emerging pedagogies.

## Methodology

### *The context*

The study was part of a knowledge exchange programme between the university and educational providers in the community. Our two partners were a nursery with charitable status and a state primary school. Both had initiated contact with us beforehand, to seek support in developing aspects of their provision. The nursery was seeking staff development opportunities. The primary school needed research support to investigate and further develop opportunities for learning out-of-doors.

Both settings had an outdoor area and both decided to investigate their ways of supporting children's learning of maths outdoors. The nursery focused on ways of supporting the emergence of mathematical language through engagement with the outdoors. The school examined the ways structured learning outdoors can complement indoor teaching and learning of maths. Despite the initial focus on maths, the participants' reflections and emerging themes became increasingly more holistic and open ended, more akin to pedagogies, relationships and interactions that would apply to the teaching and learning of any topic. The analytical themes we present here reflect this broadened focus.

The approaches adopted by the two partners had distinctive features and each addressed setting-specific conditions and curricular demands. In this sense, each could be a study in itself. However, we decided to present these together, as part of the same research, assuming a developmental scope. We wanted to study the factors that shape provision and influence educators' mindsets at each stage, but also capture any changes in curricular requirements and conditions as children progress from one stage to the next; from nursery<sup>1</sup> to reception<sup>2</sup> and then to Key Stages 1 and 2.<sup>3</sup>

### *Participants*

The participants were three primary school teachers and four early years practitioners. The primary school staff consisted of teachers in the reception class (RCT), year 3 of Key Stage 1 (KS1 T) and year 5 of Key Stage 2 (KS2 T). One was a newly qualified teacher, and one had extensive experience in outdoor learning and forest school training. All four of our Early Years Practitioners (EYP) worked with pre-schoolers (between three and four years of age). They had variable academic and professional experience: one (EYP1) was doing an apprenticeship, one was a university student (EYP2), one had a Health and Social Care diploma at level 3 (EYP3) and one had a university degree, forest school training and substantial experience of work in early years settings and in management roles (EYP4). The academic team consisted of two female senior lecturers with background in early years and primary school teaching.

## Participatory action research (PAR)

The aim of this small scale, qualitative study was to support our partners to generate knowledge about aspects of their outdoor practice. We adopted a participatory, collaborative, grassroots approach that positioned educators as the insiders and protagonists of their practice and offered them the methodological tools to investigate and generate knowledge about it. We employed PAR.

PAR is a form of collective and self-reflective activity that enables participants to understand and continuously improve their everyday practice, but also to reflect on and negotiate the conditions that shape this practice in the first place (Kemmis and McTaggart 2005). It is critical, emancipatory and collective in nature. It involves speaking for oneself for the actions taken (McNiff 2017) but also seeing oneself as part of a network of others and developing a collective professional identity ('we' as practitioners). As such, PAR becomes political; it enables practitioners to collectively re-define the standards and rationality of their practice and positions them as agents of change (Kemmis 2009).

In line with our topic of enquiry and our participatory agenda, we engaged in research dialogues that enabled us to learn from each other. We supported our partners to reflect on and systematically investigate their outdoor pedagogies. Our partners, in turn, shared with us their wealth of knowledge and experience about ways of supporting children's learning, but also about the conditions shaping their practice. The action research process we followed was developmental for all of us. It started with a broader, explorative stance and open-ended focus, which gradually became sharper as the study progressed and our PAR entered a new spiral. This is explained next.

## Methods

Our methodology consisted of three stages: action (and reflection-in-action), revisiting and reflection-on-action, and collaborative reflections in focus groups (see Figure 1). These were repeated in three series (see Figure 2). It started with day-to-day knowing in action (Schön 1983). All our practitioners were already using outdoor learning as part of their customary practice, drawing on their tacit knowledge (Polanyi 1962) and practical wisdom (Schön 1983).

At first we invited practitioners to engage with the children outdoors, as they would 'normally' do, and use portable, wearable cameras to capture some of these interactions. Practitioners had total control over what to record and who would view their recordings, if anybody at all. It was

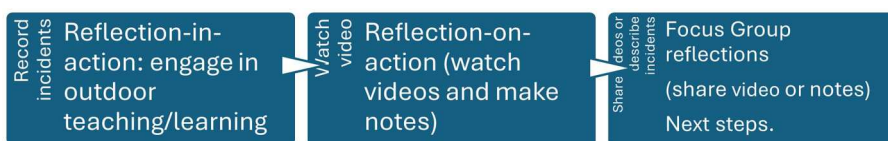


Figure 1. The stages of each series.

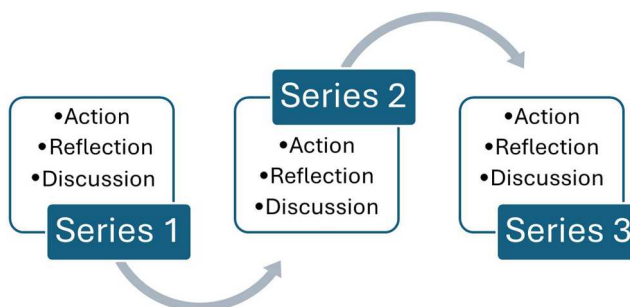


Figure 2. The sequence of methodological series.

clarified from the outset that the recordings would be used for self-reflective processes and, if they chose to share parts of their videos during the focus group discussions, these would be used to illustrate their reflective points, rather than generate judgements about their practice.

The second stage employed reflection-on-action (Schön 1983). It involved practitioners watching their recordings and reflecting on the ways they supported children's learning outdoors, the pedagogies they employed, their interactions with the children, the opportunities and challenges they experienced in relation to the outdoor environment.

The third stage involved collective reflections in focus groups. Practitioners shared instances of their engagement and their reflections with us (their colleagues and academic team). They often addressed broader issues of common concern regarding the conditions shaping their practice and their roles as practitioners (Kemmis and McTaggart 2005). At the end of each focus group practitioners identified the next steps; aspects of their outdoor practice they wanted to record and investigate in the following series. The three series were sequential, each emerging from and leading to the following (see Figure 2). Each series lasted approximately one month. The overall duration of the data collection process was three months.

### **Ethics**

Our study adheres to BERA's (2024) ethical guidelines and secured ethics approval from the university. Our participants were informed of the aims of the study, their role as co-researchers, but also their rights to anonymity, confidentiality, data protection and freedom to leave the study and withdraw their data if and whenever they wish. We aimed at giving practitioners the power to position themselves as agents of change and a sense of control over their practice. However, our roles as academics, researchers and as outsiders of their communities of practice may have created power imbalances (Grant, Nelson, and Mitchell 2008) between them and us.

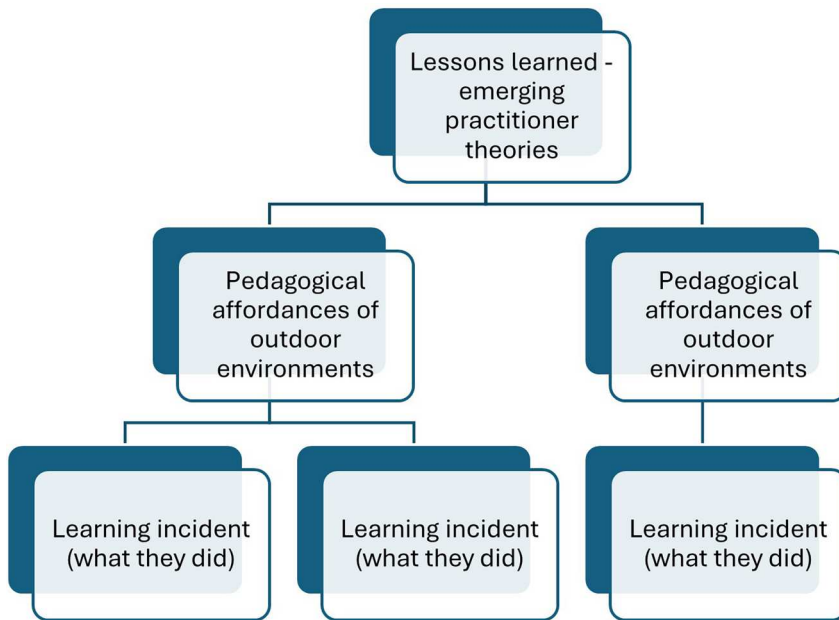
Our attempts to minimise power relationships were ongoing and lasted for the duration of the study. We positioned them as the generators of knowledge, as the central and authoritative figures in this partnership; and ourselves as the facilitators. We were transparent, informal and refrained from trying to find answers. We explained the purpose of the camera as a self-reflective tool, clarifying that they do not have to share these recordings with anyone else. They were also given control over when to use the camera, choosing instances that were meaningful to them. We used some of our research funding to pay for the educators' time investment in this research and invited practitioners to contribute to all stages of the research process, from identifying the focus and research questions to the transcription, analysis and dissemination of findings.

### **Data analysis**

Our data, the focus group transcripts, were analysed thematically drawing on Miles and Huberman's (1994) inductive approach. Two reviewers, one of the practitioners of each setting and one of the academics, working independently, read through the transcripts and identified codes, categories, patterns and the themes that emerged (Miles, Huberman, and Saldaña 2020).

Data analysis followed a three-layered process, starting with descriptions of specific events and gradually progressing to higher levels of abstraction. These are presented in a hierarchical structure (see Figure 3).

During the initial coding process, we examined different learning incidents that took place outdoors. We present these here as a 'tapestry of outdoor pedagogies' (see Tables 1 and 2). At the next, more inferential level, initial codes were condensed into categories that referred to the ways pedagogues and children 'inhabited' the outdoors, the affordances they perceived and made use of. The final and most abstract layer of themes refers to the practitioners' emergent theories and perspectives; the knowledge they generated, the benefits and challenges they experienced and future recommendations.



**Figure 3.** The three layers of abstraction.

**Table 1.** The tapestry of pedagogies used by nursery practitioners.

Type of activity	Role of practitioner	Role of children
Small group activity	Pre-planned and organised by practitioner – adult initiated. E.g. drawing and naming 2-D shapes	Can choose whether to participate and when to stop.
Group play	Joins children’s play – finds opportunities to use maths language	Child initiated & child led.
Targeted activities	Adult initiated, tailoring approach to individual children’s targeted plans.	Engages with activity following adult’s invitation.
Creative activities using natural resources	Builds on children’s ideas and suggestions and engages in conversations. Opportunities to count and measure.	Choose the activity theme (e.g. sharks with legs) and shares decisions with adult
Floating practitioner	Joins different children’s play and participates, using maths language.	Child initiated and controlled. Shares ideas with adult.
Free play	Observe and offer resources & support when asked. Opportunities for maths words to describe children’s activities.	Playing independently in small groups.

**Table 2.** The tapestry of pedagogies used by teachers.

Type of activity	Role of practitioner	Role of children
Independent work (following teacher input given indoors)	Observe, monitor engagement and offer individual support if/when needed	Work independently. Able to choose where and how to sit. Used clip boards/paper to record answers.
Active maths (a mix of PE and maths) – whole lesson	Set up the challenges and offer guidance and support.	Active engagement, follow rules, compete, work independently.
A number of challenges, given under timed conditions, to recap past learning. Then move indoors for teacher input.	Prepare challenges, observe and offer support if needed.	Active engagement, compete and complete work independently. Write answers on paper and mark themselves at the end.
Teacher input (part of an outdoor session).	Teaching/explaining to the whole class (mirroring format of indoor teaching).	Passive (sitting still, concentrating and listening)
Collaborative work – (independent work in groups following teacher input given indoors).	Observe, offer individual support if/when needed.	Self-chosen seating arrangements and groups.



## ***What they did: A tapestry of outdoor pedagogies***

### ***At the nursery***

The nursery had an urban, purpose built, small garden that they used daily. The nursery staff employed a broad range of approaches, which varied in the degree of predetermined structure and pedagogic intention (see [table 1](#)). All these interactions had an emergent, opportunistic and open-ended character. The pedagogic intentions varied, some targeting specific areas of the EYFS (such as supporting the development of mathematical language) and others being more holistic. Practitioners spoke about the need to be flexible, open to the unexpected and prepared to adapt pedagogical aims accordingly:

You have an intention in mind... you can visualise the 'Development Matters'<sup>4</sup> document and not necessarily tick the boxes but be open and flexible. An activity on maths can become about feelings and relationships ... and then if they go somewhere else you can still follow that but then you change your intentions. (EYP4)

### ***At the primary school***

The school, located in a semi-rural area, had a spacious garden in a natural landscape and comprised of several areas used for different purposes. These included a large picnic area with tables and benches, a purpose built playground and a large natural area used for forest school activities. Teachers organised outdoors activities in the picnic area, which was just outside the classrooms. All activities complemented teaching and learning that was taking place in the classroom at the same period. Teachers used several strategies with clear intentions, links to the curriculum (see [Table 2](#)) and predetermined outcomes. The learning outcomes were known but the means of achieving these varied: they afforded children opportunities for greater autonomy, decision-making, peer collaboration and some also involved physical activity and competition.

## ***The pedagogical, behavioural and relational affordances of outdoor environments***

Practitioners from both settings thought that their outdoor environments afforded possibilities for exploration and movement, more informal interactions, collaborations, for greater autonomy, agency and freedom. The children looked relaxed, motivated, concentrated and had more positive engagements and interactions with peers and adults.

### ***At the nursery***

The nursery staff spoke about the emerging pedagogies they use outdoors. The nursery garden is predominantly seen as the children's play space and this has allowed the emergence of play centred pedagogies. Adults felt more playful and adventurous outdoors, they joined children's play and followed their lead.

I feel more playful and adventurous outdoors ... like an older sibling (EYP4).

There was a consensus among nursery staff that the most appropriate pedagogy outdoors involves adults adapting their intentions to the children's interests.

In the moment planning, you sort of go with their interests and I find that in the moment planning is used probably 90% of the time outdoors, whereas indoors it's more adult led activities (EYP3).

They spoke about the explorations and creative activities they engaged with, following the children's lead. They made use of natural resources to create scenarios, introducing maths language, alongside other, holistic intentions.

The learning still comes from you but the play is coming from them (EYP4).

### ***At the primary school***

The teachers also allowed children opportunities for greater freedom of movement and decision making. Children could decide where and how to position themselves in outdoor spaces. They could sit on benches, lie on their stomachs, even stand.

One child chose to hide under the wobbly bridge and stayed there for most of the time ... one other child literally did five log rolls and then he log rolled back and carried on with his work like it was their own little movement break, that's done, focused again (KS1 T).

They were given permission to fetch the resources they needed, move around if they needed to and choose their working partners. These outdoor affordances allowed for the development of different group dynamics and self-organising behaviours. Children were able to support each other, instead of always asking for the teacher's help, and worked more collaboratively and autonomously.

When stuck one child moved across the space to seek help from a peer. They wouldn't do this in classroom, they are not allowed to leave their desks (KS1 T).

The teachers felt more relaxed and informal. This had a positive impact on interactions with the children:

That was a big difference. I noticed in myself I was a lot happier to sit and have these longer discussions with the children whereas inside, maybe because of the risk of disruption, I would do it kind of quickly and then move on to somebody different (KS2 T).

The children had better concentration and engagement, looked calmer and self-regulated and managed to complete their work, according to the teachers. Ironically, the freedom to move freely enabled them to stay on their spots for longer, avoid random wandering and thus concentrate better. Teachers compared this to the restrictive sitting arrangements in the classroom that some children may find difficult.

There is a lot of random wandering in class, children looking for pencils and rubbers, or any opportunity to leave their chair (KS1 T).

Being able to choose their working partners also had a calming effect and enabled them to concentrate better. The ability to change places helped avoid complaints and conflicts. The children appeared calmer and self-regulated.

Lots of them sat in little groups of like three and four which were friendship groups ... they didn't move a lot around. Sometimes they would swap groups ... I think they seemed quite content ... (KS2 T).

The children enjoyed the physical maths challenges in particular:

Children loved the outdoor challenges. They loved being able to run around ... and the competitive nature of it because my class are very competitive. And everyone got all the questions done, which is something that doesn't always happen in the classroom (KS2 T).

### ***Constraints***

The nursery staff and reception class teacher did not identify significant constraints in adapting their pedagogies when outdoors. They only spoke about the importance of having the required number of adults to allow children's greater freedom of movement between indoors and outdoors, in line with health and safety regulations.

Key Stage 1 and 2 teachers, in contrast, raised two critical points: One of the outdoor activities (the active maths challenge), was too noisy and chaotic for one of the teachers. She felt unable to maintain control, uncertain about whether the children were doing what they were expected to do and found it difficult to manage the movement and noise. It seemed that there was tension between seeing the benefits of children's active engagement and autonomy but also having the need to control and (micro)manage the learning process.

I think the timed element and the fact that the things are all spread out ... it was a lot more chaotic. I felt a little bit more like ... oh my goodness, what are they doing ... what they're supposed to be doing? But then marking it felt better. Because I thought, oh, they do have the answers ... I just needed to kind of relax and trust them more (KS2 T).

The second critical point was about the structure of teaching outdoors. Two of the three teachers thought that the outdoor environment does not allow for whole class teaching. There was not a central whiteboard and the sitting arrangements did not allow the teacher to monitor children's engagement and work. Trying to reproduce classroom arrangements, teaching and dynamics was not an effective strategy when learning outdoors:

Because they were all sat on picnic benches and everyone facing different ways ... I couldn't see if they were doing what they were supposed to be doing ... it's me not trusting them I guess to do what they're supposed to be doing (KS1 T).

### ***Emerging theories***

The last layer of analysis presents participants' reflections about some of the broader and perhaps more critical issues regarding outdoor learning. Drawing on their experiences and knowledge gained from participating in this study, they offered recommendations about ways of overcoming challenges and developing outdoor learning provision that meets curricular needs.

#### ***Logistics, practicalities and learners' needs***

All participants argued that taking learning out-of-doors may not always be appropriate for all learners and in all circumstances. Extreme weather conditions, such as strong winds, high temperatures and rain, can restrict opportunities for learning out-of-doors. Natural terrains and resources should also be carefully considered when planning outdoor activities. Children with sensory sensitivities in both settings found the outdoors challenging and thus needed alternative arrangements. They defended the need for flexibility in making and changing arrangements depending on the learners' needs.

The environment makes a massive difference. Sitting on natural grass was a disaster (KS1 T)

#### ***Combining the indoors with the outdoors: a flow or distinct arrangements?***

The early years pedagogues argued that learning outdoors affords opportunities for the emergence of child centred pedagogies. This is consistent with the ethos of the EYFS. The early years practitioners and reception class teacher explained the ways they implement this by offering a free flow structure between the indoors and outdoors, for parts of the day, during child-initiated play. When outdoors, adults join children's activities and tailor their support in line with children's interests.

Adult initiated learning is mostly experienced indoors. The nursery staff saw the indoors as lending itself for more organised learning and routines and the outdoors as a more flexible, informal, play based environment. The two should be in balance:

There is so much structure indoors that I feel like okay, we will have adult led indoors but the outdoors is for children's play and their interests, it's like a balance (EYP3).

The Key Stage 1 and 2 teachers welcomed the idea of having more opportunities for a free flow structure, with open doors and freedom given to children to choose their working 'spots'. However, this would be appropriate for certain types of learning only, such as independent work, and depended on the number of staff available to supervise children's learning.

Outdoor pedagogies, according to the KS1 and KS2 teachers, had distinctive features and should not mirror what happens in the classroom. The outdoors offered unique opportunities for exploration, hands on activities, movement, collaboration and problem solving, children's active engagement, autonomy and freedom of movement. But it was not appropriate for adult centred teaching.

Teacher input is different outdoors. In the board, inside, it might just be a question. Whereas outside the children are moving around independently so it has to be far more practical, more resource based (KS2 T).

In terms of combining indoor and outdoor learning, the two teachers recommended a blended approach. The two environments may be qualitatively different in terms of structure and pedagogical affordances, but they can complement each other. Each could be planned based on the pedagogical aims of the other.

If we are doing the outside and it's working, what do I need to do inside to ensure it can support the more practical outdoors? (KS1 T)

Outdoor pedagogies require significant changes in the ways the environment is organised, the resources that are needed and the time for planning, setting up and moving the class around. This can pose logistical challenges:

Just taking your indoor learning outside requires significant changes. It is unreasonable to expect teachers to make massive changes. We need to change our whole style of teaching and expect teachers to have the time and energy with the pressures they're under to suddenly go ... right, yeah, let's change everything ... that would actually prevent outdoor learning from happening (KS1 T).

The KS1 and KS2 teachers spoke about the curricular pressures and expectations that make outdoor learning challenging to facilitate and assess, especially as children get older. The EYFS has a more holistic ethos and sees outdoor learning as mandatory. It uses photographic evidence and children's journeys to record their learning process. These can be pursued both indoors and outdoors, in a merged, free flow approach. However,

as the children get older the curriculum becomes so intense. There is so much to fit in and this is not just about the development of the individual child (KS2 T).

### *Practitioners' mindsets: children's freedom versus adult control.*

All participants recognised the importance of allowing children agency to explore and freedom to make decisions. However, they also reflected on the tensions between children's freedom and adult control.

The early years practitioners felt that, despite the child-centric ethos of the EYFS, there is an increasing expectation to deliver more adult led activities. Preschool aged children have their individual plans and are expected to hit several targets in preparation for school. Practitioners often felt the pressure to 'hijack' children's play to promote their adult teaching agendas; a trend they all disagreed with:

Adult led activity may sometimes disrupt children's play and formation of friendship (EYP2).

All teachers agreed that their perceived role indoors involves covering content, hitting targets and always being in control of children's engagement and behaviour. This is something they are taught in training courses and expected to deliver in practice:

When I did my training there wasn't an element of, we do this outside, you can be freer ... You learn about behaviour management techniques ... But children learn better from experiences. Being able to have child-initiated play (RCT).

Adults' attempt to control the learning environment can sometimes interfere and disrupt learning:

To look at interference of, yes, interrupt or interference ... actually sometimes sitting back is more powerful than interacting and how often in our day do we interfere with what they are doing? (KS1 T)

The teachers reflected on their tendency to react instantly to children's behaviours, or to quickly give instructions or answers without allowing children opportunities to problem solve:

I should not react instantly to what the children are doing ... or what you think they should be doing ... actually sometimes they are just kind of almost self-regulatory (KS2 T).

One of our teachers, who had attended outdoor learning courses in the past, noticed that this conflict between teachers' control and children's autonomy is a recurring theme:

... it's actually prevented a lot of teachers from going outside to the point where I've seen teachers outside learning and the child only needs to look in another direction and stuff and they're like 'are you focusing? Focus'. There's a bit of a control freak that goes through teaching. And actually we need to let go of that (KS1 T).

## Discussion

This study has adopted a PAR methodology and grassroots approach to knowledge generation. It positioned pedagogues as the protagonists of their practice and as agents of change; it offered them the methodological tools to investigate and generate knowledge about their outdoor learning pedagogies. Drawing on an ecological framework enabled pedagogues to reflect on their ways of inhabiting the environment for pedagogical purposes, the possibilities and restrictions they perceive and the impact of these on the development of place-specific and place-sensitive pedagogies (Gessiou 2022) that are in line with curricular demands.

All participants perceived physical, social, relational and pedagogical affordances in their outdoor environments. They identified possibilities for action, exploration and experimentation (Gibson 2015). The open, larger space outdoors offered freedom for movement and sitting arrangements. Children were free to position themselves and change positions if they wished, rather than sitting on a chair and being stationary. The lower risks of disturbing others allowed for a more relaxed atmosphere and greater autonomy and decision making for the children.

The autonomy and agency afforded to the children gave opportunities for the development of new social affordances. In Gibson's words, 'Behaviour affords behaviour' (2015, 126). Allowing children the freedom to choose their seating and working partners gave opportunities for a greater sense of control over their interactions, collaborations, play, or competition. The constrained ability of teachers to closely monitor and control children's behaviours (to the extent they did indoors) allowed for the emergence of self-organising processes, where children often sought support from peers, took initiatives, problem solved, engaged in collaboration and group work; they developed greater autonomy and self-reliance.

The affordances for greater self-organisation led to the emergence of a different type of relationship dynamics between adults and the children. Our partners reflected on the social and interactive aspects of the outdoor learning ecology and acknowledged the importance of giving children agency and freedom, the balance between adult and child-initiated learning and their roles as pedagogues to shape, influence or control children's engagement. They spoke about the positive impact that releasing some of this control had on their relationships with the children and between the children themselves.

Both settings embraced the affordances of the outdoors but developed distinctive pedagogies. The early years staff, and sometimes the reception class teacher, adopted play based, emergent (Beauchamp et al. 2022) and invisible (Bernstein 1996) approaches that were open-ended, holistic and flexible, in line with the EYFS (DfE 2023). The primary school's pedagogies were not as fluid; there were predetermined learning outcomes, in line with curricular demands and expectations (Waite, Bølling, and Bentsen 2016). The teachers' pedagogies explored the process of achieving these outcomes.

A comparison between the two settings' tapestries highlights lack of continuity and logical progression between the early years and the primary curriculum. The holistic, child centred ethos of the EYFS is abruptly replaced by a very different type of learning, one that is close ended, bite sized and adult controlled, that children are faced with at the start of their compulsory education. It thus seems that the two stages of education inhabit two very different learning ecologies, each determined by its own ethos, with distinct pedagogical intentions and practices, rather than forming a spiral structure of the same learning ecology. This makes the transition to school abrupt, confusing, and

perhaps difficult for young children who are expected to adapt to a very different learning ecology when they turn five.

All participants (including the nursery staff) identified a conflict between the child-centred, explorative nature of outdoor learning and the tensions they experience in practice. The culture of performativity, accountability and assessment (Grigg 2020) was seen as a major obstacle to making effective use of the educational affordances that learning out of doors offers. This is now becoming increasingly felt in the early years too. Practitioners are expected to deliver adult led activities, especially indoors. The outdoors is still perceived as a place for free play, although the latter is increasingly colonised by adults to achieve learning outcomes.

These tensions between children's agency and adult control intensify as children start compulsory education. As ours and other studies (Grigg 2020; van Dijk-Wesselius et al. 2020; Waite, Bølling, and Bentsen 2016) have shown, the instrumentalist learning discourse in the national curriculum (DfE 2013) is antithetical to any notions of learners' freedom and agency. Teachers are trained and expected to deliver measurable outcomes. Learning is seen as having a specific, fixed endpoint and there is no room for ambiguity, manoeuvre, or uncertainty. In this climate, it is challenging for teachers to release (some of) their control and allow children opportunities to explore, experiment and the freedom to make some decisions about their learning.

### ***Significance, implications and conclusion***

This was a small scale study that lends itself to the interpretivist paradigm and does not attempt any generalisations. Our partners are far from representative of their professional communities. They initiated contact with us and were thus self-selected. They were motivated to explore outdoor pedagogies and, in this sense, we were speaking to the converted. We should thus acknowledge that our participants' perspectives may not reflect the views and realities of other practitioners. However, their experiences of current practice and curricular pressures echo the views of others in the literature, so their perspectives may not be unique.

Our partners offered possibilities for a reconciliatory approach that combines the indoors and outdoors. They proposed pragmatic, context specific solutions, in line with their settings' priorities. They spoke about a free flow structure that allows for continuity between the two environments in the early years. The teachers opted for a blended approach that views the two environments as distinctive yet involves greater fluidity between indoor and outdoor pedagogies. Each environment should be planned *in relation to* what follows in the other.

Participants agreed that taking learning out-of-doors is more than a change of place. It involves a whole new pedagogical ecology, a new praxis, where lesson plans are more flexible, opportunistic and adaptable, identifying possibilities for certain learning behaviours but privilege the *process* of engagement rather than fixed learning outcomes. For this to happen, educators need to release (some of) their control to create opportunities for children's exploration, problem solving, autonomy and self-organisation.

Learning out of doors is not an add-on to the already established habitus. It requires a complete change of mindset, pedagogic intentions, roles and expectations; a shift of practices from one that is carefully planned and controlled to one that is more open ended, unfolding, spontaneous and place emergent (Blenkinsop, Telford, and Morse 2016). The outdoor learning environment becomes a pedagogy itself, not just a place for learning.

### **Notes**

1. The Early Years Framework (EYFS) (DfE 2023) in England covers the ages of birth to five. It guides and regulates provision in nurseries and reception classes and is used in a wide variety of diverse settings, including private, voluntary, independent and maintained sectors.

2. At the age of four children in England can start reception, in primary schools. Although not compulsory, most children attend this as their first year of school.
3. Compulsory, primary education starts in Year 1, the term after children's fifth birthday, and ends in Year 6. It is divided into two stages, Key Stage 1 (five to seven years) and Key Stage 2 (eight to eleven years) and uses the statutory National Curriculum (DfE 2013).
4. Development Matters (DfE 2023) is non statutory guidance that supports practitioners to implement the statutory requirements of the EYFS.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## References

- <https://www.gov.uk/government/publications/national-curriculum-in-england-primary-curriculum>
- Armbrüster, C., and M. D. Witte. 2022. "Outdoor School in Germany. Theoretical Considerations and Empirical Findings." In *High Quality Outdoor Learning: Evidence-Based Education Outside the Classroom for Children, Teachers and Society*, edited by R. Jucker, and J. von Au, 335–348. London: Springer Nature.
- Ball, S. J. 2003. "The Teacher's Soul and the Terrors of Performativity." *Journal of Education Policy* 18 (2): 215–228. <https://doi.org/10.1080/0268093022000043065>.
- Beauchamp, A. A., Y. Lacoste, C. Kingsbury, and T. Gadais. 2022. "When Are You Taking Us Outside? An Exploratory Study of the Integration of the Outdoor Learning in Preschool and Primary Education in Quebec." *Frontiers in Psychology* 13: 955549. <https://doi.org/10.3389/fpsyg.2022.955549>.
- BERA. 2024. "Ethical Guidelines for Educational Research, fifth edition." <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-fifth-edition-2024>.
- Bernstein, B. 1996. *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique*. London: Taylor and Francis.
- Blenkinsop, S., J. Telford, and M. Morse. 2016. "A Surprising Discovery: Five Pedagogical Skills Outdoor and Experiential Educators Might Offer More Mainstream Educators in This Time of Change." *Journal of Adventure Education and Outdoor Learning* 16 (4): 346–358. <https://doi.org/10.1080/14729679.2016.1163272>.
- DfE. 2013. "The National Curriculum in England: Key Stages 1 and 2 Framework Document." Department for Education UK. Accessed December 10, 2024.
- DfE. 2023. "Development Matters." Department for Education UK. Accessed December 10, 2024. <https://www.gov.uk/government/publications/development-matters-2>.
- DfE. 2023. "Statutory Framework for the Early Years Foundation Stage." Department for Education UK. Accessed December 10, 2024. <https://www.gov.uk/government/publications/early-years-foundation-stage-framework-2>.
- Fägerstam, E., and A. Grothéus. 2018. "Secondary School Students' Experience of Outdoor Learning: A Swedish Case Study." *Education* 138 (4): 378–392. <https://liu.divaportal.org/smash/record.jsf?pid=diva2%3A1260199&dsid=-9374>.
- Fägerstam, E., and J. Samuelsson. 2014. "Learning Arithmetic Outdoors in Junior High School – Influence on Performance and Self-Regulating Skills." *Education 3–13* 42 (4): 419–431. <https://doi.org/10.1080/03004279.2012.713374>.
- Gessiou, G. A. 2022. "A Follow-up Review on the Impact of a Participatory Action Research Regarding Outdoor Play and Learning." *Education in Science* 12 (10): 679. <https://doi.org/10.3390/educsci12100679>.
- Gibson, J. J. 2015. *The Ecological Approach to Visual Perception*. New York: Psychology Press.
- Grant, J., G. Nelson, and T. Mitchell. 2008. "Negotiating the Challenges of Participatory Action Research: Relationships, Power, Participation, Change and Credibility." In *The SAGE Handbook of Action Research*, edited by P. Reason, H. Bradbury, J. Grant, G. Nelson, and T. Mitchell, 588–601. London: SAGE Publications Ltd. <https://doi.org/10.4135/9781848607934>.
- Green, M., and M. Rayner. 2020. "School Ground Pedagogies for Enriching Children's Outdoor Learning." *Education 3–13* 50 (2): 238–251. <https://doi.org/10.1080/03004279.2020.1846578>.
- Grenville-Cleave, B., and I. Boniwell. 2012. "Surviving or Thriving? Do Teachers Have Lower Perceived Control and Well-Being Than Other Professions?" *Management in Education* 26 (1): 3–5. <https://doi.org/10.1177/0892020611429252>.
- Grigg, R. 2020. "'Ofsted Says We Are Outstanding': HMI Conceptions of Teaching Excellence in the Nineteenth- and Twentieth-Century Primary School." *British Journal of Educational Studies* 69 (6): 1–19. <https://doi.org/10.1080/00071005.2020.1850636>.
- Jucker, R., and J. von Au. 2022. "Outdoor Learning - Why it Should Be High Up on the Agenda of Every Educator." In *High Quality Outdoor Learning: Evidence-Based Education Outside the Classroom for Children, Teachers and Society*, edited by R. Jucker, and J. von Au, 1–28. London: Springer Nature.

- Kemmis, S. 2009. "Action Research as a Practice Based Practice." *Educational Action Research* 17 (3): 463–474. <https://doi.org/10.1080/09650790903093284>.
- Kemmis, S., and R. McTaggart. 2005. "Participatory Action Research: Communicative Action and the Public Sphere." In *The SAGE Handbook of Qualitative Research*, edited by N. K. Denzin, and Y. S. Lincoln, 559–603. London: SAGE.
- Khan, M., S. Bell, S. McGeown, and E. Silveirinha de Oliveira. 2020. "Designing an Outdoor Learning Environment for and with a Primary School Community: A Case Study in Bangladesh." *Landscape Research* 45 (1): 95–110. <https://doi.org/10.1080/01426397.2019.1569217>.
- Khan, M., S. P. McGeown, and M. Z. Islam. 2018. "‘There Is No Better Way to Study Science Than to Collect and Analyse Data in Your Own Yard’: Outdoor Classrooms and Primary School Children in Bangladesh." *Children's Geographies* 17 (2): 217–230. <https://doi.org/10.1080/14733285.2018.1490007>.
- Kiviranta, L., E. Lindfors, M. L. Rönkkö, and E. Luukka. 2023. "Outdoor Learning in Early Childhood Education: Exploring Benefits and Challenges." *Educational Research* 66 (1): 102–119. <https://doi.org/10.1080/00131881.2023.2285762>.
- Kuo, M., M. H. Browning, S. Sachdeva, K. Lee, and L. Westphal. 2018. "Might School Performance Grow on Trees? Examining the Link Between ‘Greenness’ and Academic Achievement in Urban, High-Poverty Schools." *Frontiers in Psychology* 9: 1669. <https://doi.org/10.3389/fpsyg.2018.01669>.
- Lausset, N., and I. Zosso. 2022. "Bonding with the World: A Pedagogical Approach." In *High Quality Outdoor Learning: Evidence-Based Education Outside the Classroom for Children, Teachers and Society*, edited by R. Jucker, and J. von Au, 229–286. London: Springer Nature.
- Mann, J., T. Gray, and S. Truong. 2022. "Rediscovering the Potential of Outdoor Learning for Developing 21st Century Competencies." In *High Quality Outdoor Learning: Evidence-Based Education Outside the Classroom for Children, Teachers and Society*, edited by R. Jucker, and J. von Au, 211–229. London: Springer Nature.
- McNiff, J. 2017. *Action Research. All you Need to Know*. London: Sage.
- Miles, M. B., and A. M. Huberman. 1994. *Qualitative Data Analysis: An Expanded Sourcebook*. London: Sage Publications.
- Miles, M. B., M. A. Huberman, and J. Saldaña. 2020. *Qualitative Data Analysis: A Methods Sourcebook*. London: Sage Publications.
- Mølstad, C. E., and T. S. Prøitz. 2018. "Teacher-Chameleons: The Glue in the Alignment of Teacher Practices and Learning in Policy." *Journal of Curriculum Studies* 51 (3): 403–419. <https://doi.org/10.1080/00220272.2018.1504120>.
- Neville, I. A., L. A. Petrass, and F. Ben. 2023. "The Impact of an Outdoor Learning Experience on the Development of English Creative Writing Skills: An Action Research Case Study of Year 7 and 8 Secondary School Students in Australia." *Journal of Adventure Education and Outdoor Learning* 23 (2): 132–145. <https://doi.org/10.1080/14729679.2021.1983445>.
- Passy, R. 2014. "School Gardens: Teaching and Learning Outside the Front Door." *Education 3-13* 42 (1): 23–38. <https://doi.org/10.1080/03004279.2011.636371>.
- Patchen, A. K., D. A. Rakow, N. M. Wells, S. Hillson, and G. R. Meredith. 2022. "Barriers to Children's Outdoor Time: Teachers' and Principals' Experiences in Elementary Schools." *Environmental Education Research* 30 (1): 16–36. <https://doi.org/10.1080/13504622.2022.2099530>.
- Polanyi, M. 1962. *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago: The University of Chicago Press.
- Prince, H. E. 2019. "The Sustained Value Teachers Place on Outdoor Learning." *Education 3-13* 48 (5): 597–610. <https://doi.org/10.1080/03004279.2019.1633376>.
- Prince, H. E., and O. Diggory. 2023. "Recognition and Reporting of Outdoor Learning in Primary Schools in England." *Journal of Adventure Education and Outdoor Learning* 24 (4): 553–565. <https://doi.org/10.1080/14729679.2023.2166544>.
- Remmen, K. B., and E. Iversen. 2022. "A Scoping Review of Research on School-Based Outdoor Education in the Nordic Countries." *Journal of Adventure Education and Outdoor Learning* 23 (4): 433–451. <https://doi.org/10.1080/14729679.2022.2027796>.
- Schön, D. A. 1983. *The Reflective Practitioner: How Professionals Think in Action*. NY: Basic Books.
- van Dijk-Wesselius, J. E., A. E. van den Berg, J. Maas, and D. Hovinga. 2020. "Green Schoolyards as Outdoor Learning Environments: Barriers and Solutions as Experienced by Primary School Teachers." *Frontiers in Psychology* 10: 02919. <https://doi.org/10.3389/fpsyg.2019.02919>.
- Waite, S. 2010. "Teaching and Learning Outside the Classroom: Personal Values, Alternative Pedagogies and Standards." *Education 3-13* 39 (1): 65–82. <https://doi.org/10.1080/0300427903206141>.
- Waite, S. 2020. "Where Are We Going? International Views on Purposes, Practices and Barriers in School-Based Outdoor Learning." *Education Sciences* 10:311. <https://doi.org/10.3390/educsci10110311>.
- Waite, S., M. Bølling, and P. Bentsen. 2016. "Comparing Apples and Pears? A Conceptual Framework for Understanding Forms of Outdoor Learning Through Comparison of English Forest Schools and Danish Udeskole." *Environmental Education Research* 22 (6): 868–892. <https://doi.org/10.1080/13504622.2015.1075193>.
- Waite, S., and N. Pratt. 2017. "Theoretical Perspectives in Learning Outside the Classroom: Relationships Between Learning and Place." In *Children Learning Outside the Classroom. from Birth to Eleven*, edited by S. Waite, 7–22. London: Sage.
- Winter, C. 2017. "Curriculum Policy Reform in an Era of Technical Accountability: ‘Fixing’ Curriculum, Teachers and Students in English Schools." *Journal of Curriculum Studies* 49 (1): 55–74. <https://doi.org/10.1080/00220272.2016.1205138>.