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To cite this article: Sue Waite, Mads Bølling & Peter 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, DOI: [10.1080/13504622.2015.1075193](https://doi.org/10.1080/13504622.2015.1075193)

To link to this article: <https://doi.org/10.1080/13504622.2015.1075193>



Published online: 18 Aug 2015.



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Comparing apples and pears?: a conceptual framework for understanding forms of outdoor learning through comparison of English Forest Schools and Danish *udeskole*

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(Received 4 October 2014; accepted 16 July 2015)

Using a conceptual model focused on purposes, aims, content, pedagogy, outcomes, and barriers, we review and interpret literature on two forms of outdoor learning: Forest Schools in England and *udeskole* in Denmark. We examine pedagogical principles within a comparative analytical framework and consider how adopted pedagogies reflect and refract the culture in which they are embedded. Despite different national educational and cultural contexts, English Forest Schools and Danish *udeskole* share several commonalities within a naturalistic/progressive pedagogical tradition; differences appear in the degree of integration within national educational systems. Global calls for increased connection to nature and recent alignment of results-driven school systems in both countries influence their foundational principles, perhaps leading to greater convergence in the future. We argue that close attention to pedagogical principles are necessary to ensure better alignment of purpose and practice to elicit specific outcomes and enable comparison between different types.

Keywords: comparative; culture; outdoor education; pedagogy; policy; practice

Introduction: a need to understand contextual influences on pedagogy

Forest Schools and *udeskole* are two forms of outdoor learning for children at primary/elementary school level in England and Denmark that have emerged over recent years within a northern European educational context. Both movements are spreading across their respective countries. However, important differences in the ways these approaches are underpinned philosophically and practically might be anticipated through different cultural traditions regarding the outdoors (Passy et al. 2013). The context for their expansion and the challenges in terms of their positioning within mainstream educational practice vary (Kelly et al. 2013; Waite and Davis 2007), but they share commonalities in terms of their setting outdoors, holistic educational approach (United Nations 1989), and claimed benefits from outdoor learning (Dillon and Dickie 2012). In addition, diverse non-standardised practice can be challenging to study. Hill (2006), for example, used the metaphor of

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This article was originally published with errors. This version has been amended. Please see Erratum (<http://dx.doi.org/10.1080/13504622.2015.1112964>)

comparing apples and pears to describe her analysis of widely differing practice in teacher assessment in New Zealand schools. In this article, we argue that by structuring comparison of different forms, in this case the ‘apple’ of Forest Schools with the ‘pear’ of *udeskole*, we enable attention to be directed to features that may often be overlooked in treating outdoor learning as a homogenous entity able to deliver the full range of benefits claimed across various examples.

Literature about these two forms of outdoor learning often fails to look beneath description of practices and outcomes to the underlying philosophical and pedagogical basis for their implementation (Leather 2013; Scott, Reid, and Jones 2003). For example, Education for Sustainable Development (ESD) and Environmental Education (EE) might be regarded as specific aims within the broader remit of outdoor learning, although these are not only taught outside the classroom, nor necessarily delivered by all forms of outdoor learning. We deliberately use the term ‘outdoor learning’ since this encompasses a broad range of purposes and methods, including serendipitous and non-taught learning that are commonly reported in outdoor contexts through Bernstein’s ‘invisible pedagogies’ (1996). We also wish to distinguish our term from Outdoor Education (OE) to highlight a distinction between personal skills-based teaching with which OE is often associated, to social contexts for learning approaches. Biesta (2012, 36) noted:

The problem with the language of learning and with the wider ‘learnification’ (Biesta 2010a) of educational discourse is that it makes it far more difficult, if not impossible, to ask the crucial educational questions about *content*, *purpose* and *relationships* [our italics].

Whilst we agree that ‘learnification’ potentially side-lines the role of teachers in developing pupils’ knowledge, we suggest that ‘outdoor *learning*’ represents the deliberate learner-centred educational offer, where context, both social and environmental, play a significant role. The outdoors often foster greater co-construction of learning less determined by schooling norms which still often foreground acquisition of skills and knowledge through transmission teaching (Waite 2013). It was one of the terms used in our searches.

Commentators (e.g. Bereday 1964; Kelly 2013; McNess 2004) have emphasised the need to understand the development and adaptation of educational practice and cultural impacts within the comparative educational tradition. We argue that although comparisons across contexts are challenging, dialogue between cultural positions on pedagogy can help to make aspects of practice more visible for both parties and may help to develop an appropriate framework to consider other forms of teaching and learning in other countries and contexts, including approaches to ESD and EE. Pedagogical principles are vital in understanding practice (Dillon et al. 2005; Scott, Reid, and Jones 2003). Examining these principles from different perspectives and at different sociocultural levels, including cross-nationally, can help our understanding of how curriculum and outdoor educational practices are framed and shaped by cultural, social, political, and geographical influences (e.g. Kelly 2014; Turčová, Neuman, and Martin 2003; Waite 2013). We believe this paper can therefore contribute to methodology for comparative studies and to wider discussions about how these framing conditions can be taken into account to achieve intended outcomes.

In view of the limited knowledge of the influences that act on pedagogy and practice in this field, we intend to compare each form of outdoor learning as described in the literature and situate these within an analysis of commonalities and

differences. Our critical evaluation of studies that are generally small scale and dispersed collates and synthesises evidence from previously unpublished material as well as journal articles and books. First, we describe the methodology for our reviews and the conceptual framework. We then present features of Forest Schools and *udeskole* derived from our literature review, contextualised within the education systems and cultural antecedents in both countries. We develop our argument that they are underpinned by a similar philosophical approach but are interpreted and enacted differently due to distinct political and educational systems and their origins at different levels of education. Finally, we argue that awareness of global and varying cultural and political influences and underlying philosophies is essential in understanding and learning from cross-national comparative and collaborative research (Rea and Waite 2009; Waite and Pleasants 2012) and reflect how the use of this framework may better align purposes and pedagogies.

Methods: comparing pedagogical principles across contexts

Research design: a comparative educational framework

Comparative studies pose problems regarding subtleties of language, assumed and invisible meanings and culturally specific conceptualisations (Kelly 2014). We have been working collaboratively for some years, latterly supported by a grant from the Economic and Social Research Council and this has helped to expose potential misconstructions. To help us to frame this article and manage these challenges of comparison, we followed Bereday's (1964) systematic comparative educational framework with four stages: *description*, *interpretation*, *juxtaposition*, and *comparison*.

Separate reviews of each outdoor learning form were initially conducted by the researchers in that country and descriptions and interpretations generated using the conceptual framework developed by Waite, Davis, and Brown (2006a) as a guide. The interpretive descriptions were juxtaposed (Table 1) and further elucidation of principles was then supported by discussion between us to yield a comparative summary of areas of commonality and difference (Table 2). This enabled us to make analytical comparisons of features and move beyond simple descriptions of what happens to theorise why these features might occur and what purpose they might serve.

Data collection: search and review of literature on Forest Schools and udeskole

In order to gather a body of literature on Forest Schools, a range of electronic databases were searched using Metalib with key words 'forest' AND 'school'. This yielded 33,333 hits which contained 150 publications. Filtering these results with 'outdoor education' as well as 'outdoor learning' produced only 24 hits. Title scrutiny revealed that only 12 were about Forest Schools in England. Twenty-one non peer-reviewed reports and web-based literature derived from a Google search of 'Forest' and 'School' and 'England' were centred on English Forest Schools practice.

To identify reports on *udeskole*, we searched electronic databases (ERIC, Web of Science, Scopus, ProQuest, Taylor and Francis Online) filtered using the key words '*udeskole*' OR 'outdoor school' as well as 'outdoor learning' AND 'Danish/Denmark'. This resulted in the total of 442 records. A Google Scholar search using

the key words ‘*udeskole*’ OR ‘*udeundervisning*’ (Danish for outdoor teaching) resulted in 192 search hits.

Duplicated materials were removed. Inclusion of grey literature (unpublished reports and articles $n = 21$) and published works (mainly peer-reviewed journal articles $n = 18$) resulted in 28 records on Forest Schools and 11 records on Danish *udeskole*. Authored works that repeated information were excluded. A limited number of additional references were included where they became known during the process of writing the article. We deliberately employed a wide range of sources for both searches as the literature pool was relatively small so we needed to cast our net widely.

Data analysis: development of a pedagogical principles conceptual model

In their evaluation of the Growing Schools projects,¹ Scott, Reid, and Jones (2003, 25) argued for ‘a focus on *what, how and why things were achieved*, rather than a concentration on *what took place*’. Bereday (1957, 15) also emphasised that ‘no method is comparative unless it is preceded by a formulation of an abstract scheme which serves as a guiding hypothesis for the collection and presentation of comparative data.’ Following this advice, we applied a conceptual model to render underlying pedagogical principles more visible. This model emerged from a two-stage small scale study with a focus group and survey of English Forest Schools leaders (Waite, Davis, and Brown 2006a).

In our earlier work with Forest Schools (Davis and Waite 2005), we had been disappointed by fuzzy evaluations of implemented Forest Schools programmes, which seemed to do little more than reaffirm anticipated benefits without providing a clear understanding of why particular activities or pedagogies were employed or reliable definition and measurement of those claims (see also Leather 2012). The study (Waite, Davis, and Brown 2006a) was an attempt to link specific practice with certain outcomes, or at least Forest School leaders’ perception of those associations (Waite et al. 2006a). Open discussion of the following prompts in a focus group of Forest Schools leaders was followed up with a questionnaire:

- What are the fundamental guiding principles that underlie practice in Forest Schools?
- What distinguishes Forest Schools from other forms of outdoor learning?
- What is necessary in the environmental context for Forest Schools to be successful?
- What is the role of the Forest Schools leader in relation to the children, the activities and other adults in Forest Schools?
- What influence does Forest Schools have on participants? How do you know?
- What are the main issues facing Forest Schools at this time?

Independent analysis by three researchers of the discussion led to six conceptual elements: *purpose, aims, content, pedagogy, outcome, and barriers*. Using these to direct attention helps us to understand outdoor learning practice. Indeed, Pollard (2010) also highlighted aims, context, process, and outcomes as key concepts in a professional framework for teaching and learning in general. We follow Bereday’s (1964) analytical plan for comparative work. We describe and interpret, then juxtapose and compare different aspects of pedagogy arising from

our conceptual pedagogical framework. Thus, our article responds *post hoc* to the call for greater critical consideration of ‘*how and why*’ and the desire for clearer delineation of what different outdoor learning is *for* (Scott, Reid, and Jones 2003).

Results: juxtaposition of Forest Schools and *udeskole* principles

In the following table, our literature review is synthesised within the pedagogical elements of our conceptual framework. We then interpret the implications of these characteristics for practice. To avoid repetition, we have not included supporting references, which are set out in Table 1, in the text unless they add further detail.

Table 1. Juxtaposition of principles of Forest Schools and *udeskole*.

Concepts	Forest Schools		<i>Udeskole</i>	
Purpose	Antidote to nature deprivation	(Davis and Waite 2005; Knight 2008, 2009)	Bottom-up counterculture of traditional education	(Bentsen 2013; Bentsen and Jensen 2012; Mygind 2005)
	Increasing children’s motivation to learn	(Kenny 2010; Knight 2011; Waite and Davis 2007)	Supplement to indoor theoretical teaching	(Bentsen and Jensen 2012)
Aim	Self-confidence and self-esteem.	(Anon n.d.; Constable 2012; Elliott 2014; Massey n.d.; Murray 2004; Swarbrick, Eastwood, and Tutton 2004; Waite and Davis 2007)	Academic achievement, school engagement and motivation to learn	(Bentsen and Jensen 2012; Mygind 2005; Wistoft 2013)
	Social and personal well-being.	(Borradaile 2006; Elliott 2014; Murray and O’Brien 2005; O’Brien and Murray 2006, 2007; Roe and Aspinall 2011; Shields 2010)	Physical activity, social and personal well-being	(Bentsen and Jensen 2012; Mygind 2005)
	Physical activity Environmental awareness.	(Murray and O’Brien 2005) (Anon, n.d.; Borradaile 2006; Elliott 2014; O’Brien and Murray 2006, 2007)	(See above.) Awareness of culture, nature and sustainability	(Bentsen and Jensen 2012; Wistoft 2013)

(Continued)

Table 1. (Continued).

Concepts	Forest Schools		Udeskole	
Content	Holistic development of child	(Borradaile 2006; Elliott 2014; Murray 2003; Murray and O'Brien 2005; O'Brien and Murray 2006; Waite, Davis, and Brown 2006a)	Curriculum-based and cross disciplinary	(Bentsen and Jensen 2012; Hare et al. 2010)
	Activities based programme	(Borradaile 2006; Davis and Waite 2005; Falch-Lovesey, Lord, and Ambrose 2005; Murray and O'Brien 2005; Waite and Davis 2007; Waite, Davis, and Brown 2006a)	All school subjects, mainly science, math, Danish (mother tongue) and PE	(Bentsen and Jensen 2012; Mygind 2005; Wistoft 2013)
	Woodland environment preferably	Knight 2008; Murray, 2003; Murray and O'Brien 2005; Waite, Davis, and Brown 2006a)	People, places and activities in the local environment	(Bentsen 2013; Hare et al. 2010; Wistoft 2013)
Pedagogy	Unclear relationship to schooling	(Maynard 2007c; Slade, Lowery, and Bland 2013; Waite and Davis 2007)	Ad-hoc experiential education in outdoor and green environments	(Bentsen and Jensen 2012; Bentsen, Schipperijn, and Jensen 2013)
	Inductive learning approach	(Anon, n.d.; Borradaile 2006; O'Brien and Murray 2006; Slade, Lowery, and Bland 2013; Waite Davis, and Brown 2006a)	Inductive learning approach	(Mygind 2009)
	Pupil-centred approach	(Anon, n.d.; Knight 2008; Davis and Waite 2005)	Pupil-centred approach	(Bentsen and Jensen 2012)
	Qualified specialist trained leaders	(Anon, n.d.; Forest Education Initiative n.d.; FSA website n.d.; Knight 2009)	Drawing on teacher passion	(Wistoft 2013)
Outcome	Motivation and concentration	(Hughes and Jenner 2007; Murray and O'Brien 2005; O'Brien 2009; Slade, Lowery, and Bland 2013; Davis and Waite 2005)	Enhanced learning, promotion of interest and school engagement	(Bølling, Hartmeyer, and Bentsen in review; Wistoft 2013)

(Continued)

Table 1. (Continued).

Concepts	Forest Schools	<i>Udeskole</i>		
	Environmental education	(Falch-Lovesey, Lord, and Ambrose 2005; Knight 2009; Maynard 2007a, 2007b; Murray and O'Brien 2005; O'Brien and Murray 2006; Ridgers, Knowles, and Sayers 2012)	Understanding of biodiversity, sustainability and community cohesion	(Wistoft 2013)
	Language and communication skills	(Butwright, Falch-Lovesey, and Lord 2007; Davis and Waite 2005; Murray and O'Brien 2005; Slade, Lowery, and Bland 2013)	Skills of communication and varied language function	(Herholdt 2003; Wistoft 2013)
	Sociability and interpersonal skills	(Borradaile 2006; Davis and Waite 2005; Knight 2009; Murray 2003; Murray and O'Brien 2005; O'Brien 2009; Ridgers, Knowles, and Sayers 2012; Slade, Lowery, and Bland 2013)	Promotion of positive social relations and competences	(Bentsen, Mygind, and Randrup 2009; Hartmeyer and Mygind 2015; Mygind 2005; Wistoft 2013)
	Increased physical activity and motor skills	(Knight 2009; Murray and O'Brien 2005; O'Brien and Murray 2006; Ridgers, Knowles, and Sayers 2012)	Higher level of physical activity and motor-skills	(Mygind 2005, 2007; Wistoft 2013)
	Self-esteem and self-confidence	(Constable 2012; Davis, Rea, and Waite 2006; Hughes and Jenner 2007; Murray and O'Brien 2005; Waite and Davis 2005)		
Barriers	Cost of transportation and extra staff	(Waite, Davis, and Brown 2006b)	Travel time, cost of transportation and extra teachers	(Bentsen et al. 2010; Mygind 2005)
	Crowded curriculum	(Waite, Davis, and Brown 2006b)	Crowded curriculum and academisation of schools	(Bentsen et al. 2010)

(Continued)

Table 1. (Continued).

Concepts	Forest Schools	<i>Udeskole</i>		
	Funding for outside providers to deliver	(Waite, Davis, and Brown 2006b)	Upgrading of teacher qualifications	(Bentsen et al. 2010)
	Safety concerns	(Knight 2009; Ridgers, Knowles, and Sayers 2012; Waite, Davis, and Brown 2006b)	Difficult for teachers to find support for practice	(Bentsen et al. 2010)

Purpose

In England, Forest Schools appears generally to offer repeated opportunities for children to connect with nature by providing one half day session outside the classroom in natural spaces during the school week, although some operate independently as informal education. It is often meant to motivate children for school and indications suggest that its purpose is being associated increasingly with specific learning outcomes in order to increase the uptake of Forest Schools through alignment with mainstream priorities or latterly ESD outcomes.

In Denmark, although *udeskole* is also not explicitly mentioned in any formal curriculum as a bottom-up educational grassroots movement, it arises from the personal initiative of enthusiastic teachers or dedicated schools moving parts of their teaching from the classroom to local environments. Therefore, *udeskole* might be seen as a critical response to schooling that focuses on the classroom as the only space for learning; text as the principal medium for transferring knowledge; and the teacher as the one who knows best, discounting other places, people and activities.

Aims

There are four principal aims for Forest Schools: the development of self-confidence and self-esteem; behavioural, social, emotional wellbeing; physical health; and awareness and respect for the natural environment. These aims are Forest Schools practitioners' rather than teachers' (or children's) and underpin the holistic approach to child development and education that Forest Schools in England embraces; the focus is upon meeting each child's needs in terms of foundational competences and attitudes, potential precursors to educational attainment. It is also argued that the environment benefits through enhancing children's awareness of and attachment to nature, and contributing to ESD.

Danish school teachers' aims for *udeskole* as part of compulsory educational activities are to deliver a range of academic, social, motivational, and health related aspects including the ability to promote concentration, learning, and support for pupils' academic outcomes. Use of the local and outdoor environments helps to contextualise learning in concrete experience providing authenticity to the learning process and promoting curiosity. In particular, it is argued that green environments promote awareness, knowledge and skills on cultural use, sustainability, and aesthetic qualities of nature, which might be viewed as precursors to ESD (Chawla 1988). *Udeskole* aims to enhance physical activity as a counterbalance to sedentary work indoors.

Content

Forest Schools are supposed to include

- (1) A long-term regular programme of visits;
- (2) A woodland or wooded context;
- (3) Holistic development of the child;
- (4) Qualified Forest Schools practitioners; and
- (5) Child-centred processes to encourage a community of learners.

But ideals may not always be realised. Knight suggested that Forest Schools are simply defined by ‘where Forest Schools rules apply’ (2009, 15), but what these ‘rules’ are and who decides them, remains contested. The content of sessions are activities, which include games to encourage interaction, close attention to nature and the use of woodworking tools and fire (Davis and Waite 2005); the focus is not often on school subjects. Yet, it would appear that content is sometimes colonised by school norms to address curricular goals. Some Forest Schools leaders are teachers, but many are outside providers and relationships between school and Forest Schools can be problematic.

In contrast, *udeskole* is practised by teachers themselves, so all school subjects are implemented, albeit science, math, Danish (mother tongue) and PE most frequently. *Udeskole* often has cross-disciplinary content related to knowledge and understanding of particular places, people and activities in the local environment, which may contribute to knowledge of cultural aspects of academic subjects.

Pedagogy

Pedagogy for learning in Forest Schools is initially highly structured, becoming more unstructured, play-based and child-led over a planned programme. Children can make personal choices, for example, about how, whom, when, and what to play with and learn through, and choice is thought to connect them with each other and the natural environment. Classroom teachers observing children learn, play and interact outside classrooms permits new relationships and perspectives to develop. Different behaviour in Forest Schools, revealing hidden strengths or challenges, can help teachers to identify learning styles and appropriate pedagogy.

There can be a tension between child-led and structured activities in Forest Schools in that greater engagement of children and rich learning opportunities have been observed in the free time *between* activities (Waite and Davis 2007). Waite and Davis (2007) also observed that the enactment of principles varied, with some adults struggling to modify pedagogy from their usual adult-directed teaching. Site safety is also prioritised and may account for the highly structured activities and high adult-child ratios, but the aim is to support children’s freedom to explore without excessive adult intervention, their learning to take measured risks and to safely interact with, learn from, and respect the natural environment over time. Although the environment itself contributes to Forest Schools pedagogy, the emphasis is distinctly anthropocentric, focused on the child rather than the environment (Davis 2009).

Udeskole, on the other hand, arises as an ad hoc alternative to the indoor classroom teaching, a part of the teachers’ wider pedagogical repertoire. The approach draws on a philosophical progressive reform pedagogical² tradition with an empha-

sis on pupils' interaction, opportunities for spontaneity, play, stimulation of curiosity, and a first-hand visual approach in outdoor and green environments. Due to different structures and facilities in various outdoor environments, teachers perform their teaching differently compared to traditional indoor classroom teaching; for example, using more inductive learning activities such as problem solving tasks that demand collaboration amongst pupils. Thus, *udeskole* encompasses humanistic pupil-centred pedagogy with an active role for pupils in their learning activities that makes learning more relevant for the pupils, whilst providing teachers with the opportunity to show their personal passion in life and through their own fascination engage their pupils' school motivation.

Outcomes

According to the texts analysed, self-esteem and self-confidence are developed in Forest Schools as children become familiar with routines and successfully complete achievable/manageable tasks. Waite, Davis, and Brown (2006a, 17), in their associative analysis of Forest Schools leaders' discourse about outcomes and pedagogical principles, found that '[l]inks for the "development of self-esteem" appeared to be with the "opportunity to try things several times", the "breaking down of tasks into small achievable chunks that guaranteed success", responsiveness to the needs for "movable boundaries" [and] the use of the "natural environment"'. In addition, sociability and interpersonal skills are attributed to opportunities for children to speak and listen in turn, get to know each other and work collaboratively and also supported children's development of language and communication skills. Enhanced vocabulary use during Forest Schools programmes was ascribed to the rich sensory environment, which also enabled children to explore natural habitats, stimulating their inquisitiveness and developing their motivation and concentration. Since much Forest Schools practice is child-initiated and child-led, children pursue and participate in tasks and activities that are of keen personal interest. O'Brien and Murray (2006) attributed the development of children's physical skills to rough terrains which pose physical challenges. Regular physical activities, such as climbing trees, balancing on logs, sliding on muddy slopes, and building of make-shift shelters, using a variety of tools, not only offered opportunities for gross and fine motor control, but also resulted in visible improvements to children's physical development and stamina. Children's appreciation, respect and care for the natural environment were linked to heightened awareness of the natural environment through repeated visits in different seasons.

Several similar positive outcomes have been attributed to *udeskole*, including academic, personal, social, and physiological benefits. It enhances learning outcomes and increases motivation by stimulating pupils' interest. Specific outcomes include enhanced sensory awareness and understanding of links between green environments and community. Furthermore, *udeskole* appears to support new and more varied relations among classmates, social competences and teamwork. From a health perspective, natural settings can also stimulate coordinative and motor skills promoting higher levels of physical activity compared to normal classroom teaching. These outcomes, however, depend upon how teaching activities are organised with the individual teacher playing a considerable role in creating learning experiences that promote physical activity. Other studies have found increased language and communication functions compared to classroom practice.

Barriers

Financial considerations are often an obstacle in providing Forest Schools. For example, in their survey of classroom teachers, Waite, Davis, and Brown (2006b) found funding issues associated with providing a sufficiently extended period of time for Forest Schools; inclusivity of all children through necessary targeting of some children (e.g. those with perceived low self-esteem or behavioural problems); and access to sites because of transportation costs. In addition, the national curriculum was sometimes perceived as leaving insufficient time for outdoor learning. Risk averse safety concerns were also thought to impact.

Many Danish urban schools need to travel to green and forested places for *udeskole*, causing barriers of transportation cost and travel time. As *udeskole* is often delivered by two teachers, additional teaching costs apply. Moreover, upgrading teacher qualifications to acquire skills in supporting outdoor learning can also reduce uptake, and some school staff are not confident that they will find support or interest from managers of green space, parents or indeed children themselves (Bentsen et al. 2010). The same study found that some teachers experienced barriers to implementing *udeskole* due to a crowded curriculum, inflexible timetables, and perceived external performance pressures derived from increased systematisation and academisation of Danish schooling. Major barriers to practicing *udeskole* include both financial constraints and pedagogical ideology within specific schools.

Discussion: learning from commonalities and differences

In describing, interpreting and juxtaposing principles from literature on both Forest Schools and *udeskole* above, we discern commonalities and points of difference. As both Kelly (2014) and Macquarrie, Nugent, and Warden (2013) observed, comparative research is fraught with difficulties of knowing whether these perceptions of sameness and difference are valid or the product of linguistic and cultural misunderstandings.

Following iterative discussions and clarifications of meanings, we summarised the comparison in Table 2, and, in subsequent sections, we contextualise the development and enactment of the two forms highlighting critical issues for both forms of outdoor learning.

Educational systems and outdoor learning's cultural historical antecedents

In order to contextualise identified critical issues, we will briefly outline some of the educational and popular cultural influences in England and Denmark.

Forest Schools are situated within the wider English educational system with its own cultural historical development. Successive governments' acknowledgement of the importance of the early years for social and economic outcomes led to the establishment of a Foundation Stage in England which runs from 0–5 years, but most children start school at age 4 and begin national curriculum subjects at 5–6 years of age entering Key Stage 1. This move to the national curriculum subjects signals a marked shift for children's experience of education from child-led to more teacher-directed and content-determined learning and from more active to passive learning modes; although outdoor learning has been found to mediate this transition (Waite, Rogers, and Evans 2013). At age 7 children move to Key Stage 2; from this point,

Table 2. Summary of key commonalities and differences.

		Forest Schools	<i>Udeskole</i>
Commonalities	Pedagogical tradition	Naturalistic/progressive	
	Degree of establishment	Relative new forms of outdoor learning practice	
	Setting	(Mainly) green natural environments	
	Educational approach	Holistic and whole child. Child-led/pupil-centred approach.	
	National educational culture	Academic achievement and testing	
Differences	Establishment	Swedish Forest Schools Kindergartens	<i>Uteskole</i> in Norwegian Elementary schools
	Pedagogic principles	Top-down	Bottom-up
	Educational approach	Early-educational approach	Socio-pedagogical approach
	Level of education	Principally early years and primary school (3–11 years)	Primary and lower secondary school (6–16 years)
	National educational system	High degree of neoliberal control over education	Liberal central regulation of education
	Monitoring and evaluation	Patchy, provider-based	Local and school-based
	Curriculum integration	Elective (not always linked with curriculum aims)	Part of curriculum (but not explicitly mentioned)
	Timetable integration	Usually additional and time limited within timetable	Regular and widespread
	Curriculum development	A special programme, centrally determined but locally enacted	Fits with the local curriculum plans as a teacher initiated initiative
	Educator responsible	Specialist – trained Forest Schools leader	Generalist – Classroom/ Subject teacher
	Barriers	Risk, safety and cost	Safety is not a barrier

opportunities for outdoor learning further sharply decline (Rickinson et al. 2004; Waite 2010). Although the English government's educational policy is dominated by a testing regime and narrowing of content in the curriculum (Kelly et al. 2013), this is combined with a broadening context of what counts as 'school', including academies and free schools which do not have to follow the national curriculum. It is unclear as yet whether this will bring greater freedom to practice Forest Schools,

but, like the adoption of Scandinavian forest kindergarten ideas in English Forest Schools itself, these new school types, based upon US charter schools and Scandinavian free schools, represent an example of policy borrowing from other countries without due consideration of cultural factors (Halpin and Troyna 1995).

In 2001, the Danish liberal government introduced a new curriculum 'Clear Goals' (*Klare Mål*) emphasising teachers' autonomy to define their own lesson plans and apply teaching methods of their own choice (Wiborg 2013). However, in 2003, a new curriculum was implemented 'Common Goals' (*Fælles Mål*) with a greater emphasis on the development of competences, resulting in reduced autonomy for teachers. Along with a promotion of an evaluation and test culture towards the end of the last decade, these changes have resulted in a greater focus on testing and academic performance in Denmark (Wiborg 2013).

Wider historical pedagogical influences have acted across both contexts. European early childhood educationists such as Pestalozzi and Froebel and social theorist and reform pedagogue, Rousseau, emphasised the importance of the natural environment for children's learning, health and emotional well-being (Wellhousen 2002). Others including MacMillan and Isaacs in England, Key in Sweden and Montessori and Steiner argued for emotional, social, intellectual, and spiritual links between the natural environment and children's naturalistic/natural, holistic development (Bilton 2005; Garrick 2009; Key 1909). Dewey's ([1938] 1997) work on experiential learning provides a seminal foundation for outdoor learning such as Scandinavian variants of *udeskole* and Forest Schools.

At a societal level, it is widely maintained across different cultures that nature has a crucially important role in children's and adolescents' education, health and wellbeing (Bentsen, Andkjær, and Ejbye-Ernst 2009; Maller et al. 2005; Pointon 2014). However, the industrialisation and urbanisation of societies has dramatically lessened children's engagement with the outdoors (Rickinson et al. 2004). In England, this has been exacerbated by health and safety issues with negative media coverage and restrictive government legislations (Gill 2009), but risk has not impacted to the same extent in Denmark (Waite and Davis 2007), where recent governmental educational policy has supported teachers' use of the natural and cultural environments to support learning (The Danish Government 2012). Cultural attitudes towards nature are differently expressed in national popular media across the globe (Lynch, Moore, and Minchington 2012); Scandinavia has traditionally been associated with strong cultural affiliation with nature, *friluftsliv* (Henderson and Vikander 2007). Nevertheless, the simultaneous growth of Forest Schools in England and *udeskole* in Denmark is perhaps indicative of a wider global movement advocating that the natural environment remains one of the venues where education and enculturation takes place in the primary years (Ernst 2014; Louv 2005).

The development of the two approaches

Forest Schools and *udeskole* originate from different levels of the education system. Forest Schools started with inspiration from Swedish Forest Kindergartens (Forest Schools Association (FSA) website); *udeskole* emerged from the Norwegian concept of *uteskole* used in elementary/primary schools (Jordet 2008) and wider Scandinavian traditions of outdoor pedagogy. These distinct geneses within kindergartens and schools impact upon the degree to which each is embedded within schooling and flows through to how their common naturalistic/progressive pedagogical approach is

enacted. Westbury (1995) and Hopmann and Riquarts (1995) argued that there are broadly two overarching, although not entirely mutually exclusive, educational traditions: a German *didaktik*-tradition and an Anglo-Saxon/-American curriculum tradition.

The differences in these traditions are related to the national teaching profession and the idea of *bildung*.³ In Germany, teaching originated in theology and was vocational (Hopmann and Riquarts 1995). Founded upon local interpretation of curriculum, a large degree of autonomy is afforded teachers in this tradition (Westbury 1995). Education and development in the *didaktik* tradition are linked closely to *bildung*, where the individual is formed in her/his own right (Krejsler 2007); the enactment of curriculum is responsive to the individual rather than vice versa and to Rousseau's concept of education as natural development (Bjerg and Elle 2007).

In the curriculum tradition, education and the development of the individual tends to be based on fixed content driven curricula; to be educated, individuals need to accomplish specific knowledge and skills (Buchardt 2007). Teachers are trained in the most effective method to deliver the content, which reduces the possibilities of professional autonomy (Westbury 1995).

Bildung as a concept may underpin both forms. However, *udeskole* fits with traditions of teacher autonomy in Denmark, while Forest Schools aligns more with early years practice in England. Thus, extension of Forest Schools practices from early years to primary/elementary and secondary levels of education presents more conflict with the curriculum tradition of mainstream schooling and established, more prescribed, teaching methods for older children in England following specific curriculum content (Waite 2010).

Both forms are relatively recent movements and experiencing rapid expansion. *Udeskole* has more grassroots development within schools since it is most often practised by teachers rather than outdoor activity providers. Forest Schools in the UK originated through borrowing early years practice from Scandinavia and was initially practised by early years practitioners. However, the roll out of Forest Schools was largely through independent provider businesses that worked with schools offering standalone programmes, and then through an accredited training scheme that attempted to kitemark the model and protect the brand. National bodies (Forest Education Initiatives (FEI) within the Forestry Commission) oversaw some of this development. During 2009/10, FEI was comprised about 70 cluster groups across the UK; in 2012, FEI became the Forest Education Network in England. The Forest School Association (FSA) also acts as an umbrella body. This process of increased formalisation (Cree and McCree 2012) has resulted in more top-down specified criteria for what Forest School is or isn't and who is authorised to lead them. To lead a Forest Schools programme it is necessary to be a Level 3 certificated and qualified Forest Schools practitioner, and hold a current and appropriate Outdoor First Aid qualification; a teaching qualification is not adequate. Although some local authorities and schools have chosen to train teachers or teaching assistants for in-school provision, continuing issues remain about the congruence of Forest Schools' and schooling's ethos (Cree and McCree 2012; Maynard 2007c).

The practice of the two approaches

Conditions within the national educational systems and in the space between the state, the market and civil society enable and limit practice of Forest Schools and

udeskole. Although both forms have similar educational and pedagogical ideals, the challenge for English schools to implement these may be more acute. The early years ethos that reflects Forest Schools origins may need revisiting to meet educational needs of different age groups. Alternatively, a rethinking might be required of how its outcomes, as precursors to learning, could be acknowledged at all stages of education. In Forest Schools, outcomes such as self-esteem or social skills are seen as foundational to but outside of the English curriculum, while for *udeskole*, the curriculum is the vehicle for achieving them. In Forest Schools, activities rather than subjects are the main content which challenges the degree to which they can be embedded in schooling. Furthermore, attempts to maintain purity of the Forest Schools form, crystallised within a set of defined principles (FSA website), may work against flexible adaptation to local contexts or for specific purposes such as ESD. Nevertheless, the commercial imperative may lead to a dilution of principles to accommodate client locations and needs, for example, through beach or green space schools or to address school priorities. Thus, the form begins to float free of particular environmental features, apparently reducing place significance for practice. Since *udeskole* practice is developed by teachers *within* their school context, its relationship to indoor priorities and pedagogy is inherent.

Both forms of outdoor learning claim awareness of the environment to be an aim and outcome but this appears to align more with cultural attitudes towards *friluftsliv* than the moral panic of children's disconnection from nature (Louv 2005) in England, which may be rooted in an individualistic anthropocentric focus on the child rather than the environment. Certainly, Cooper (2010) argues the level of ESD indicators appears low in Forest Schools compared to other programmes reviewed within his article. In addition, they both experience some difficulties in accessing local natural environments in urban areas, although there are often small pockets of 'nearby nature' that schools might access (Hare et al. 2010; Natural England 2010). However, these small green oases would be deemed unsuitable if Forest Schools' content were to be strictly interpreted as woodland, troubling the significance of trees and forest in that offer. In *udeskole*, school-directed outdoor learning also includes other non-natural environments. Furthermore, while research points to the importance of blue and green environments for the benefits for children and the environment (e.g. Chawla 1988; Phenice and Griffore 2003); others (e.g. Davis 1998) contend that spending time in the natural environment does not automatically translate into pro-environmental attitudes or behaviour. Alignment with wider cultural attitudes and educational priorities also influence the impact on ESD.

Embeddedness in the state educational system

The principal difference between Forest Schools and *udeskole* then appears related to their integration with general schooling practice, with its power to determine curriculum content and teaching methods. Both forms of outdoor learning are embedded within educational cultures prioritising academisation and testing (Kelly et al. 2014; Wiborg 2013). However, the different national systems shape the space for practice through difference in central light-touch regulation of education in Denmark (Hopmann and Riquarts 1995) and more neo-liberal decentralised but assessment controlled education in England (Kelly et al. 2014). Integration of outdoor learning practice within schooling as in *udeskole* means that alignment with assessment and evaluation, curriculum coverage and timetabling are less challenging. The school

teacher is responsible for identifying the areas of learning in *udeskole* that would benefit from being taught outside the classroom. Forest Schools providers need to work closely with school staff to agree ways that Forest Schools pedagogical principles can support mainstream aims, sometimes leading to misunderstandings about who is responsible for behaviour and learning (Maynard 2007c; Waite and Davis 2007). This tension is exacerbated by greater risk aversion in the English context, which may encourage teachers to pass responsibility to external ‘expert’ providers (Waite, Huggins, and Wickett 2014).

Accounting for commonalities and differences

To summarise, the different development of the English and Danish systems of education in terms of culture, local customs, market, political agendas, and ideology (McNess 2004) combine to make *udeskole* a more embedded form of outdoor learning. We argue that the locus of origin (within schooling or an environmental sector organisation) influences how each evolves and integrates with schooling. Forest Schools remains largely an external school service operating between market forces and nature ideology; whilst *udeskole* is a school-based internal approach. Both are subject to political pressures for educational performativity.

The greater integration of *udeskole* in schooling practice may also arise because it represents less conflict with the dominant educational discourse of autonomy for teachers in Denmark (Hopmann and Riquarts 1995); whilst Forest Schools aims and the performativity educational agenda in England mean it is often a fringe activity that lies outside central curriculum experience (Waite and Davis 2007). On the one hand, we see from our contextualisation that the two educational systems are converging in firstly, placing high importance on academic performativity (Ball 1998) and secondly, responding to global popular concerns about children’s attachment to nature (Louv 2005). But this plays out differently in the two countries because of long established cultural attitudes to the outdoors, professional approaches of teachers and a shorter history of competency focus in Danish *bildung*-inspired educational cultures (Westbury 1995). Moreover, their different roots in early years and schooling lead the two forms to sit more or less easily within primary educational provision. In the last two decades, privatisation has made neo-liberal advances in governing education (Simons, Lundahl, and Serpieri 2013). This development is also apparent in Forest Schools where increasing commodification arises both from commercialisation of external Forest Schools business providers and through colonisation of the approach by mainstream educational agenda (Loynes 1998; Rea and Waite 2012), creating tensions between purpose and practice. In the Danish context, the long period of trust in professional expertise to use personally developed pedagogy supports *udeskole*’s congruence with schooling agenda. Yet, as both expand from their original levels of the education system (forest kindergartens and elementary/primary school), practice is refracted by new demands constructed around these different educational levels, leading to conflicting pressures (Goodson and Rudd 2012).

Theoretical and methodological considerations

The fluid nature of practice (Kelly 2014) often makes comparative snapshots flawed. However, our data for this article is drawn from representation of outdoor learning

forms through texts (Hall 1997) rather than first hand empirical study. This brings both advantages and disadvantages. The description of practice is already done in the articles reviewed and in some cases is aggregated across examples, permitting multiple snapshots. The literature was interpreted firstly by academics within each culture, but a common conceptual structure helped us to tease out uncertainties. Without it, our contribution to international debate and the development of these two relatively underexplored educational approaches would be compromised. However, a disadvantage was that, due to the relative paucity of available material, constructivist (i.e. interpreted research findings) and intentional advocacy literature were included (Hall 1997) resulting in unevenness in the status of literature reviewed with more peer-reviewed published material on *udeskole* while more Forest Schools data stems from small scale case study reports and may lack criticality. As Leather (2012, 14) noted, for example; ‘claims regarding self-esteem are poorly evidenced, suggest a lack of understanding about the construct and its measurement as well as the associated issues’. In addition, there is also likely to be more variability between different Forest Schools and *udeskole* practice in enactment on the ground compared to described practice in the literature. More large scale studies and theoretical educational perspectives would enhance the evidence base for both forms (Bentsen, Mygind et al. 2009; Davis, Rea, and Waite 2006). However, this review exercise has supported clarification of issues *within* as well as *between* forms (Corcoran, Walker, and Wals 2004).

The origin of the two forms from different age periods affects the comparison but since transition to schooling is earlier in England (at age 4) than Denmark (at age 6); comparing *udeskole* and English Forest Schools relates overlapping age groups (4–11 in England and 6–16 in Denmark) and reflect children’s pedagogic experiences of *schooling* rather than their chronological age. By schooling, we mean children’s mainstream experience of education. This comparison therefore highlights how the wider educational landscape of schooling impacts on both forms.

Although both Forest Schools and *udeskole* are forms of outdoor learning, this field is broad and diverse and we might be accused of comparing ‘apples’ and ‘pears’. However, if we consider the diverse field of outdoor learning (Leather and Porter 2006; Rickinson et al. 2004) as a kind of fruit bowl, comparing ‘apples’ and ‘pears’, we argue, is a particularly valid and important exercise. Different forms of outdoor learning are often lumped together without considering how they cohere or diverge (Brookes 2002). Our comparative framework enables structured attention to the differences and commonalities between types of ‘fruit’ rather than homogenising them into a ‘fruit smoothie’, which precludes more nuanced understandings of distinct components and influences (Mannion, Mattu, and Wilson 2015).

Using the framework to review other models’ stated principles and at a micro level, for examining practice in individual Forest Schools, *udeskole* or other outdoor learning would help to focus attention on how and why outcomes are achieved. The framework could also potentially develop methodology for comparative studies by troubling broad brush assumptions of outdoor learning in different cultural contexts and drawing attention to their contributory components. For example, simple polarised contrasts between Scandinavian *friluftsliv* and British Outdoor Education (OE) character building offer an inadequate account for differences between these two examples which are likely to be influenced by local sociocultural and place-based contexts (Waite 2013). The process of *glocalisation* tends to lead towards ‘diminishing contrasts and increasing varieties’ (Waite 2013) which makes

structure in analytical exercises even more vital to draw out implications at international, national and local levels.

Implications for policy, practice and research

One commonality we found is that neither of these two forms of outdoor learning focuses principally on environmental education as an aim. Nevertheless, both seek to enhance children's engagement with nature, and arguably, education for sustainability outcomes may be achieved as a by-product (Stern, Powell, and Hill 2014). We suggest that this ESD by the back door may be particularly valuable where there are competing priorities in schooling due to pressures of neoliberal performativity.

Furthermore, using the framework for the development or enactment of outdoor learning can help educators to be mindful that not all outdoor contexts or pedagogy are equivalent or equally suited to sustainable education agenda, adding rigour to pluralist approaches (Öhman 2006) by examining the alignment of purpose, process and outcomes. For example, traditional skills-based OE programmes may involve travelling to remote wilderness, which stands somewhat at odds with sustainability (Wattchow and Brown 2011). Readers may also reflect on the extent to which the two examples presented could be said to meet wider ESD aims and how their own practice would map onto the framework to explicate specific contributory pedagogical features or assess how practice might translate in other sociocultural contexts.

Other movements with an environmental agenda have crossed such boundaries. Some schools practising *udeskole* are also Eco-Schools and some schools in England may also seek Eco-School badging through Forest Schools provision as the values of Forest Schools and Eco-School overlap to some extent. However, the operational scale is much smaller for both approaches compared in this paper. For example, there were over 1000 FSA (members in 2014 (FSA website); more than 290 schools were involved in *udeskole* in Denmark in 2007; but Eco-Schools reported more than 11 million students across 52 countries taking part in the Eco-Schools programme in 2011(<http://www.eco-schools.org/menu/about/eco-schools-2>). Analysis of Eco-Schools principles using this framework would be an interesting endeavour; purpose and aims are more focused on environmental issues and may elucidate pedagogical features that support ESD outcomes.

Further comparisons might be fruitful between *udeskole* and emergent locally generated outdoor learning practice in the UK, for example within the Natural Connections Demonstration Project in England (Waite, Passy, and Gilchrist 2014) that works with over 100 schools to support curriculum learning in local natural environments and in Learning Journeys (Beames and Ross 2010). These initiatives address barriers such as transport and availability of local green spaces which were noted in our analysis by using natural environments within walking distance of the school.

Arising from our international partnership network funded by the Economic and Social Research Council, we are developing a collaborative research project to parallel the Danish funded TEACHOUT (Mygind 2013). This proposes to compare data from UK schools developing diverse outdoor learning practice; firstly, with other UK schools that are not using outdoor learning and; secondly, with evidence from the parallel Danish study. Our aim through this article and through our planned empirical research is to elaborate policy and processes in outdoor learning across

national and cultural contexts that best meet educational needs, while acknowledging that schools' diversity and complexity inevitably also require local co-construction for sustainable solutions (Waite, Passy, and Gilchrist 2014). Using the conceptual framework of pedagogical principles helps to ensure that the links between process and outcomes, often omitted in evaluative reports of environmental education programmes (Cooper 2010; Stern, Powell, and Hill 2014), are taken into account.

Conclusion: principles to examine contextual influences in comparative review

Forest Schools and *udeskole* are both variants of outdoor learning sharing a similar naturalistic/progressive pedagogical tradition, metaphoric apples and pears within the fruit bowl of outdoor learning. Apparent commonalities sit within particular national educational systems, which construct specific educational cultures that shape Forest Schools and *udeskole*. Yet, both have arisen and exist in a tension between shared values and ideas (i.e. the naturalistic/reform pedagogical root) and systemic cultural distinctions (including professional autonomy, educational privatisation, marketisation and attitudes towards nature and risk). Recent political interest in *udeskole* and an increased focus on testing of Danish pupils may also circumscribe Danish teachers' autonomy within a narrower frame. Concurrently, there is growing global concern about children's lack of connection to nature, advocating for opportunities for learning in local natural environments within crowded curricula. This combination of circumstances may result in greater convergence between the two forms as these influences are refracted through national and local interpretations and become enacted. An inherent danger in this convergence is that distinctions between 'apples' and 'pears' become less visible and this can impact on the congruence of aims, process and outcomes within cultural frames through inappropriate transfer of policy or practice. Excellent practice in one country can be inspirational to others but being alert to purpose, process and cultural assumptions is essential if we are to learn lessons from near and far. Like Hill (2006), we found that an overarching framework adds clarity to contributing factors when looking at diverse practice. We suggest that the potentially rich resource of any form of outdoor learning is likely to be employed more effectively and expanded meaningfully within educational systems through similar attention to these elements and critical examination of the cultural values and purposes underpinning them.

Acknowledgement

We would like to thank the editor, anonymous reviewers and Professor Noel Gough for their valuable comments that helped shape this paper.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Economic and Social Research Council [grant number ES/J019445/1].

Notes

1. Growing Schools was funded by the Department for Education (2001–2003), and sought to encourage schools to make better use of the outdoor classroom as a context for teaching and learning, both within and beyond the school grounds.
2. Although the term ‘reform pedagogy’ is not formally used (Dansk Pædagogisk Tidsskrift 1996); the concept is associated by many teachers with a movement with roots dating back to Rousseau in the eighteenth century. It is identified with critiques of transmissive forms of education, arguing instead for emancipation within education, anchored in belief in the child’s own resources and agency, supported by curiosity, autonomy and empowerment (Bentsen, Andkjær, and Ejbye-Ernst 2009).
3. *Bildung* refers to the process of personal formation that brings about the inner development of the individual through education (Kelly et al. 2014, 567).

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References

- Anon. n.d.a. *Forest Schools England: Principles*. Accessed July 30, 2014. <http://www.worcestershire.gov.uk/cms/pdf/FOREST%20SCHOOL%20ENGLAND%20PRINCIPLE.pdf>
- Anon. n.d.b. *The Aims of Forest Schools*. Accessed July 30, 2014. <http://www.worcestershire.gov.uk/cms/pdf/Aims%20of%20FS%20Worcs.pdf>
- Ball, S. 1998. “Big Policies/Small World: An Introduction to International Perspectives in Education Policy.” *Comparative Education* 34 (2): 119–130.
- Beames, S., and H. Ross. 2010. “Journeys Outside the Classroom.” *Journal of Adventure Education and Outdoor Learning* 10 (2): 95–109.
- Bentsen, P. 2013. “Udeskole in Scandinavia: Teaching and Learning in Natural Places.” *The New Nature Movement*. Accessed December 17. www.childrenandnature.org/blog/2013/02/12/udeskole-in-scandinavia-teaching-learning-in-natural-places/
- Bentsen, P., S. Andkjær, and N. Ejbye-Ernst. 2009. *Friluftsliv: Natur, Samfund og Pædagogik* [Friluftsliv: Nature, Society and Education]. København: Munksgaard.
- Bentsen, P., and F. S. Jensen. 2012. “The Nature of Udeskole: Outdoor Learning Theory and Practice in Danish Schools.” *Journal of Adventure Education & Outdoor Learning* 12 (3): 199–219.
- Bentsen, P., F. S. Jensen, E. Mygind, and T. B. Randrup. 2010. “The Extent and Dissemination of Udeskole in Danish Schools.” *Urban Forestry & Urban Greening* 9 (3): 235–243.
- Bentsen, P., E. Mygind, and T. B. Randrup. 2009. “Towards an Understanding of Udeskole: Education outside the Classroom in a Danish Context.” *Education 3-13* 37 (1): 29–44.

- Bentsen, P., J. Schipperijn, and F. S. Jensen. 2013. "Green Space as Classroom: Outdoor School Teachers' Use, Preferences and Ecostrategies." *Landscape Research* 38 (5): 561–575.
- Bereday, G. Z. F. 1957. "Some Discussion of Methods in Comparative Education." *Comparative Education Review* 1: 13–15.
- Bereday, G. Z. F. 1964. *Comparative Method in Education*. New York: Holt, Rinehart and Winston.
- Bernstein, B. 1996. *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique*. London: Taylor and Francis.
- Biesta, G. 2010a. "Why 'What Works' Still Won't Work: From Evidence-based Education to Value-based Education." *Studies in Philosophy and Education* 29 (5): 491–503.
- Biesta, G. 2012. "Giving Teaching back to Education: Responding to the Disappearance of the Teacher." *Phenomenology & Practice* 6 (2): 35–49.
- Bilton, H. 2005. *Outdoor Learning in the Early Years. Management and Innovation*. London: Routledge.
- Bjerg, J., and B. Elle. 2007. "Fortællinger om frihed i dansk opdragelse og undervisning" [Tales of Freedom in Danish Upbringing and Education]. In *Klassisk og moderne pædagogisk teori* [Classic and Modern Educational Theory], edited by P. Ø. Andersen, T. Ellegaard, and L. J. Muschinsky, 121–155. Copenhagen: Hans Reitzels Forlag.
- Bølling, M., R. Hartmeyer, and P. Bentsen. in review. *Using Places outside the Classroom to Stimulate Pupils' Interest during Science Teaching*.
- Borradaile, L. 2006. *Forest Schools Scotland: An Evaluation*. Accessed July 30, 2014. www.forestry.gov.uk
- Brookes, A. 2002. "Gilbert White Never Came This Far South." *Canadian Journal of Environmental Education* 7 (2): 73–87.
- Buchardt, M. 2007. "Undervisningsmidlet Som Tekst i Institutionel Praksis" [The Teaching Material as Text in Institutional Practice]. In *Klassisk og moderne pædagogisk teori* [Classic and Modern Educational Theory], edited by P. Ø. Andersen, T. Ellegaard, and L. J. Muschinsky, 337–354. Copenhagen: Hans Reitzels Forlag.
- Butwright, C., S. Falch-Lovesey, and C. Lord. 2007. *Hopton Literacy Pilot: Using Forest Schoolss Experience as a Stimulus for Speaking and Listening, with a Focus on Raising Achievement in Boys Writing Using ICT*. Accessed June 12, 2012. www.schools.norfolk.gov.uk/myportal/custom
- Chawla, Louise. 1988. "Children's Concern for the Natural Environment." *Children's Environments Quarterly* 5 (3): 13–20.
- Constable, Karen. 2012. *Outdoor Classroom Ages 3–7: Using Ideas from Forest Schoolss to Enrich Learning*. London: Routledge. Accessed October 3, 2014. <http://www.mylibrary.com?ID=368698>
- Cooper, G. 2010. "Outdoor Learning, Environment and Sustainability: Presenting the Big Picture: Part 2." *Horizons* 50: 4–7.
- Corcoran, P., K. E. Walker, and A. E. J. Wals. 2004. "Case Studies, Make-your-case Studies, and Case Stories: A Critique of Case-study Methodology in Sustainability in Higher Education." *Environmental Education Research* 10 (1): 7–21.
- Cree, J., and M. McCree. 2012. "A Brief History of Forest School-Part 1." *Horizons* 60: 32–34.
- The Danish Government. 2012. *Gør en god skole bedre – et fagligt løft af folkeskolen* [Make a Good School Better – Academically Improvement of the Municipal Primary and Lower Secondary School]. Copenhagen: Danish Government.
- Davis, J. 1998. "Young Children, Environmental Education, and the Future." *Early Childhood Education Journal* 26 (2): 117–123.
- Davis, J. 2009. "Revealing the Research 'Hole' of Early Childhood Education for Sustainability: A Preliminary Survey of the Literature." *Environmental Education Research* 15 (2): 227–241.
- Davis, B., T. Rea, and S. Waite. 2006. "The Special Nature of the Outdoors: Its Contribution to the Education of Children Aged 3–11." *Australian Journal of Outdoor Education* 10 (2): 3–12.
- Davis, B., and S. Waite. 2005. *Forest Schools: An Evaluation of the Opportunities and Challenges in Early Years*. Plymouth: Plymouth University.

- Dewey, J. (1938) 1997. *Experience and Education*. New York: Touchstone.
- Dillon, J., and I. Dickie. 2012. *Learning in the Natural Environment: Review of Social and Economic Benefits and Barriers*. Natural England Commissioned Reports, Number 092.
- Dillon, J., M. Morris, L. O'Donnell, A. Reid, M. Rickinson, and W. Scott. 2005. *Engaging and Learning with the Outdoors: The Final Report of the Outdoor Classroom in a Rural Context Action Research Project*. Slough: NFER.
- Elliott, H. 2014. "Forest School in an Inner City? Making the Impossible Possible." *Education 3-13* 1–9. doi:[10.1080/03004279.2013.872159](https://doi.org/10.1080/03004279.2013.872159).
- Ernst, J. 2014. "Early Childhood Educators' Use of Natural Outdoor Settings as Learning Environments: An Exploratory Study of Beliefs, Practices and Barriers." *Environmental Education Research* 20 (6): 735–752.
- Falch-Lovesey, S., C. Lord, and L. Ambrose. 2005. *Forest Schools in Norfolk – Pilot Study Report and Evaluation*. Unpublished Report.
- Forest Education Initiative. n.d. *Setting up a FEI Forest Schools*. Accessed July 30, 2014. http://www.foresteducation.org/forest_schools.php?page=2
- Forest School Association (FSA) Website. n.d. Accessed July 30, 2014. <http://www.forestschoollassociation.org/>
- Garrick, R. 2009. *Playing Outdoors in the Early Years*. London: Continuum.
- Gill, T. 2009. *No Fear: Growing up in a Risk-adverse Society*. London: Calouste Gulbenkian Foundation.
- Goodson, I., and T. Rudd. 2012. "Developing a Concept of 'Refraction': Exploring Educational Change and Oppositional Practice." *Educational Practice and Theory* 34 (1): 5–24.
- Hall, S. 1997. *Representation: Cultural Representations and Signifying Practices*. Milton Keynes: Open University Press.
- Halpin, D., and B. Troyna. 1995. "The Politics of Education Policy Borrowing." *Comparative Education* 31 (3): 303–310.
- Hare, R. A., K. Bruun, I. Regnarsson, P. Bentsen, M. Sundahl, T. B. Randrup, and E. Mygind. 2010. *Læringsmiljø nærmiljø* [Learning Environment Local Environment]. Copenhagen: University of Copenhagen.
- Hartmeyer, R., and E. Mygind. 2015. "A retrospective study of Social Relations in a Danish Primary School Class Taught in 'Udeskole.'" *Journal of Adventure Education and Outdoor Learning* [accepted].
- Henderson, B., and N. Vikander, eds. 2007. *Nature First: Outdoor Life the Friluftsliv Way*. Toronto: Natural Heritage Books.
- Herholdt, L. 2003. *Sprogbrug og sprogfunktioner i to kontekster: en undersøgelse af det danskfaglige potentiale i udeundervisningen i naturklassen på rødkilde skole* [Use and Function of Language in Two Contexts: A Study of the Academic Potential of Danish Mother-tongue Teaching]. Aarhus: Aarhus University Press.
- Hill, M. 2006. "Comparing Apples with Pears. Teacher Knowledge about Assessment and Its Impact on Practice." Paper presented at the British Educational Research Association Annual Conference, University of Warwick, September 6–9. <http://www.leeds.ac.uk/educol/documents/160392.htm>.
- Hopmann, S., and K. Riquarts. 1995. "Didaktik and/or Curriculum: Basic Problems of Comparative Didaktik." In *Didaktik and/or Curriculum*, edited by S. Hopmann and K. Riquarts, 9–40. Kiel: Institute für die Pädagogik der Naturwissenschaften.
- Hughes, F., and L. Jenner. 2007. *Pentre Forest Schools – An Evaluation of a Forest Schools Project*. Ruthin: Forestry Commission Wales.
- Jordet, A. N. 2008. "Outdoor Schooling in Norway – Research and Experiences." Paper presented at Healthier, Wiser and Happier Children. Outdoor Education – Learning with Mind, Heart and Body, Branbjerg University College, Jelling, January 24–25.
- Kelly, P. 2013. "Comparative Pedagogy: Making Sense of Cultural Complexity." *Research in Comparative and International Education* 8 (4): 415–427.
- Kelly, P. 2014. "Intercultural Comparative Research: Rethinking Insider and Outsider Perspectives." *Oxford Review of Education* 40 (2): 1–20.
- Kelly, P., H. Dorf, N. Pratt, and U. Hohmann. 2014. "Comparing Teacher Roles in Denmark and England." *Compare: A Journal of Comparative and International Education* 44 (4): 566–586.

- Kenny, R. 2010. *Forest Schools and the Early Years Foundation Stage – An Exploratory Case Study*. Accessed July 30, 2014. http://bathspa.academia.edu/RowenaKenny/Papers/677644/Forest_School_and_the_Early_Years_Foundation_Stage_An_Exploratory_Case_Study
- Key, E. 1909. *The Century of the Child*. London: G.F. Putnam's Sons.
- Knight, S. 2008. "The Wild Side of Learning." *Early Years Educator* 10 (2): 14–16.
- Knight, S. 2009. *Forest Schools and Outdoor Play in the Early Years*. London: Sage.
- Knight, S. 2011. "Forest Schools as a Way of Learning in the Outdoors in the UK." *International Journal for Cross-Disciplinary Subjects in Education* 1 (1): 590–595.
- Krejsler, J. B. 2007. "Quality Reform and the Learning Pre-school Child in the Making: Potential Implications for Danish Pre-school Teachers." *Nordic Studies in Education* 32: 98–113.
- Leather, M. 2012. "'It's Good for Their Self-esteem': The Substance beneath the Label." *Journal of Adventure Education & Outdoor Learning* 13 (2): 158–179. doi:10.1080/14729679.2012.737701.
- Leather, M. 2013. "Lost in Translation: A Critique of 'Forest Schools' in the UK." Paper Presented at 6th International Outdoor Education Research Conference, University of Otago, Dunedin, November 26–29.
- Leather, M., and S. Porter. 2006. "An Outdoor Evolution: Changing Names, Changing Contexts, Constant Values." In *Shaping the Outdoor Profession through Higher Education*, edited by B. Humberstone and H. Brown, 53–68. Penrith: Institute for Outdoor Learning.
- Louv, R. 2005. *Last Child in the Woods: Saving Our Children from Nature-deficit Disorder*. Chapel Hill, NC: Algonquin Books.
- Loynes, C. 1998. "Adventure in a Bun." *Journal of Experiential Education* 21 (1): 35–39.
- Lynch, P., K. Moore, and L. Minchington. 2012. "Adventure Cultures: An International Comparison." *Journal of Adventure Education and Outdoor Learning* 12 (3): 237–260.
- Macquarrie, S., C. Nugent, and C. Warden. 2013. "Learning with Nature and Learning from Others: Nature as Setting and Resource for Early Childhood Education." *Journal of Adventure Education & Outdoor Learning* 15 (1): 1–23. doi:10.1080/14729679.2013.841095.
- Maller, C., M. Townsend, A. Pryor, P. Brown, and L. St Leger. 2005. "Healthy Nature Healthy People: 'Contact with Nature' as an Upstream Health Promotion Intervention for Populations." *Health Promotion International* 21 (1): 45–54.
- Mannion, G., L. Mattu, and M. Wilson. 2015. *Teaching, Learning, and Play in the Outdoors: A Survey of School and Pre-School Provision in Scotland*. Scottish Natural Heritage Commissioned Report No. 779. Accessed May 25. http://www.snh.org.uk/pdfs/publications/commissioned_reports/779.pdf
- Massey, S. n.d. *The Benefits of a Forest Schools Experience for Children in Their Early Years*. Accessed July 30, 2014. <http://www.worcestershire.gov.uk/cms/pdf/Worcs%20Forest%20School%20Research%20Academic%20Journal.pdf>
- Maynard, T. 2007a. "Forest Schools in Great Britain: An Initial Exploration." *Contemporary Issues in Early Childhood* 8 (4): 320–321.
- Maynard, T. 2007b. "Encounters with Forest Schools and Foucault: A Risky Business?" *Education 3-13* 35 (4): 379–391.
- Maynard, T. 2007c. "Outdoor Play and Learning." *Education 3-13* 35 (4): 305–307.
- McNess, E. 2004. "Culture, Context and the Quality of Education: Evidence from a Small-scale Extended Case Study in England and Denmark." *Compare: A Journal of Comparative and International Education* 34 (3): 315–327. doi:10.1080/0305792042000257158.
- Murray, R. 2003. *Forest School Evaluation Project: A Study in Wales. Report to Forestry Commission*. London: New Economics Foundation.
- Murray, R. 2004. *Forest Schools Evaluation Project; A Study in Wales*. New Economics Foundation Report. Accessed June 12, 2012. www.neweconomics.org
- Murray, R., and L. O'Brien. 2005. *Such Enthusiasm – A Joy to See: An Evaluation of Forest Schools in England*. New Economics Foundation report. Accessed June 12, 2012. www.neweconomics.org
- Mygind, E. 2005. *Udeundervisning i folkeskolen: Et casestudie om en naturklasse på Rødkilde Skole og virkningerne af en ugentlig obligatorisk naturdag på yngste klassetrin i perioden 2000–2003* [Outdoor Teaching in the Public Municipality School. A Case

- Study of a Nature]. (E. Mygind, ed.). Copenhagen: Museum Tusculanums Forlag and Department of Exercise and Sport Sciences.
- Mygind, E. 2007. "A Comparison between Children's Physical Activity Levels at School and Learning in an Outdoor Environment." *Journal of Adventure Education & Outdoor Learning* 7 (2): 161–176.
- Mygind, E. 2009. "A Comparison of Childrens' Statements about Social Relations and Teaching in the Classroom and in the Outdoor Environment." *Journal of Adventure Education & Outdoor Learning* 9 (2): 151–169.
- Mygind, E. 2013. *6.78 millioner bevilget til udeskole forskning* [6.78 Million Awarded to Research in Udeskole]. <http://nexs.ku.dk/nyheder/2013-nyheder/1trygfonden-udeskole/>.
- Natural England. 2010. *'Nature Nearby': Accessible Natural Greenspace Guidance*. March 2010 NE265. Accessed September 20, 2014. <http://www.naturalengland.org.uk/publications/>
- O'Brien, L. 2009. "Learning Outdoors: The Forest School Approach." *Education 3-13* 37 (1): 45–60.
- O'Brien, E. A., and R. Murray. 2006. *A Marvellous Opportunity for Children to Learn: A Participatory Evaluation of Forest Schools in England and Wales*. Farnham: Forest Research.
- O'Brien, L., and R. Murray. 2007. "Forest Schools and Its Impacts on Young Children: Case Studies in Britain." *Urban Forestry and Urban Greening* 6: 49–65.
- Öhman, J. 2006. "Pluralism and Criticism in Environmental Education and Education for Sustainable Development: A Practical Understanding." *Environmental Education Research* 12 (2): 149–163.
- Passy, R., S. Waite, P. Bentsen, N. Gough, S. Ho, E. Mygind, V. D'Rosario, and A. Stewart. 2013. "Policies of Outdoor Learning: Lessons from an International Comparison." Paper presented at 6th International Outdoor Education Research Conference, University of Otago, Dunedin, November 26–29.
- Phenice, L. A., and R. J. Griffiore. 2003. "Young Children and the Natural World." *Contemporary Issues in Early Childhood* 4 (2): 167–171.
- Pointon, P. 2014. "'The City Snuffs out Nature': Young People's Conceptions of and Relationship with Nature." *Environmental Education Research* 20 (6): 776–794.
- Pollard, A., ed. 2010. *Professionalism and Pedagogy: A Contemporary Opportunity*. A Commentary by TLRP and GTCE. London: TLRP.
- Rea, T., and S. Waite. 2009. "International Perspectives on Outdoor and Experiential Learning." *Education 3-13* 37 (1): 1–4.
- Rea, T., and S. Waite. 2012. "Issue 17: Are Educational Reform Policies That Stress Standards and Accountability Compatible with Pedagogical Aims and Practices in Outdoor Education? No. Taken over? Schooling and Outdoor Education." In *Controversial Issues in Adventure Programming*, edited by B. Martin and M. Wagstaff, 265–271. Champaign, IL: Human Kinetics.
- Rickinson, M., J. Dillon, K. Teamey, M. Morris, M. Y. Choi, D. Sanders, and P. Benefield. 2004. *A Review of Research on Outdoor Learning*. Shrewsbury: National Foundation for Educational Research and King's College London.
- Ridgers, N., Z. R. Knowles, and J. Sayers. 2012. "Encouraging Play in the Natural Environment: A Child-focused Case Study of Forest School." *Children's Geographies* 10 (1): 49–65.
- Roe, J., and P. Aspinall. 2011. "The Restorative Outcomes of Forest School and Conventional School in Young People with Good and Poor Behaviour." *Urban Forestry and Urban Greening* 10 (3): 205–212.
- Scott, W., A. Reid, and N. Jones. 2003. *Growing Schools: The Innovation Projects (2002–2003) External Evaluation*. Bath: Council for Environmental Education and University of Bath.
- Shields, P. 2010. "Forest School: Reclaiming It from Scandinavia." *Forum* 52 (1): 53–59.
- Simons, M., L. Lundahl, and R. Serpieri. 2013. "Introduction. The Governing of Education in Europe: Commercial Actors, Partnerships and Strategies." *European Educational Research Journal* 12 (4): 416–423.
- Slade, M., C. Lowery, and K. Bland. 2013. "Evaluating the Impact of Forest Schools: A Collaboration between a University and a Primary School." *Support for Learning* 28 (2): 66–72.

- Stern, M. J., R. B. Powell, and D. Hill. 2014. "Environmental Education Program Evaluation in the New Millennium: What Do We Measure and What Have We Learned?" *Environmental Education Research* 20 (5): 581–611.
- Swarbrick, N., G. Eastwood, and K. Tutton. 2004. "Self-esteem and Successful Interaction as Part of the Forest School Project." *Support for Learning* 19 (3): 142–146.
- Turčová, I. T., J. Neuman, and A. J. Martin. 2003. "The Outdoors from a Czech Perspective." *Horizons* 24: 26–29.
- United Nations. 1989. *Convention on the Rights of the Child*. General Assembly Resolution 44/25, UN Doc. A/RES/44/25. UN. November 20.
- Waite, S. 2010. "Losing Our Way? The Downward Path for Outdoor Learning for Children Aged 2–11 Years." *Journal of Adventure Education and Outdoor Learning* 10 (2): 111–126.
- Waite, S. 2013. "'Knowing Your Place in the World': How Place and Culture Support and Obstruct Educational Aims." *Cambridge Journal of Education* 43 (4): 413–433.
- Waite, S., and B. Davis. 2007. "The Contribution of Free Play and Structured Activities in Forest Schools to Learning beyond Cognition: An English Case." In *Learning beyond Cognition*, edited by B. Ravn and N. Kryger, 257–274. Copenhagen: Danish University of Education.
- Waite, S., B. Davis, and K. Brown. 2006a. *Forest Schools Principles: Why We Do What We Do*. Plymouth: Plymouth University.
- Waite, S., B. Davis, and K. Brown. 2006b. *Current Practice and Aspirations for Outdoor Learning for 2–11 Year Olds in Devon*. Plymouth: Plymouth University.
- Waite, S., V. Huggins, and K. Wickett. 2014. "Risky Outdoor Play: Embracing Uncertainty in Pursuit of Learning." In *Exploring Outdoor Play in the Early Years*, 71–85, edited by T. Maynard and J. Waters. Maidenhead: Open University Press.
- Waite, S., R. Passy, and M. Gilchrist. 2014. "Getting It off PAT: Researching the Use of Urban Nature in Schools." In *Urban Nature: Inclusive Learning through Youth Work and Schoolwork*, edited by E. Backman, B. Humberstone, and C. Loynes. Conference Proceedings of European Outdoor Education Conference, June 2013, 35–49. Stockholm: GIH.
- Waite, S., and K. Pleasants. 2012. "Cultural Perspectives on Experiential Learning in Outdoor Spaces." *Journal of Adventure Education and Outdoor Learning* 12 (3): 161–165.
- Waite, S., S. Rogers, and J. Evans. 2013. "Freedom, Flow and Fairness: Exploring How Children Develop Socially at School through Outdoor Play." *Journal of Adventure Education and Outdoor Learning* 13 (3): 255–276.
- Wattchow, B., and M. Brown. 2011. *A Pedagogy of Place: Outdoor Education for a Changing World*. Clayton. Victoria: Monash University.
- Wellhousen, K. 2002. *Outdoor Play, Every Day: Innovative Play Concepts in Early Childhood*. Albany, NY: Delmar.
- Westbury, I. 1995. "Didaktik and Curriculum Theory: Are They the Two Sides of the Same Coin?" In *Didaktik and/or Curriculum*, edited by S. Hopmann and K. Riquarts, 233–263. Kiel: Institute für die Pädagogik der Naturwissenschaften.
- Wiborg, S. 2013. "Neo-liberalism and Universal State Education: The Cases of Denmark, Norway and Sweden 1980–2011." *Comparative Education* 49 (4): 407–423.
- Wistoft, K. 2013. "The Desire to Learn as a Kind of Love: Gardening, Cooking, and Passion in Outdoor Education." *Journal of Adventure Education & Outdoor Learning* 13 (2): 125–141.