International Views on School-Based Outdoor Learning

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1 Introduction

There has been an acceleration in the decline in children's opportunities to be outdoors in formal or informal learning settings through an emphasis on academic attainment (Waite, 2010a, b), increased screen time, more supervised out-of-home activity (Mullan, 2018), and various pressures on family leisure time (McCabe, 2015) across the Western world. Concern about these reductions in children's exposure to natural environments (Louv, 2010) is gathering momentum internationally because it has been demonstrated that time spent outdoors impacts positively on physical and mental health (White et al., 2019), and "character capabilities" such as engagement with and self-regulation of learning, resilience, creativity, and empathy for others and the natural world (Malone, 2008). These so-called "soft skills" underpin success in learning and citizenship (Gutman & Schoon, 2016). However, despite a growth in school-based outdoor learning (OL), there are still few international comparisons to inform the development of this growth (Waite et al., 2016a) and little consensus about what outdoor learning signifies across cultures, even within nations.[1]

[1] For an attempt to change this, see PLaTO-Net Harmonization Project https://www.outdoorplaycanada.ca/plato-net/ (accessed 8/4/2021).

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To gain further insight into what the international picture of policy and practice might be, a survey funded by the UK Wildlife Trusts[2] was sent in September/October 2017 to expert commentators on OL through personal contacts and networks. School-based outdoor learning was defined as 'play, teaching, and learning that take place in natural environments for children in formal education and care settings.'

Literature that undertakes international comparisons of OL forms or policies or even adequately situates research in its material, cultural, and social context is still relatively rare (Passy et al., 2019), although research into OL across nations has exploded over recent years (Waite, 2019).

Several recent reviews conducted have usefully summarized the current field of knowledge and the evidence base for OL's effectiveness for educational outcomes as well as promoting health and wellbeing and education for sustainability is robust (see, for example, chapters "Outdoor Learning—Why It Should Be High up on the Agenda of Every Educator, A Coordinated Research Agenda for Nature-Based Learning, Do Experiences with Nature Promote Learning? Converging Evidence of a Cause-And–Effect Relationship, Refueling Students in Flight: Lessons in Nature May Boost Subsequent Classroom Engagement, Childhood Nature Connection and Constructive Hope Helping Young People Connect with Nature and Cope with Environmental Loss, How to Raise the Standards of Outdoor Learning and Its Research Summary of 'The Existing Evidence-Base About the Effectiveness of Outdoor Learning', by Fiennes et al." in this volume).

In their synthesis of research relevant to student outcomes and outdoor learning, Malone and Waite found five desired student outcomes that aligned with contemporary policy priorities, related to developing "a healthy and happy body and mind; a sociable confident person; a self-directed and creative learner; an effective contributor; an active global citizen" (2016, 5), echoing Article 29 of the United Nations Convention for the Rights of the Child (UNCRC) (1989). In the UK, these global policy aspirations have driven several preventative public health strategies (Marmot et al., 2020), social mobility campaigns for resilience (Paterson et al., 2014), a call for more creative and collaborative team workers (UKCES, 2014) and recognition of the interdependence of human and environmental well-being in the 25-year plan for improving the environment (HMG, 2018). In Scotland, educational policy supports these aims through the Curriculum for Excellence (Scottish Government, 2018). In some countries, such as Canada, the US, and Australia, policy adoption of outdoor learning to support these drivers tends to be at state level, although there is Australia-wide policy for Education for Sustainable Development (Australian Government, 2009). Sustainability is also the mainstay of policy support in Japan (Maruyama, 2010), while in Norway, Denmark, and Sweden (albeit the latter only at preschool level), it is primarily linked to curriculum educational objectives.

[2] The Wildlife Trusts comprise 46 individual Wildlife Trusts in the UK, charitable bodies formed by regional groups of people getting together to make a positive difference to wildlife and future generations, federated under the Royal Society of Wildlife Trusts, a registered charity founded in 1912. https://www.wildlifetrusts.org (accessed 8/4/2021).

However, Malone and Waite (2016) also noted that achieving these policy objectives (motivations for OL) requires greater clarity about what methods of OL are most likely to support distinct aims. We also need to be cautious as simply "borrowing" policies and practice can result in inappropriate translations from one context to another without attention to the particularities of cultural traditions and constraints affecting successful implementation elsewhere (Passy et al., 2019). Unfortunately, details of methods are rarely provided within articles. Waite, Bølling and Bentsen proposed a framework for comparing different forms of OL including "purpose, aims, content, pedagogy, outcome, and barriers" (Waite et al., 2016a, 871). Adopting a systematic process of comparison enables greater nuance in choosing distinct forms for specific desired purposes. In this chapter, through considering OL's drivers and motivations (why), and methods (how) in diverse contexts, I hope to promote understanding how movements to support outdoor learning can best be supported across different countries and help policy makers, practitioners, and researchers identify and consider where more effort in the future might be directed to maximize the positive impacts of time spent learning outside by children and young people in economically challenging times post COVID-19.

2 The Research

The aim of the research was to provide international contextualization for the Wildlife Trusts' work with schools and to support a clearer theory of change for their educational strategy development. Research questions included: What are the purposes and policy drivers for school-based outdoor learning across different nations? What forms of OL are used in various countries/areas? What barriers to OL are experienced in different countries/areas?

Invited experts possessed a high level of knowledge or skill in outdoor learning, identified through personal knowledge of their work or their membership of relevant academic and practitioner groups. They were asked to rate their capability of completing the survey from their knowledge and experience; 92% felt well or fairly well qualified to answer the questions posed. The networks approached included the International School Grounds Alliance, the Institute of Outdoor Learning research hub network; JISC discussion group OUTRES, the Economic and Social Research Council international partnership network on outdoor learning, and ERASMUS+collaborators, plus additional international contacts from conferences, projects, and previous correspondence, with further snowballing to obtain the widest sample achievable within a tightly defined period (three weeks). To comply with standard ethical practices, all those invited were free to participate or not without any penalty. Their identity was not revealed in the report unless with specific permission. The number of respondents was 80 from 19 countries (Table 1).

Not all questions were answered by all respondents, possibly left blank if beyond respondents' expertise. Some pointed out that policies and practice varied within

Table 1 Number of respondents by country

Asia	Australia	Europe	N. America	UK	Total
Indonesia 2 Japan 1 Nepal 1 Taiwan 1 Vietnam 1	13	Denmark 2 Finland 2 Germany 2 Ireland 1 Norway 2 Poland 1 Spain 1 Sweden 6 Switzerland 1	Canada 9 US 6	England 5 Scotland 16 UK-wide 7	
6	13	18	15	28	
					N = 80

their countries, and that their comments related to their regional situation or impressions of the wider national picture. For these reasons and because some places were represented by only one expert opinion, reports are merely indicative.

Descriptive analysis was used for both quantitative and qualitative data, and interpretive analysis about possible implications was based on this and extant literature. Three main themes are discussed below to show why different countries adopt outdoor learning, what types of outdoor learning are used and nuances of outdoor movements internationally.

3 Motivations

When asked what the main drivers for outdoor learning were in their country, between 61 and 64 respondents from 19 countries answered using a three-point Likert scale to indicate whether they agreed with the five desired twenty-first century student outcomes identified by Malone and Waite (2016). Participants also offered further comments. For example, effective delivery of the curriculum was mentioned as a driver in Scotland, while a Danish respondent noted,

> Giving meaningfulness to the topics being taught by connections between surroundings and the topic.

In Denmark, education policy advocates the relevance of learning in contexts other than the classroom, and although there is a grassroots movement for education outside the classroom, *udeskole*, this is further endorsed and promoted through top-down government investment and research encouraging this (Bentsen, 2013).

In the US, health promotion was a major influence.

> Physical Education and Physical Activity are the biggest drivers for outdoor learning, followed by nutrition and science education.

The respondents from Finland and Norway mentioned knowledge and skills in biology and ecology for "nature-friendly behaviour."

In Table 2, cells are shaded to show the pattern of response by country across the five policy drivers so that darker grey means respondents reported it as a main driver, light grey means they thought it was a main driver to a degree, and white means it was not considered a main driver. Where there was more than one respondent in the country, the response included was chosen by the most people. The number of respondents varied as shown.

Dominant drivers according to survey respondents were children's health and well-being, developing social, confident, and connected people, and care for others and the environment. Surprisingly, the driver that gained least traction across participating countries' respondents was supporting collaboration, yet this is a commonly

Table 2 Comparison of main drivers of outdoor learning in participating countries/areas

Countries / Purpose and Outcomes	**Healthy Bodies and Positive Lifestyles**	**Social, Confident and Connected People**	**Creative and Self-Regulated Learners**	**Effective Contributions and Collaboration**	**Care for Others and the Environment**	***N***
Indonesia						*1*
Japan						*1*
Nepal						*1*
Taiwan						*1*
Vietnam						*1*
Australia						*9-11*
Denmark						*2*
Finland						*1*
Ireland						*1*
Norway						*2*
Poland						*1*
Spain						*1*
Sweden						*4*
Switzerland						*1*
Canada						*8*
US						*6*
England						*3*
Scotland						*13/14*
UK-wide						*4*
N of countries reporting as main driver	*11*	*11*	*7*	*6*	*10*	

attributed outcome from outdoor learning (see chapter "How to Raise the Standards of Outdoor Learning and Its Research Summary of 'The Existing Evidence-Base About the Effectiveness of Outdoor Learning', by Fiennes et al." in this volume).

From responses received, Scotland, Indonesia, Japan, and parts of Australia indicated the strongest support through government policy for outdoor learning. As one respondent from Scotland reported:

> Teacher standards require use of outdoor learning and understanding of Learning for Sustainability within a values-based Professional Accreditation system. Curriculum for Excellence states, 'outdoors is often a better place than indoors to learn' and Outdoor Learning is a regular and progressive experience for all learners. … We also have a requirement that all leadership support outdoor learning under new leadership qualifications, local authorities support school grounds to allow 'contact with nature on a daily basis' and 'green space suitable for teaching and learning' and Scotland's play policy and strategy also highlights our children's entitlement to 'free play opportunities, with daily contact with nature'.

Outdoor learning is also included within the state-wide curriculum in Victoria, Australia, where a government interdepartmental working group is tasked with exploring ways to embed outdoor learning in recognition of its potential to fulfil several wider policy aspirations. There are moves to include it within the nationwide Australian Curriculum. In parts of Australia, as in several other places, education for sustainability appears to be a strong motivation for outdoor learning recognized by individual teachers and in policy alike.

> For us, it is based on relationships with self, others and nature. With a foundational basis of sustainability.

In Japan, the Ministry of Education, Culture, Sports, Science and Technology is working with UNESCO to develop programs for Education for Sustainable Development through schools and communities, with some schools acting as hubs of good practice. This grounded method of expansion has also been used in the Natural Connections Demonstration project (Waite et al., 2016b), where 125 schools were supported in embedding sustainable curriculum-based outdoor learning through networks of schools with varying degrees of experience in outdoor learning (see chapter "Natural Connections: Learning About Outdoor-Based Learning" in this volume).

In Norway OL is part of the national curriculum, and it features in the early years, physical education, and biology curricula in Sweden. In England, educational policy support is mostly within early years provision, but recently the Department for the Environment Food and Rural Affairs (DEFRA) and the Department for Education have commissioned further trials to develop "nature-friendly schools" (The Wildlife Trusts, 2021). Amongst other drivers cited, connection to and knowledge about nature, risk awareness, and diverse and experiential learning environments for curriculum delivery were also mentioned. Nonetheless, as Waite (2010a) found in a survey in the southwest of England, respondents to the survey noted that motivations were often shaped at a local level according to teachers' or delivery organizations' interests.

4 Methods

Several forms of OL were suggested in the questionnaire and respondents indicated whether they were often, sometimes, or not used in their country. The methods were not defined in the questionnaire. Leaving the terms open maintained flexibility about interpretations. Respondents could explain further if they wished to do so and add other methods, including camps (Canada), visits to cultural places (Denmark), nature kindergarten, Bikeability and John Muir Award (Scotland), river, beach, mountain (Indonesia).

Forest School and Bushcraft

Forest School, which is a growing phenomenon globally (Knight, 2013), was reported as most prevalent in England, Scotland, and Canada and was not observed at all in Norway or Nepal. It sometimes or often occurred in 84% of the 19 countries, according to responses received. It is described by the Forest School Association (FSA) as:

> [A] child-centred inspirational learning process, that offers opportunities for holistic growth through regular sessions. It is a long-term program that supports play, exploration and supported risk taking. It develops confidence and self-esteem through learner inspired, hands-on experiences in a natural setting. (FSA, 2020)

The FSA proposes six principles that are supposed to characterize this form of outdoor learning, but in practice these are not always adhered to and a recent special issue on Forest School of the *Journal of Outdoor and Environmental Education* problematized the concept and its translation into different contexts (JOEE, 2018).

Interestingly, bushcraft was not recognized as a form of outdoor learning by respondents from Finland, Poland, Spain, or Nepal. Given its emphasis on the acquisition of practical skills, there may be some overlap with the concept of Forest Schools. For example, Australian early years providers that use nature-based play may describe themselves as bush kindergartens. Although rarely reported as often used (6%), bushcraft was reported as sometimes used in 65% of the countries.

Field Studies

Field studies were widely reported across the responding countries (98% often or sometimes). This is perhaps unsurprising as they are an established method within several academic subjects, such as geography and science. Field studies involve investigative work in the world beyond the classroom and therefore have some commonality with conceptualizations of Danish *udeskole* or learning outside the classroom in the UK.

Embedded On-Site Curricular Outdoor Learning

The most frequent use of this form was reported by respondents from Denmark, the US, and England. Alignment with the curriculum in countries with strong school

performance agenda is understandable as teachers must meet given standards and therefore may need to cover curriculum objectives more directly (Waite, 2010b). In Denmark, the confluence of top-down policy and bottom-up teacher-led growth of *udeskole* likely contributed to its establishment as mainstream practice (Barfod et al., 2016). The respondent from Nepal noted that this form was not seen at all there.

Natural Environment Play and Early Years Outdoor Activities

These forms were reported as common across almost all nations with only the respondent from Nepal noting them absent. Norway, Switzerland, Indonesia, Japan, and Scotland were the countries where natural environment play was most reported as often occurring. Participants from Denmark, Norway, Spain, Sweden, Indonesia, and Japan reported early years outdoor activities as often occurring.

Outdoor and Adventure Education

This form of OL usually entails occasional trips far from the normal place of learning to residential or day centres specializing in outdoor activities that offer challenges, such as climbing, kayaking, and sailing. Frequently, special qualifications are required to lead such activities for health and safety reasons, and schoolteachers may not hold these additional qualifications, so it is common that they are provided by external organizations. This may explain the tendency for most countries to report that outdoor and adventure education took place sometimes rather than often. In Norway, the concept of *friluftsliv*, whereby outdoor living is highly valued and practiced within society, may account for its reported prevalence here (Gurholt-Pedersen, 2014). Nevertheless, it seems that many children across the participating nations experience the opportunity to engage in this sort of OL at least occasionally.

School Gardening and Wildlife Areas

School gardening appeared fairly well established as an OL method across many countries, but participants from Finland and Nepal did not report it, perhaps reflecting geographic or climatic barriers. Respondents from Ireland and Japan said it was often used. An advantage of this form is that the garden can be based on school grounds, obviating any need for travel time, costs to engage with nature, or requirements of risk assessments for every visit (Passy, 2014).

Wildlife areas may offer different sorts of affordances (Mawson, 2014) for children's learning; Wells and Lekies (2006) found both experiences positively affected subsequent pro-environmental attitudes, but only wild experiences influenced later pro-environmental behaviour. Providing wilder areas as part of the school grounds make biodiverse environments more easily accessible for learning purposes (Almers et al., 2020; Hammarsten et al., 2018). However, as one respondent in Australia commented, there might be safety reasons in some parts of the world that preclude

leaving school grounds areas unmanaged. In others, the cultural importance of the appearance of a school site may favour tidier grounds.

Visits to Nature Reserves and National Parks

Nature reserves were reported as often visited for OL in Ireland, Spain, and Denmark and sometimes visited in 67% of responding countries. National parks were sometimes visited in 80% of countries represented in the survey. These special places offer a different experience from the nearby nature of school gardens (Carson, 1965). Maller (2009) suggests that a mixture of familiar places and progression to more remote highly valued natural environments may support children becoming connected to nature and engender later pro-environmental attitudes.

Movements

Respondents were also asked which forms of OL they considered were most appropriate for particular outcomes in order to determine how motivations for OL might best be supported by different methods. To indicate trends of association, the percentage of respondents choosing different options are shown in Table 3. The outcome most associated with each form is highlighted in darker grey, while the next perceived contribution of that form is highlighted in pale grey. We can see that encouraging healthy bodies and minds was considered by respondents as most supported by early years outdoor activities, outdoor and adventure education, and natural environment play; while developing social, confident, and connected people was regarded as most helped through outdoor and adventure education and early years outdoor activities. Embedded on-site curricular outdoor learning and Forest Schools together with early years activities were deemed important for stimulating creative self-regulated learners. In terms of supporting effective contributions and collaboration, school gardening was most selected, although embedded curricular outdoor learning was also associated with this outcome. Visits to national parks and nature reserves were very highly associated with underpinning care for others and the environment, although field studies and school gardening were also seen as linked with this outcome.

From this analysis, it appears that some methods of outdoor learning are more generalist in meeting various purposes, while others appear more specialist in their impact. Field studies, for example, seemed less associated with health and well-being outcomes; outdoor and adventure education appeared particularly aligned with healthy living and the development of some inter- and intra-personal skills. In all responding countries, early years outdoor activities appeared to be the most valued for achieving across all the desired outcomes.

Table 3 Aligning purposes and outcomes to forms of outdoor learning (across countries)

Forms of Outdoor Learning / Outcomes	Healthy Bodies and Positive Lifestyles	Social, Confident and Connected People	Creative and Self-Regulated Learners	Effective Contributions and Collaboration	Care for Others and the Environment	*N*
Forest Schools	48% 23	65% 31	73% 35	44% 21	67% 32	*48*
Field studies	17% 8	26% 12	39% 18	44% 20	70% 32	*46*
Embedded on-site curricular outdoor learning	57% 29	51% 26	61% 31	51% 26	41% 21	*51*
Natural environment play	74% 37	60% 30	54% 27	38% 19	52% 26	*50*
Outdoor and adventure education	82% 40	86% 42	39% 19	45% 22	51% 25	*49*
School gardening	57% 28	41% 20	37% 18	61% 30	74% 36	*49*
Bushcraft	33% 13	64% 25	59% 23	36% 14	39% 15	*39*
Early years outdoor activities	90% 44	74% 36	65% 32	45% 22	51% 25	*49*
Visits to nature reserves	38% 18	26% 12	30% 14	19% 9	87% 41	*47*
Visits to national parks	45% 21	21% 10	30% 14	23% 11	92% 43	*47*

Table cells give percentages of respondents ticking each option in response to the question: Which of these drivers do you think are mainly behind the use of the different forms of learning? (Tick as many as apply). The outcome most associated with each form is highlighted in darker grey, while the next perceived contribution of that form is highlighted in pale grey.

5 Obstacles to Outdoor Learning

Some barriers to outdoor learning were held in common across nations represented in the survey. The barriers suggested in the questionnaire were derived from the Natural Connections project findings (Waite et al., 2016b) and earlier scoping by Kings College, London (Natural England, 2011). Table 4 is a summary table that shows the combined assessment of barriers across participating countries, indicated by dark grey shading when the barrier was assessed as significant, light grey when it was considered significant to a degree, and white when it was not considered a barrier.

We can see that the most significant barriers internationally appeared to be linked to teacher training and how confident staff were in working outside and in linking the

Table 4 Assessment of significance of barriers by respondents for their countries/areas

Countries/ Barriers	Lacking Confidence in Working Outside	Uncertainty about Linking to Curriculum	Lack of Funding	Need for Volunteer Support	*N*
Indonesia					*1*
Japan					*1*
Taiwan					*1*
Vietnam					*1*
Australia					*10*
Denmark					*1*
Finland					*1*
Ireland					*1*
Poland					*1*
Spain					*1*
Sweden					*4*
Switzerland					*1*
Canada					*6*
US					*6*
England					*2*
Scotland					*12*
UK-wide					*4*
N responses / countries/areas	*14*	*12*	*6*	*5*	*54/ 16*

curriculum to outdoor activities. Lack of funding and the need for volunteer support were much less frequently regarded as significant barriers by respondents.

Staff Lacking in Confidence in Working Outside

Over three-quarters of respondents agreed this was a significant barrier indicating that attention was needed to train staff tasked with outdoor learning in appropriate pedagogies. About two-thirds of countries sometimes used external providers and these were expected to have expertise in the field. However, it was most common that teachers would lead outdoor learning across all countries. It seems many initial teacher training courses have limited input on how to teach outside the classroom (Prince, 2019), which is unfortunate as the inclusion of modules for outdoor teaching and continuing professional development courses might help to increase teacher confidence. As one respondent from Scotland noted, "Time of teachers to do CPD [continuing professional development] or something else in that area. Lack of resources and money, knowledge. No subject in school-based outdoor learning in teaching education/training" all potentially contribute to a lack of confidence. The Natural Connections project (Waite et al., 2016b, see chapter "Natural Connections: Learning About Outdoor-Based Learning" in this volume) found that an effective way of building teacher confidence in working outside was through practical sessions alongside more experienced colleagues.

However, there appeared little top-down support in the educational system for this in North America, where growth is attributed more to grassroots organizations'

advocacy and support for schools. Even in Scotland, where policy promotes outdoor learning, one respondent commented that progress was happening,

> Very gradually via the policies mentioned … and many committed NGOs and others 'chipping away' at schools, encouraging and supporting them to take learning outdoors (via blogs, evidence etc.) to justify the place of OL, training, networking etc.

In Nepal, it was reported that,

> School-based outdoor activities are still at infancy in Nepal thus leaving great possibilities in this field. Awareness workshops thus play a pivotal role in pushing the barrier to a great extent in the meanwhile.

The nations represented in the survey appeared at different points in their outdoor learning development. In Japan, creating natural infrastructure at schools was reported by the respondent as a priority:

> [S]chool biotope (wildlife area esp. natural pond) became movement to create in Japan, but because of grounds maintenance and lack of knowledge of using the area, in many cases the area became unused. School gardening is common since it is mentioned in National Curriculum.

School ground infrastructure development was mentioned by expert commentators in several other countries.

Staff Uncertainty About Linking Outdoor Learning to the Curriculum

A lack of ability to combine OL and unanticipated learning outcomes with teaching specific subject curriculum objectives was considered a barrier by many respondents. As discussed earlier, this may depend to some extent on whether there were strong pressures on delivery of curriculum content in that educational system.

Although teachers may well be capable of mapping outdoor activities and their outcomes to the curriculum if they have sufficient time to undertake the necessary planning, time is a commodity which is often in short supply in schools (Waite et al., 2016b). Providing teachers with suitable prepared resources was felt helpful by a respondent from Australia to relieve time and curriculum pressures, "There are a few structured programs such as school kitchen gardens, which are easier to implement as they come with teaching resources." In Switzerland, a suite of resources across the curriculum was available for teachers to improve outdoor learning provision,

> With our project 'Teaching Outdoors' which contains a manual for teaching all disciplines outdoors, with teacher training and a pilot study in coaching a few interested schools (www.draussenunterrichten.ch in German, www.enseignerdehors.ch in French).

One respondent from Scotland echoed comments from some Australian respondents about staff unwillingness, suggesting,

> Mindset—this is the key barrier. … It is remarkable that early years practitioners can enable outdoor learning and play on a daily basis and that outdoor nurseries are springing up everywhere demonstrating that all areas of the curriculum can happen outside yet primary and secondary colleagues feel unable to do the same.

Respondents in Ireland and Vietnam pointed to cultural resistance by teachers,

> School-based outdoor learning is not so common in Vietnam due to curriculum and somehow difficult to change the traditional way of teaching and learning in the country (indoor learning). (respondent from Vietnam)

> Education has had a formal, structured emphasis from its inception here for cultural and historical reasons possibly as a result of the context being a previously agrarian society. To a lesser extent, there seems to be a historical/cultural barrier where many educationally progressive initiatives were seen as part of a colonial education. (respondent from Ireland)

Three respondents from the UK and Canada also mentioned risk and health and safety concerns. Other factors included time and a lack of awareness of the potential benefits. These comments illustrate how cultural factors influence possibilities for future development of OL (Bentsen et al., 2017).

Lack of Funding

According to most respondents, a lack of funding for OL was a barrier to some extent, but in some places, such as Indonesia, Taiwan, Poland, Canada, and the US, respondents considered it a significant one. The reasons for this are probably multiple. For example, if OL is provided by external providers or at remote sites, this entails extra expenditure by schools or parents to enable that. Where OL is more embedded within educational practice and happens on or near the school site, the additional costs of children participating is likely to be lower. However, providing progression from familiar to more remote and extraordinary natural environments with different learning possibilities will inevitably incur a financial cost.

Need for Volunteer Support

Not all countries involve volunteers in their OL provision; only some respondents in Australia, Canada, and the US reported that unpaid volunteers were usually involved in outdoor learning. In other countries, they were sometimes involved, but in Denmark, Poland, Spain, Switzerland, and Vietnam, they were never used, according to the survey respondents. However, requirements for high adult-to-children ratios to meet health and safety obligations for off-site visits and risk-averse societal attitudes may mean that parents and carers are needed to ensure compliance in many nations (ISGA, 2017). Community support can also extend possibilities for OL. In Indonesia, it was reported that parents and the society around the schools were also providers of OL; while in Finland, after-school clubs run by volunteers offered OL opportunities.

6 Discussion

In considering these responses from international expert commentators, we begin to appreciate how further work could contribute to addressing challenges associated

with the development of school-based outdoor learning. The findings presented offer potential starting points for additional investigation. One possible method would be to develop a Delphi study, whereby ideas can be refined and contested within a panel of experts (Okoli & Pawlowski, 2004). Another fruitful avenue might be in-depth national surveys to test the resonance of the impressions that emerged from this study situated within greater detail of policy, practice, and barriers in various national contexts. Local studies that include the children's perspectives on how OL affects their lives will also provide valuable insight into how various offers are received.

These impressions and insights into the state of play internationally regarding school-based outdoor learning provide considerable food for thought. The number of expert commentators responding to the survey demonstrated that evidence for benefits from spending time in nature is in some respects well established. However, all described challenges in embedding OL within their educational systems, and countries appeared to be at different stages of development. For some, the challenge lay in cultural and material barriers, where the first steps may need to be awareness raising about the benefits to policy makers, practitioners, and the public (Learning & Teaching Scotland, 2010) or constructing infrastructure to support forms of outdoor learning that are accessible and affordable (Almers et al., 2020; Waite et al., 2016b). For others, dominant performativity culture meant that persuading school staff to make space for outdoor learning in busy content-driven curricular timetabling remained a hurdle (Waite, 2010a, b). Encouragingly, the main challenge seemed to be about changing mindsets rather than a lack of funding per se, and this cultural change can be achieved through on-the-job professional development training and experience (Waite et al., 2016b). At a national level, research and development efforts might profitably be directed towards identifying and understanding how to overcome specific challenges in a logical sequence appropriate to their context.

The alignment of methods of outdoor learning and motivations indicates how OL movements might be better tailored to address specific desired outcomes according to priorities, both at a national policy level and within schools themselves. Without regularity of curriculum-based learning outside the classroom, occasional forms of OL remain vulnerable to changes in priorities and external pressures (Waite, 2010a). Early years outdoor activities and on-site OL linked to the curriculum seemed to contribute to some degree to all desired outcomes and could comprise a minimum baseline of entitlement provision. A global priority to protect children's health and well-being and glaring inequalities in relation to this (UNCRC, 1989) also provide a compelling rationale for these methods to offer wider participation in the benefits of spending time in nature, and the additional provision of opportunities for outdoor and adventure education during schooling will make substantial contributions towards this goal. Sustainability agendas appeared to underpin strong motivation for promoting OL in many countries, whether at governmental or personal levels (Almers et al., 2020; HMG, 2018; Mawson, 2014). National parks and nature reserves were considered especially effective for inculcating care for others and the environment. Inclusion of visits to areas rich in biodiversity as part of children's experience at school will help to meet this aim. In short, increasing awareness of policy drivers and promoting the most effective forms of outdoor learning to achieve

them can refine how OL is planned and operationalized at international, national, regional, and local levels.

Considering responses across countries and variation in emphases, it is apparent that explicit policy alignment would further facilitate designing outdoor learning programs to achieve desired goals. For teachers in some countries, having a policy directive to include more outdoor learning as an integrated element of curriculum delivery would give them permission to make room for it, although some teachers may still lack confidence and time to plan for this (Waite et al., 2016b). Having training and experiences in working outside is an effective tool to overcome personal resistance, and team teaching or on-site continuing professional development can be transformative (ibid.), but equally high-quality resources can provide a valuable springboard for local adaptations. Whether time, experience, or funds represent obstacles, the development of suitable OL environments within school grounds can enable a range of experiences on teachers' doorsteps, removing travel time and costs, the additional paperwork of repeated risk assessments, and external provider fees (ibid; Almers et al., 2020; Barfod et al., 2016; Passy, 2014).

Several commentators mentioned that inclusion of OL and its priority varied regionally and locally, so assessing patterns across whole nations is not clear cut. The interpretation of what OL might look like varied from macro-governmental and cultural influences through institutional expectations and affordances to the personal values and expertise of individuals within schools (Waite, 2010a, b). There was not agreement about every aspect within countries with multiple respondents, so findings derived from individual reports and small numbers obviously need to be interpreted with caution. Inevitably, local enactments and the position of the expert as policy maker, academic, or practitioner will shape opinions, but exploring such variation would support future collaborations to achieve greater consensus around intent, implementation, and impact (Ofsted, 2018) and clearer theories of change. An international project (PLaTO-Net Harmonization Project, see footnote 2 above) is currently underway to explore key terms, definitions, taxonomies, and ontologies related to outdoor experiences, based on a scoping literature review and collaboration of international experts in the field through analysis and discussion. This process is working towards conceptual models that can speak across nations. This ambition exceeds the possibilities of this small explorative study. Nonetheless, this research has highlighted some potential ways forward for the field.

Implications for the future

Suggestions that respondents made about how improvements could be made to school-based outdoor learning included the support of: grassroots teacher-led movements (Ireland); the Children in Nature network (US); continuing professional development, teacher education and collective provision (Australia, England, Scotland, Sweden, Switzerland); school grounds infrastructure development (Sweden, US, Japan); and outdoor learning being enshrined in educational policy, teachers' registration and professional recognition (Denmark, Norway, Scotland). To conclude,

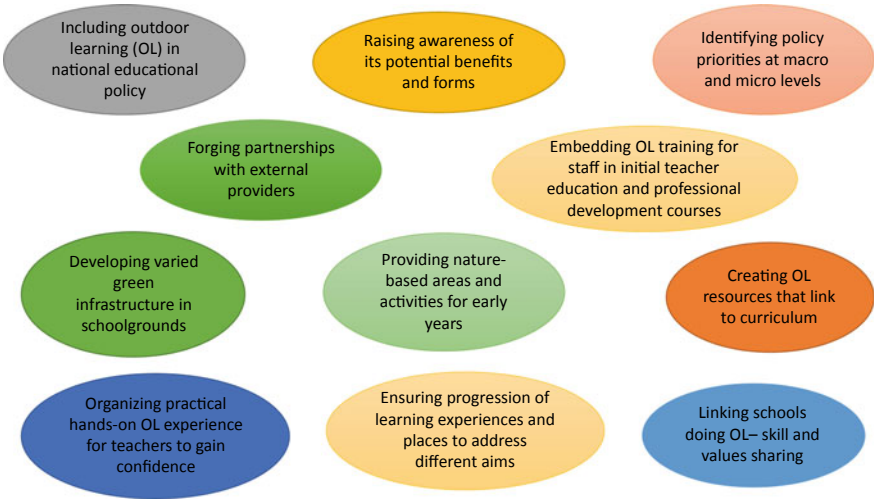

Fig. 1 Possible actions in developing school-based outdoor learning

Fig. 1 summarizes some possible actions that warrant consideration at national and local levels to support the further development of school-based outdoor learning.

Recommended further reading

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3. Alderslowe, L., Amus, G. & Devapriya, D.A. (2018) *Earth Care, People Care and Fair Share in Education: The Children in Permaculture Manual*. ERASMUS+project. https://issuu.com/childreninpermaculture/docs/cip_manual (accessed 01/09/2021).

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