

What is different about Forest School? Creating a space for an alternative pedagogy in England

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Abstract

Forest School in the UK has arguably provided a space of pedagogical 'difference' whilst wider structural pressures have reduced the room for novelty and diversity in delivery of state education. This article explores how perceived 'differences' between everyday educational contexts can benefit the wellbeing of participants in Forest Education across different ages. It calls into question the application of play-based learning theory to underpin English Forest School as advocated by Leather in this issue. Drawing on Forest School principles, empirical evidence and the theory of cultural density, we examine how Forest School can present important cultural and material contrasts in English young people's experience and argue for the importance of this function within this context. We critique aspects of the dilution of Forest School principles, arguing that in England, and perhaps other cultures where outdoor experiences have become relatively rare, it is important that Forest School is valued as a site of divergence from more common learning spaces and situations.

Keywords Forest School Pedagogy Wellbeing Learner-led Woodland

Introduction

In his article *A critique of Forest School: Something lost in translation*, Mark Leather argues that there are three important issues influencing the development of Forest School in the UK: a mismatch in sociocultural and historical context; under-theorised pedagogy; and commodification of its methods. This article first considers these issues and the case of Forest School in England through exploring structures and policies that shape English state education and contrasting

these with distinctive principles of Forest School (FS). Such comparison aims to describe and interpret principles underpinning FS and contextualise these within English education, for whilst much outdoor and adventurous education has largely occupied a position peripheral to mainstream education in England, *outdoor learning* and within that, FS, has become increasingly embedded within early years and primary schooling and subject to its structural influences.

Our paper then draws on three empirical studies to illustrate how FS principles may be enacted with 4 to 24 year olds, employing this qualitative data to contest and support some assumptions in Leather's conceptual article and questioning his link to early years and play as the most suitable theoretical frame for this all age pedagogy. We suggest that exploring FS's disruption of norms and alternative cultural densities (Waite 2013) may allow better appreciation and theorisation of the challenges and benefits of FS places, pedagogy and practices within English educational contexts (Waite and Davis 2007).

Structure in English state education – principles

Principles form an important backbone to facilitate translation of policy and ideas into practice. In England, the National Curriculum has provided a common framework for state schools since 1988, but the proliferation of academies and free schools under recent conservative governments has made the English education landscape an increasingly complex terrain. Parallel with this diversification of what schools teach, neoliberal changes to routes and methods of Initial Teacher Training suggest an increasingly technocratic view of teaching as a skill that can be learned through apprenticeship models and on the job training (Beauchamp et al. 2013). Theory and philosophical engagement with what education is and what purposes it might serve is somewhat diffused amongst localised vision statements for academy trusts or individual free schools. Autonomy within accountability is the mantra for this apparent 'freeing up' of state control. Nevertheless, there are overarching principles underpinning the government's education plans. The five principles of the White Paper *Educational Excellence Everywhere* (Department for Education [DfE], 2016) are:

1. Children and young people first
2. High expectations for every child
3. Outcomes, not methods
4. Supported autonomy
5. Responsive to need and performance

In summary, children, parents and carers are positioned as customers, while progress is expected for all children and judged through outcomes rather than prescribed pedagogical approaches. Successful achievement of outcomes by schools means less intervention (such as absorption into a multi-academy trust).

However, indirectly, state control remains strong through regulation via inspection by the Office for Standards in Education (Ofsted) (Beauchamp et al. 2013). Although inspectors are admonished not to comment on how results are being achieved (Ofsted 2016), schools are nevertheless expected to justify their approaches. As a result, innovative pedagogies such as

outdoor play, learning and education are often pushed to the margins and seen as a nice bonus or treat, outside the main business of schooling (Waite 2010).

Structure in Forest School – principles

Following the inspiration of forest kindergarten ideas for early years practice, from Scandinavia via Bridgwater College, Somerset in 1993, the FS movement expanded across the UK. Initially under the auspices of the Forestry Commission (through the Forest Education Network), from 2012 the Forest School Association (FSA) became an umbrella for FS development. In 2017 FSA membership totalled about 2000 with an estimated 10,000 Forest Schools operating across the UK (McCree and Cree 2017, p.223). FS in the UK is not only associated with early years education, but employed as a pedagogy appropriate to students of all ages, spanning adult learners and, more commonly, children and young people between 2 and 25 years. Part of its growth has been supported by the accreditation of training through bodies such as the Association for Psychological Therapies and the Open College Network, alongside agreement within the BUK Forest School community in 2011[^] on key principles that underpin FS (FSA 2017).

With no standard training Danish forest kindergartens vary enormously and practices are determined by pedagogues' personal values, informal idea sharing and geographic circumstances (Bentsen and Jensen 2012). In England by contrast, FS accredited training theorises and promotes its guiding principles. FS training at Level 3, for example, includes research on educational theorists to reflect on and critique FS values and practice. Trainees at this level must also be assessed undertaking practical placements, putting FS principles into action, to qualify as a FS leader. In addition, popular FS texts (Houghton and Worroll 2016; Knight 2009, 2011) advocate for and reinforce the FS principles and common approaches.

This regulation of FS appears to be driven partly by concern about dilution of the pedagogical features perceived to contribute to its distinctive personal, social and educational offer, but may also be powered by commercial and small 'p' political circumstances, as Leather suggests (McCree and Cree 2017).

There are six guiding principles (FSA 2017):

1. Forest School is a long-term process of frequent and regular sessions in a woodland or natural environment, rather than a one-off visit. Planning, adaptation, observations and reviewing are integral elements of Forest School.
2. Forest School takes place in a woodland or natural wooded environment to support the development of a relationship between the learner and the natural world.
3. Forest School aims to promote the holistic development of all those involved, fostering resilient, confident, independent and creative learners.
4. Forest School offers learners the opportunity to take supported risks appropriate to the environment and to themselves.
5. Forest School is run by qualified Forest School practitioners who continuously maintain and develop their professional practice.

6. Forest School uses a range of learner-centred processes to create a community for development and learning.

On the surface there is a similar emphasis to Educational Excellence Everywhere (DfE 2016) on reaching *all* learners through a *range* of methods. Yet the intended outcomes appear somewhat different. Where mentioned in FS, these are about connection to nature, non-cognitive skills, such as self-perception, motivation and interpersonal competencies foundational to successful learning (Gutman and Schoon 2013, p.7), and creativity, rather than educational attainment. Table 1 below directly compares the English government’s educational principles with those of the FSA using a comparative framework.

Table 1 Comparing principles underpinning English education and English Forest School.

Principles		
Comparative framework (Waite et al. 2016)	Educational Excellence Everywhere (DfE 2016)	Forest School (FSA 2017)
Purpose	To drive a socially just knowledge based economy	To offer holistic development for children
Aim	To improve standards for all	To improve non-cognitive skills and dispositions for learning
Content	Knowledge-led National Curriculum for state schools, additional ‘freedoms’ for academies	Outdoor activities offered from a range presented in FS training, including tool handling and leader-led support for play
Pedagogy	Knowledge-centred teaching with methods increasingly locally determined at teacher/school/academy trust level	Child-led, learner-centred, risk-managed skills based learning facilitated by trained and qualified FS practitioners (as part of a pedagogic environment) during repeated visits to a wooded environment
Outcome	Raised bar for educational attainment in English and Maths, and another 5 subjects drawn from Sciences and humanities	Community of self-directed, creative and nature aware learners. Evaluation of sessions is often of children’s enjoyment
Barriers	Poor performance results in increased intervention, through more inspections and oversight by regional school commissioners	Lack of consistency in the enactment of principles and friction with cultural context of school with no overt mechanism for controlling this

Alignment of FS principles with wider educational policy and governance

Through this juxtaposition we detect potential friction between FS principles and mainstream educational provision. FS is learner-led and skills-based while state education emphasises curriculum-defined knowledge and although local determination of methods is apparently welcome in Educational Excellence Everywhere (DfE 2016), it is potentially limited by the assessment regimes by which school performance is measured. So, whilst uptake of FS training

by teachers and teaching assistants to deliver it to students at primary level in the UK suggests an appeal to some shared values and principles (Waite et al. 2016), these could be overridden by the priorities and regulation of mainstream schooling (Maynard 2007). Indeed, FS trainees working in a school setting can experience tension between the principles advocated within their training and what is possible within this context and no inspection of FS delivery protects their continued application. (McCree 2014; McCree and Cree 2017). Gaps between principles and practice can open up according to wider cultural influences (explored below in our empirical evidence).

What is clear is that, against the background of current educational governance in England, FS is unlikely to be employed in the way *udeskole* or forest kindergarten in Denmark is. In part, this may reflect differences in the roots of education between the two countries, namely whole child development (*bildung*) and curriculum-focused (see Waite et al. 2016, for further discussion). Whilst child-led pedagogical approaches are to some extent common to both Scandinavian and English cultural and educational practice in the early years (the Foundation Phase 0–5 years in England) – with playful engagement as a key mode of learning (Aasen and Waters 2006) – within England, these practices are later dominated by curriculum and academic performance imperatives (Waite 2010). Indeed, in England, where expectations in education are more knowledge-centred, FS can present an alternative pedagogical approach. It may be that in the English context FS offers a relative cultural lightness or ‘cultural density’ that contrasts with mainstream educational settings. Cultural density describes “the strength and composition of dispositions to practice and norms of behaviour embedded within places that mediate the possibilities for action of individuals in them” (Waite 2013, p.414). FS may provide an alternative cultural density that permits or indeed encourages new ways of interaction.

A call to freedom

We propose that FS, in common with some other forms of outdoor learning (Waite 2013), may represent a call to freedom or cultural lightness, opening up alternative contexts and methods for learning within English schooling, whilst its accredited training offers an alternative cultural density and structure that make its ‘freedom’ relatively culturally acceptable in comparison to *ad hoc* school-level development of outdoor learning. For example, during the Natural Connections project, where 125 (mainly primary) schools developed provision of curricular outdoor learning, many turned to FS training as the only formalised outdoor teaching training generally and widely available (Waite et al. 2016). Outdoor and adventurous education training opportunities tended to be regarded as less relevant to schools’ educational attainment focus and goals of accessing nearby nature.

There is a long history of outdoor play and learning provision in the early years (Garrick 2004) and free flow between indoor and outdoor spaces is a feature of such settings in England. There are also many other approaches to, and educational motivations underpinning, educators engaging students with natural environments, including scientific field studies, school gardening, and environmental education (Nundy et al. 2009; Malone and Waite 2016). Teachers are not all novices in taking learning outside the classroom and the training of school staff as FS leaders challenges Leather’s assertion that the rise of FS represents ‘a new type of adult leading children outdoors’ and ‘a new breed of educator’ (Leather, this issue, p.8). However, we agree with Leather that there is a mismatch in sociocultural and historical context between forest kindergartens and FS and argue that departure in practices of the two stems in part from greater

structural control of schooling in England that may be better theorised through concepts of cultural density and norms.

Principles and practice: empirical evidence from three English case studies

Conscious of potential gaps between rhetoric and reality, the effects of values and structure described above are now considered in relation to three empirical English case studies of FS practice that highlight the influence of competing cultural densities when principles are enacted. Our first example is drawn from a study of FS with children aged 4–5 years in their initial year of schooling, which aimed to help a local authority decide whether to support FS training for early years practitioners (Davis and Waite 2005). The other two examples are based on evidence from two FS case studies from the four-year Good from Woods project (Good from Woods 2017; The Silvanus Trust 2015) and offer examples of FS in other age phases. Good from Woods (GfW) supported practitioners across 11 case studies to action research the benefits of the woodland activity they provided via concepts of wellbeing (social, physical, psychological, emotional and biophilic) (Goodenough and Waite 2012). Maintenance of wellbeing has been considered a necessary foundation for the establishment of noncognitive skills (The Schools, Students and Teachers Network [SSAT] 2014).

First example: Forest School in the foundation phase

Four FS programmes were evaluated through funding by the Forest Education Initiative¹ and Devon zero14plus^{2,3} between Autumn 2003 and Winter 2004. Three schools took part with 59 children aged between 4 and 5 years participating. Data was collected through observation, interview with adults and elicitation techniques using photographs, videos, maps and drawings with children. The FS settings were an orchard and woodland fringes to school grounds.

Second example: Otterhead FS (OH)

Located in almost 230 acres of mature mixed woodland on the Blackdown hills, southwest England, this case study explored the impacts of regular FS sessions led by an external qualified leader for 13 students from secondary school in Taunton during 2011 (Archard n.d.). Five pupils (12–14) had attended for a day a week for six weeks, with eight more (12–17) attending longer-term (a day a week for between several months to four years). All attendees were identified by the school as having specific behavioural or nurture needs and referred to FS as a potential means of supporting them to engage with learning and education. Research methods included observation and interviews with children and adults.

¹ The Forest Education Initiative operated throughout the UK from 1992, with the mission to “increase young people’s understanding of the local and global importance of trees, woodlands, forest environments and the wood processing industries”.

² zero14plus was the Devon Early Years Development and Childcare Partnership, which the UK Government’s National Child Care Strategy required every local authority area to set up to develop and co-ordinate local services for young children and their families.

³ We have ethical consent to name these programs publicly, however all student names used are pseudonyms.

Third example: City of Bristol College (CBC)

The third case study followed six sessions of FS in a public city park (with mature and recently established woodland) involving students with physical and learning difficulties aged between 17–24 and attending courses at a further education college during 2011 (Ramsden and Tomlinson n.d.). Many participants found it challenging to articulate their ideas, thoughts and feelings orally and the research methods reflected this, employing observation and interviews with carers familiar with the young people.

Findings from all three case studies are combined below in support of our understanding of the enactment of the principles of FS in England, which are discussed in full above and summarised here and below as: (1) long term process and review; (2) woodland or natural context and relationship to natural world; (3) holistic development of children to improve non-cognitive skills and dispositions for learning; (4) supported risks towards competence; (5) trained and qualified FS practitioners; and (6) a learner-centred approach.

Principle 1: Long term process and review

All studies adhered to the FS practice of repeated visits and review as part of planning. Additionally, the research process seemed to support critical reflection and review amongst FS staff. Observations during the foundation phase FS programmes (first example above) and follow up research at Otterhead (second example above) pointed to some cumulative and lasting effects on young people, but also a tension with schooling as FS was frequently a time-limited and discrete offer so that some changes might not be maintained back in school. This tension reflects the cultural mismatch that Leather notes with English societal norms and competing cultural densities (Waite and Davis 2007).

Principle 2: Woodland or natural context and relationship to natural world

In the FS case studies, being outdoors facilitated many practical skills opportunities, such as fire-lighting, crafting, whittling, cooking food as part of FS leader-led activities. At CBC (third example above), the researchers also identified the role of environment in inspiring enjoyable creative, physical and sensory interactions:

Quite a few said they liked these woods...and being there seemed to have a galvanising effect on James and Tim, who went galloping off at speed, whooping and hallooing and doing Red Indian noises.

Claire and John are chatting together...John taps Claire's shoulder and points. John says: 'What's that noise?'. FS leader: 'I can hear birds'. John: 'Darrell, birdy' (and he points). Claire says to FS leader: 'Can you see it?' FS leader: 'I can't see it but I can hear it'. John: 'Yes, pecking'. (CBC researcher's observations)

The outdoor environment in CBC sometimes seemed to inspire an energetic physicality and exuberance amongst participants, but at other times absorption and reflection, and was identified by one staff member as playing a different role to the 'classroom':

For each one [of the group] it's bringing out something different, which again you wouldn't see in the classroom, doing our paperwork and other things we have to do, formal life skills stuff, there's a creative side. Although we do art, it's sort of different really, it's about the outside setting. (CBC support staff reflections)

Culturally, and materially through the sights and sounds of nature, the FS context could offer a different experience to other familiar environments. In Otterhead, the woodland's affordance of energetic activity was observed frequently in participants choosing to run, climb, move over challenging terrain and to play wild games with each other, such as 'man hunt' and 'prison break'. The freedom to engage in wild play in interaction with the environment was sometimes described as a contrast from the movement these students enjoyed in their other urban outdoor spaces: "I like making stuff and that [at FS], and it's better to hang out in the woods than on the streets and stuff... Cos then you can do whatever you want [pause], climb down hills and stuff... [On the streets] You're kind of sitting there". (Gus, Otterhead).

Enjoyment of physically active behaviour was one of the most frequently observed ways young people derived wellbeing from the material environment. Notably within the longitudinal study in Otterhead, whilst energetic activity was recalled by participants as a highly valued element of FS experience, social outcomes were recalled as most significant, followed by 'being in the woods' and 'clearing up and looking after the woods' (second and third most regularly appreciated outcomes at follow up). This latter finding in relation to valuing and caring for nature was unexpected as the researcher had observed few indicators of a nurturing appreciation or interrelation with the natural world, but perhaps indicates the significance of Principle 2 within this FS experience and that being in woodland has implicit effects through the transactions and activities it affords.

Indicating respect for the woodland environment may have been partly instrumental, employed by students to ensure their inclusion in future FS activity. Speaking of clearing up and looking after the woods, Archie, a student at Otterhead, remarked that this was "important to me because I know that I can – you know that I can ... I can come back to forest school. Cos if you don't really look after stuff then they won't allow you back, will they? So" However, asked six months after their FS engagement, students appeared resolute that the material environment of FS contributed significantly to their appreciation of FS. A shift in recognition of the woodland seems to have occurred over time in FS without explicit learning objectives, but through the cultural and material density of its practices and environment.

Principle 3: Holistic development of children to improve non-cognitive skills and dispositions for learning

Researchers' observations through the evaluation of the four early years FS programmes (first example above) indicated that the children, when given freedom to do so, used their imagination,

initiated social contact, and explored and interpreted the environment following their own agenda. In contrast, structured activities were broken down into small steps with detailed instructions. Notably, adults kept the children 'on task' with expectations about outcomes. This was observed to curtail some opportunities for imaginative play, expressing feelings and pursuing interests. However, the hands-on tasks often appeared to engage the children's concentration, and experience of success in these may have contributed to their feelings of competence.

Students at Otterhead (second example above) valued opportunities during FS to spend time in activities that drew on non-cognitive skills, particularly interpersonal relation, creativity, attentiveness, persistence and connection with nature. In follow-up research, six months after the sessions, most young participants self-reported that time spent with friends was what they liked best about FS. This was closely followed by the chance to make new friends. "If you are making new friends [at FS] then it's good because you can really like connect with them, and really like help them and get to know them," commented Archie, "and when you get to know them you know what they're like and know how to handle them." These opportunities included peer connections that some felt would not have been established within the social and material context of classroom or playground. "If you are back at school, half the people you wouldn't hang out with. Here you build relationships and make lots of friends," Cara noticed. When asked to compare how well he got on with people at FS or at school, Dan replied "better" and continued by saying "better for me ... because I'm in that natural environment sort of thing." Dan specifically identified the "natural environment" as making the difference.

During the sessions, some participants also described novel positive intergenerational relationships with FS staff. "Normal teachers just talk down to you quite a bit and then, like, they don't take much notice of you. They [FS staff] take notice of you and the things what you want to do," remarked Jimmy. And Cara felt similarly, pointing out that "it's easier to talk to adults [at FS] so you can tell them things that you wouldn't in school." This was made easier by the flexibility of the situation. "You can go off, look around. If you've got something on your mind, you go off and just think about it. If I don't want to hang out, I go off and look at trees and everything. However, "at school you can't just go off. At FS you ask and they say yes - no Qs or anything. Done it on a couple of days."

Similarly, the teachers in the evaluation of the four FS programmes (first example above) saw the FS experience as something like a bubble, standing outside of the experience of schooling. The anticipated congruence with play-based early years practice did not seem to be noted.

FS was regarded by some participants as a context that encouraged improvement of interactional skills such as communication, co-operation and attentiveness: less "daydreaming" (Eddie); "shutting up when the teacher's talking" (Lucas), becoming "not so gobby [slang reference to being 'loudmouthed']" and learning "how to deal with a lot of people," which implies "tolerance" (Jimmy). This disruption in schooling norms indicates how the alternative cultural density of FS and expectations may let pupils experience other ways of behaving and being with others. However, one student suggested that social relations at school could be negatively affected by FS attendance; peers sometimes teasing attendees that only young people experiencing behavioural challenges were allowed to participate regularly (Eddie OH).

Young people at CBC FS were often observed sharing an experience together. According to one CBC researcher, "bonding through a shared experience leads to well-being within a group... it's

about feeling a group identity, and relating to people through and because of this, because of the things that you've done together." Thus, "connecting through shared experience comes from the situation rather than the people." The CBC researchers identified sensory, creative, fire-making, practical and, most commonly, game playing, as the activities that nurtured these collective social bonds. Shared social identification tended to develop during familiar elements of the FS routine, as when "several of the male students started singing a football-style chant (to do with the food) and seemed to be really enjoying this as a boisterous group activity."

Principle 4: Supported risks towards competence

Developing skills and being witnessed in doing so was considered an important outcome for the CBC participants. Practical skills and games were the most common context for achieving a sense of competency and having others perceive their proficiency. One of the CBC researchers shared such a situation involving Tim. "Tim wants everyone to see that he has lit birch bark successfully, after lighting the cotton wool very quickly. He lights it again and again."

The researchers at both Otterhead and CBC felt the relative novelty of activities (set within a place and routine of growing familiarity) underpinned many participants' sense of pleasure or satisfaction from skill development. This links to the idea of a culturally light place that allows new ways of being and behaving (Waite 2013).

Many of these instances came from practical tasks such as cooking, doing unusual activities, lighting the fire as well as 'play'. Perhaps this is because there were many new things for participants to try for the first time. In terms of trying new things, food seemed to be significant (chestnuts and damper bread). Activities such as fire-lighting were repeated from session to session so that participants were able to learn/develop skills over time. In terms of observing people 'developing themselves' we could see over time participants' increased willingness to try new things, and when the students felt that they had 'achieved' they did sometimes vocalise this. (CBC researcher's observations)

In a similar vein, one of the OH researchers observed a student, Cara, showing others how to use tools, when she had been given the responsibility for the toolbag, noting that "this was something she hadn't done before." And then, in an interview with another student, Jo, the same researcher recorded how Jo "described how he felt more confident and related this to learning how to cut up wood in front of others." This evidence supports the claim that FS can build non-cognitive skills such as self-confidence and self-esteem through the experience of success and the fulfilment of foundational needs for nurture, such as nourishment, warmth and acceptance. The different context provided the means to be other than their 'normal' selves.

The CBC researchers observed that non-cognitive skill development, such as 'quiet confidence', is inherently harder to capture than acquisition of a new practical skill. It is important to consider the interconnected nature of contextual factors, the influence of people, place and activity when considering how transferable outcomes are to other contexts and behaviours such as learning dispositions. This is exemplified in the case of Eddie at OH.

Eddie mentioned that he found it hard to concentrate and that attendance at Otterhead FS had helped him with this. I asked him how he knew this and he said that following his attendance at Otterhead FS his school teacher had noticed that he was able to pay attention for longer periods of time and had drawn it to his attention. I asked if he had thought this was true and he thought it might be, but that it [his heightened ability to concentrate] hadn't lasted [beyond the short-term]. (OH researcher's observations)

This limitation is a further indication of the clash between English schooling and FS cultures but also more widely of the problem of transfer between learning contexts as noted by Brown (2010) in the case of outdoor adventure education.

Principle 5: Trained and qualified FS practitioners

The impact of delivery of FS by trained practitioners was discernible in three interlinked and recurrent themes within the OH data: the positive impact of young people being able to choose activity for themselves (discussed below under principle 6); the high proportion of practical, hands-on activity afforded by the woodland environment; and the recognition of their own development, whilst pursuing these interests. In all three case studies, the FS leaders were external to student's school environment and may have experienced less conflict with the potentially competing cultural density associated with it. Staff from student's everyday pedagogical contexts expressed different reactions to the contrast.

Non-cognitive skills development within the CBC case study were not only linked to the novel or social context of the FS group (teachers, carers and learners), but also to activities that facilitated intrapersonal experiences of purpose, confidence and immersive flow and were associated with choice and autonomy. Young people frequently chose highly active, playful behaviour that could combine such possibilities. 'Playing' with sticks for example, might indicate off task behaviour or a game, but could be experienced as purposeful and controlled, and was likely to be accepted by the FS staff in relation to the principle that FS is student led, as exemplified in a short interchange between students, recorded at CBC. "Mmm, it's not exactly messing around, you [the researcher, have made] a spelling [word choice] error, it's 'playing' around," Keiron explained. "Correction," Dan agreed, "'playing with sticks'; well [because] actually there's a difference." Kieron affirmed this difference: "because, when you play with them [sticks] you go like [pause] 'I'm going to fight you with my sword' ... whereas if you're messing around you're going to go like this ..." [waving stick around at others]." "You're going to smack people with it," Dan clarified.

Students also repeatedly chose applied, practical activities they found enjoyable such as food and fire making. Several learners, who had spent more than six weeks at FS1, told the researcher that being trusted to choose more complex and/or risky activities helped them experience a sense of progression. Archie commented "I guess it gives me a sense of what it's like to have responsibilities...less like, when you're younger you don't have many responsibilities that people give you and when you get older, people give you more responsibilities...it's helping me grow up." Cara also noted a different relationship with adults: "In FS, they don't look at you as a little kid. They know you can be responsible, they trust you. That makes you more responsible. You have to look after them [tools] for the day."

These insights from young people indicate that although playfulness is a factor, learning in FS is often a process where the children and young people become increasingly able to manage their own risks, behaviour and learning over time. Psychological explanations for this, such as Vygotsky's zone of proximal development, can also be understood from a sociocultural perspective as movement towards a different set of cultural norms, where children and young people are recognised as being competent (Huggins and Wickett 2017). The very boisterous physical play enjoyed by students, and many of the hands-on tasks afforded by the environment, were made accessible as a choice for students through risk assessment and management by FS staff that included them in the process.

This increased accessibility and its benefits are achieved not only through FS staff introducing young people to safe management of activities and imbuing them with a sense of personal responsibility, but also through demonstrating this to their carers and teachers. Staff at the secondary school in the OH study linked their recognition of the importance of FS being 'different' from school with a sense of reassurance that exposure to such difference was 'safe', whilst potentially also benefiting students' independence and self-esteem. "I think it's something very different as part of their working week, it gives them an opportunity to [pause], it brings them confidence and raises self-esteem," remarked one staff member. Another noted that "some of them probably don't get outside like that in their everyday life." FS was acknowledged by a third staff member as "a peaceful environment for them, they just need to relax and be outside. An investment in them, learning in a different way They can take risks but it's all very safe," within an "environment that they're not familiar with, ... and they get an awful lot of pleasure just being able to wander off and think for themselves."

Carers of students in CBC also understood them to be benefitting from opportunities to spend time in a different context and undertake and practice novel tasks, whilst supported in the FS environment. Staff from students' more familiar pedagogical context saw the generation of contrasts as particularly important. Spending time alone, fire-making and the central fire circle were identified by staff as sites of pleasure and/or development, via material, social and cultural novelty in comparison with their usual experience. Carers reported that the "quiet space activity just amazingly worked... everyone's surrounded by noise and busyness all the time, the college environment is people, people, people and there's never the time to stop and be comfortable with yourself without it looking awkward," and that the young people "clearly enjoy the firemaking and the cooking, it's so different for them, it's quite a unique experience for them." Changes in young people's behaviour in this new context were clear from the perspective of the carers: "You see Tim would run in an open space. Not run away but just have a sudden, vroom! run! But he hasn't done anything like that." Alternatively, "it's that moment of just sitting and being [at the fire circle, following lunch]. I think the fire can provoke an atmosphere or reflection in some way, just looking at it. I wouldn't imagine any of them have any experience of that side of things."

Due to the high levels of adult supervision the CBC students experience in their lives, and the physical and learning challenges they face, it is unlikely these students would be able to pursue the activities described above independently. However, as at OH, adults from the schools seemed able to support learners' exposure to unfamiliar activity and a rough material environment because they felt assured by the structure of FS risk management practices and processes. However, the early years school teachers in the foundation phase programmes (first example) experienced significant friction between regular school expectations and the freedoms of FS. The following examples of this were experienced and shared by a class teacher in a study documented by Davis and Waite (2005). One situation when this became obvious was when

students “maybe didn’t take part or talked [during FS activity]...because it [the activity] could have been a really good learning or sharing time. You know like circle time in school.” and “it’s important that they learn the skill to sit and listen to each other.” Another circumstance involved students struggling with the amount of freedom provided. “The faces some of them were making were like ‘oh I’m not quite comfortable with this’ and that is probably when I thought I’m going to take him off.” The teacher felt that whilst students “enjoy the freedom, they seem to quite thrive on knowing where the boundaries are.” Hence even in these early years, the tension with schooling norms was evident. “And I felt sometimes as I was leaving...I had to be really firm with them... Wake up; now you’ve got to listen, you’ve got to conform.”

Regarding pedagogical theory, FS congruence with play-based learning prevalent in English early years practice, suggested by Leather and anticipated in terms of shared principles, is called into question in its enactment. It appears that intended pedagogy sometimes did not materialise or caused conflict for primary school class teachers.

Principle 6: Learner-centred approach

Parents, classroom assistants and class teachers in the foundation phase programmes, however, also felt that their FS sometimes became too structured, so that children were confined by expectations that they complete a pre-planned schedule of activities. Adults who were not FS leaders valued freedom for exploration but in practice, time was often not made available during sessions. Opportunities tended to arise in the spaces between planned activities, not as a conscious pedagogical decision of the FS leaders observed. Child-led, play-based learning in this research was not a deliberate activity within the FS planning but happened serendipitously (Waite and Davis 2007). This suggests that although FS principles recommend child-led learning, other cultural influences may divert intentions. It may be that the conflict between practice in school and in FS reported under Principle 5 made FS leaders try to make FS more like schooling and manage activities and learning outcomes in alignment with that aim.

Research in the OH case study emphasised the extent to which young people valued opportunities to determine the activity at FS. Interviews one year after the experience established that after social and biophilic outcomes, most participants strongly appreciated the overall sense of ‘being allowed to decide what to do’, alongside the creative, playful and practical activities they preferred (Archard n.d.). Young people at OH found pleasure not only from participation within embodied practical experiences, but from their ability to choose them freely; Jimmy describing FS as an important context for developing ‘independence’ alongside gaining confidence and new skills. Kieron reported what he enjoyed about the woods was “lighting fires, eating food and exploring, having freedom basically”; while Archie valued: “being able to make whatever I want – it makes me think that I can – I’m in control of what I can do, I’m not like a child anymore. I can choose what I do...cos I’m really good with knives and [staff member] who started forest school, he actually said to me I’m really good with using knives.”

Whilst, as suggested above, it is important to consider how transferable to other contexts outcomes of FS may be, OH data suggest that achieving control over their activity meant that some students felt differently about themselves at least in the short-term. Eddie, for example, described how having repeated opportunities to choose to do practical hands on tasks that he felt skilled at, reinforced good feelings about himself. He presented this as a contrast to his choice of behaviour at school or in his home town and a sort of antidote to their potentially negative

outcomes. His belief that he was good at some of the practical activities available at FS enabled him to visualise a future beyond school and his problems there, one where he would be able to train as a tree surgeon and have a career.

In these GfW case studies, being able to choose was not always consciously future oriented and aimed at self-development, but instead helped students gain or sustain current emotional wellbeing. This might be achieved through deciding to abstain from an activity, or re-determine its parameters. The OH researcher reported: "Cara was asked if she wanted to make a star, and instead she chose to watch what her friend was doing", while "Eddie chose to make his own fire each week, away from the group fire". She noted that underlying a common response of the students to being asked what they valued about FS, was a sense that it provided novelty and a chance to both do things, and experience oneself, *differently*. Within this case study, the ability to control or manipulate one's exposure to this novelty or difference, amplifying or limiting its influence, was an important element of its beneficial impact.

When asked, most students commented that they liked to come to forest school as it was a day out of school. At face value, that could mean many things. What I observed and heard was students saying that being at forest school gave them the chance to have a break, make friends with different people and allowed them to learn different skills. I could see it being a respite from the everyday world, a place to be something different where they could exercise more control. (OH researcher's reflection)

The CBC research also suggested that wellbeing was associated with active decision-making, taking the initiative, leading an activity or choosing not to take part in it. Researchers noted "Claire and John making up their own game and really having fun with it," and that "it feels like they've [the students have] really started to take some responsibility for things." They witnessed young people becoming more pro-active, observing that, "for two weeks in a row now, somebody's gone and got the wok (fire wok) out, stuck the legs on and...asked who wants teas and things and gone around and sorted out what people want to drink."

Furthermore, sometimes a student's non-verbal, embodied reactions to the FS context indicated a level of self-regulation of engagement with planned FS activity, as three instances shared by the CBC researchers attest. So, for example "Tim walk away from the group making music and swings his stick through the bracken. He seems quite involved in this and gently hits brambles. He tries to pull a larger stick out of the brambles by using his smaller stick." On another occasion "the group was very keen to set off into the woods, so much so that it wasn't worth trying to get them to do an activity while we were on the way. James tends to be the one leading at the front." Following a number of sessions the researchers observed "they've made it their own place The first time they moaned about carrying stuff, the 2nd time they waited until we asked them, this time they picked up the stuff and disappeared off."

It is evident that in all the case studies, FS was associated with cultural and material difference from children and young people's usual experience in school and community. Their engagement with it was not always playful but valued, serious and responsible. However, in the case of the two older age examples, a departure from educational norms may have been more permissible because they were students with recognised special educational needs. The FS leaders were not school staff, but external FS providers. It might be that in these instances FS leaders are less embedded within priorities of mainstream schooling and experience less conflict in adherence to

FS principles. However, there was also greater congruence for these groups, as carers and school staff actively welcomed and recognised the benefits of an alternative space of education in these exceptional instances.

Divergence, opportunity and freedom

Our analysis of the findings within case studies of FS settings offers an interesting focus for considering not only what is different about FS in England, but also threats to the space of divergence, opportunity and freedom it offers. We discuss these tensions in relation to Leather's three issues. The first of these is *cultural discontinuity* and the gap between *friluftsliv* and cultural norms in England, arguing for understanding FS as a social construction and therefore rooted in its social contexts; the second concerns a *lack of appropriate theorisation* of FS pedagogical principles and practice, suggesting play pedagogy as a possibly useful lens; and the third expresses disquiet about the *commodification* and standardisation of FS.

Issue 1: Cultural discontinuity

Leather argues that FS in England represents a departure from *friluftsliv's* cultural context, and cautions that practitioners should bear this in mind. We agree that it is inappropriate to understand this as an underpinning philosophy in the English context and that FS is a social construction that is inevitably shaped within the cultural contexts, at a national and local level, in which it arises. What we go on to argue here is that discontinuity with more prevalent educational contexts is an important element of FS in England, drawing on the empirical evidence from the studies described, but that these are not necessarily contexts of outdoor and adventure education but rather mainstream schooling. One important divergence of FS related to *friluftsliv* is that in a Scandinavian context, pedagogy drawing upon *friluftsliv* offers continuity from home-life to school; whilst FS in England offers a contrast to many domestic, community and pedagogical settings. In the case studies above, it offers a space of difference because: the environment (woodland/nature) is materially different to everyday experience and inspires novel forms of activity (frequently practical, non-cognitive and hands-on); exposure to this difference is sometimes self-regulated by participants and has the potential to disrupt and generate new interpersonal and intergenerational relation (learner-led), but is also secured by structure and regulation (a minimum of 6 weeks of repeat visits with trained staff) and reassurance to adults and children that access is safe and productive (professionally and cooperatively risk-managed). These combined principles may make FS potentially different from other outdoor learning; but the degree of difference resides in the extent to which the principles are followed in enactment.

In our examples, FS often provided a distinct and rewarding social context for young participants. Children in the early years took chances to explore in the gaps between planned activity. Some students at Otterhead suggested FS allowed them to socialise with new peers that they wouldn't spend time with at school. Others drew attention to the opportunity for enjoying a different quality of social contact, with increased time and attention paid to interpersonal interaction. Participants also described shifts within the intergenerational power relations perceived to characterise more familiar pedagogical settings, with adult members of the learning community appearing more open to and appreciative of young people's opinions and autonomy. Certain students appeared to regard FS as a sort of social breathing space within which interpersonal interaction could be explored and improved; while for the early years teachers (first example) 'normality' was waiting

outside the FS gate. These findings suggest that FS can be experienced as a space of cultural lightness and opportunity in comparison to young people's school contexts.

Issue 2: Lack of appropriate theorisation

In both the GfW case studies with participants aged over 12, another social dimension were the wellbeing benefits of having others witness one's growing competency. This collective reinforcement of personal achievement was repeatedly linked to being witnessed learning, practicing and achieving relatively new and unfamiliar skills.

It is also significant that young people in OH spoke about choosing to practice relatively complex and risky skills, using approaches taught to them by FS practitioners, in order to feel competent. Whilst learner-led play also made them feel good for example, opportunities to take on and successfully manage responsibilities coached by FS staff were identified by young people as making them feel 'different' and developing. Being at liberty to practice these behaviours allowed some young people to occupy what they perceived to be more 'adult' territory. Play pedagogy was not the sole method used to foster personal development; modelling by adults and increasing responsibility also seemed important elements. It is interesting too that in the early years example, children had to snatch opportunities to play between the structured activities of FS (Waite and Davis 2007).

While context and pedagogies are very often novel and culturally light in comparison to their schooling, the FS process over time appears to develop very specific, localised learning cultures associated with a specific interplay of place, people and activity. Further theorisation about learning processes within contexts and the relative cultural lightness or alternative cultural density that these contexts create might also serve to highlight the risks of subsuming them within incompatible cultural densities (Rea and Waite 2012).

The two GfW cases address student groups that are in some senses at the margin of mainstream drivers for performativity. The fact that alternative pedagogy and learning contexts are accepted in cases of children facing behavioural or physically and intellectual challenges is perhaps revealing about current pressures on teaching practices in England. Further research is needed to explore whether other FS cases present similar opportunities or are constrained in enactment, particularly considering the rapid expansion of FS delivery throughout the primary years by qualified teachers and teaching assistants who have undergone FS training as well as professional teaching qualifications.

Issue 3: Commodification

FS commodification through standardised training seems more complicated in practice than in principle. Within the GfW case studies, participants valued the freedom to lead and shape activity and self-determine behaviours and FS leaders sanctioned this. Through such choice individuals were free to select actions that felt good and had outcomes that were physically, socially, biophilically and/or psychologically rewarding. A learner-led focus allowed young people to regulate the extent to which they were exposed to such activity, its effects and potential benefits in two of the case studies. This control meant that they could engage with experiences they

anticipated being enjoyable and gain competency in them, be witnessed as competent by others, and connect with others through shared experiences, or equally abstain from an activity they didn't value or enjoy. Experiencing oneself as having the locus of control within a pedagogical environment appeared to disrupt sociocultural norms: an unfamiliar and valued experience for young participants.

On the other hand, FS risk management and training reassured staff from participants' usual learning environments that a FS setting is safe, appropriate and productive. This seems particularly important in the English context compared to Scandinavian countries (Macquarrie et al. 2013). However, whilst some carers and teachers reported the value of FS social, physical and psychological freedoms in supporting participants to feel good, others expressed concerns about the clash with the culture of schooling.

CBC researchers noted that bonding through shared experience tended to arise when relatively new non-cognitive experiences took place against the backdrop of a growing familiarity with the routine and landscape of FS. It could be that return visits to the FS environment and the processes and practices associated with FS practitioners ensuring the site and activities are relatively safe can also reassure participants doing new or different things. The cultural density of FS deepens over time as participants move from novelty to becoming practised and competent in that context; however, it also seems that when accessing relatively novel experiences, the contrast, in this setting remains powerful.

To summarise in response to Leather's three issues, we argue that FS can represent a space of divergence and freedoms. Cultural discontinuity from normal experience seems to be an important part of its appeal within our case studies. The liberty to pursue relatively novel, non-cognitively focussed, hands-on, environment-responsive activity, and fresh or refreshed social relationships allows young people to behave and experience themselves differently. Importantly, the learner-led ethos of FS in our evidence can support participants to self-regulate this relative autonomy, amongst the temporary suspension of educational norms in England, and helps to develop a sense of agency and self-regulation. FS risk management and routines may benefit adult and young people's perceptions of safe exposure to these differences and potential risks, underpinning co-production of enacted FS contexts and their acceptability to mainstream educators. Its commodification may be shaped by protection of FS principles and the business of accredited training, but also influenced by demand for standardisation within the English educational system. The result can be tensions between principles, purposes and practices in FS enactment. In this respect, theorisation through examination of competing cultural densities may help us to better understand how FS sits within wider English or other cultural contexts (Macquarrie et al. 2013).

The dilemma of dilution of FS principles in the performative world of practice

In conclusion, we suggest that a major threat to the difference of FS that we have explored through the case studies lies in dilution of the learner-led principle and diminution of variance from English mainstream educational norms (Rea and Waite 2012). The delineation of principles and insistence on qualifications to practice may have been partly motivated by a drive to distinguish the values of the FS movement from other forms of outdoor learning (FSA 2017),

however, the consequent regulated structure may well contribute to its appeal in the English neoliberal educational climate. With the increasing presence of FS within UK schools, higher level structural political influences inevitably impinge on how FS is positioned and enacted in the mainstream arena. The learner-led principle may be superseded by a focus on curriculum objectives when co-located within schooling. Our GfW empirical examples address special cases in education, which may indicate that full acceptance of its alternative pedagogy is limited to exceptional circumstances. Furthermore, claimed congruence with playbased early years practice is possibly now threatened by a burgeoning school readiness discourse of preparing children to be taught more formally at ever earlier ages in England (Huggins and Wickett 2017). Consideration of cultural densities may help to untangle the impact of wider structural influences that impinge on principles. Through acceptance of cultural norms for performance standards-based education, FS principled practice may be eroding and becoming more like schooling in its enactment. At the same time, strict adherence to its principles might represent a major obstacle to the suitability of FS training and practices for curriculum-based outdoor learning agenda. As Rea and Waite (2012) observe, the apparent success story of widespread inclusion of FS within the mainstream may serve to fatally skew the difference that originally contributed to their uptake.

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References

- Aasen, W., & Waters, J. (2006). The new curriculum in Wales: A new view of the child? *Education 3–13*, 34(2), 123–129. <https://doi.org/10.1080/03004270600670425>
- Archard, J. (n.d.). *The impact of regular forest school sessions on young teenagers wellbeing*. Retrieved from https://www.plymouth.ac.uk/uploads/production/document/path/8/8008/final_summary_report_jen_nya_-_otterhead_.pdf.
- Beauchamp, G., Clarke, L., Hulme, M., & Murray, J. (2013). *Research and teacher education: The BERA-RSA inquiry. Policy and practice within the United Kingdom*. Project Report. London: British Educational Research Association.
- Bentsen, P., & Jensen, F. S. (2012). The nature of udeskole: theory and practice in Danish schools. *Journal of Adventure Education and Outdoor Learning*, 12(3), 199–219.
- Brown, M. (2010). Transfer: Outdoor adventure education's Achilles heel? Changing participation as a viable option. *Australian Journal of Outdoor Education*, 14(1), 13–22.
- Davis, B., & Waite, S. (2005). *Forest schools: An evaluation of the opportunities and challenges in early years, final report*. Plymouth: Plymouth University.
- Department for Education (2016). *Educational excellence everywhere*. Retrieved from: <https://www.gov.uk/government/publications/educational-excellence-everywhere>.
- FSA (2017). *Full principles and criteria for good practice*. Retrieved from: <http://www.forestschoollassociation.org/full-principles-and-criteria-for-good-practice/>.

- Garrick, R. (2004). *Playing outdoors in the early years*. London: Continuum.
- Good from Woods (2017). *Good from woods case studies*. Retrieved from: <https://www.plymouth.ac.uk/research/oelres-net/good-from-woods/case-studies>.
- Goodenough, A., & Waite, S. (2012). Well-being from woodlands. *Ecos-Review of Conservation*, 32(3), 47.
- Gutman, L. M., & Schoon, I. (2013). *The impact of non-cognitive skills on outcomes for young people: Literature review*. Retrieved from: https://v1.educationendowmentfoundation.org.uk/uploads/pdf/Noncognitive_skills_literature_review.pdf
- Houghton, P., & Worroll, J. (2016). *Play the forest school way: Woodland games, crafts and skills for adventurous kids*. London: Watkins Publishing.
- Huggins, V., & Wickett, K. (2017). Very young children learning outdoors: its place in the schooling system. In S. Waite (Ed.), *Children learning outside the classroom: from birth to eleven*: Second edition (pp. 69– 81). London: Sage.
- Knight, S. (2009). *Forest schools and outdoor learning in the early years*. London: Sage.
- Knight, S. (2011). *Forest school for all*. London: Sage.
- Macquarrie, S., Nugent, C., & Warden, C. (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. <https://doi.org/10.1080/14729679.2013.841095>
- Malone, K., & Waite, S. (2016). *Student outcomes and natural schooling: Pathways from evidence to impact*. Retrieved from: https://www.plymouth.ac.uk/uploads/production/document/path/6/6811/Student_outcomes_and_natural_schooling_pathways_to_impact_2016.pdf
- Maynard, T. (2007). Encounters with forest school and Foucault: A risky business? *Education 3–13*, 35(4), 379–391. <https://doi.org/10.1080/03004270701602640>
- McCree, M. (2014). *Practitioner experiences of forest school*. Unpublished PhD thesis. Retrieved from: <http://eprints.glos.ac.uk/2066/1/McCree%20Mel%20PhD%20Thesis%202014.pdf>
- McCree, M., & Cree, J. (2017). Forest School. In S. Waite (Ed.), *Children learning outside the classroom: From birth to eleven* (2nd ed., pp. 222–232). London: Sage.
- Nundy, S., Dillon, J., & Dowd, P. (2009). Improving and encouraging teacher confidence in out-of-classroom learning: the impact of the Hampshire Trailblazer project on 3–13 curriculum practitioners. *Education 3–13*, 37(1), 61–73. <https://doi.org/10.1080/03004270802291889>
- Ofsted (2016). *School inspection handbook*. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/553942/School_inspection_handbooksection_5.pdf.
- Ramsden, N., & Tomlinson, R. (n.d.). *Into the woods*. Retrieved from: https://www.plymouth.ac.uk/uploads/production/document/path/7/7983/summaryreport_foat_cityofbristolcollege_final.pdf.
- Rea, T., & Waite, S. (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 B. Martin & M. Wagstaff (Eds.), *Controversial issues in adventure programming* (pp. 265–271). Champaign: Human Kinetics.

The Schools, Students and Teachers Network (2014). *Mind the gap: Collected essays on the development of character, non-cognitive skills, mindfulness and well-being*. Retrieved from: <https://webcontent.ssatuk.co.uk/wp-content/uploads/2015/10/13124740/Mind-the-Gap.pdf>

The Silvanus Trust (2015). *Social cohesion and well-being deriving from woodland activities*. Retrieved from: <https://www.plymouth.ac.uk/research/oelres-net/good-from-woods>.

Waite, S. (2010). Losing our way?: declining outdoor opportunities for learning for children aged between 2 and 11. *Journal of Adventure Education and Outdoor Learning*, 10(2), 111–126. <https://doi.org/10.1080/14729679.2010.531087>

Waite, S. (2013). 'Knowing your place in the world': how place and culture support and obstruct educational aims. *Cambridge Journal of Education*, 43(4), 413–434. <https://doi.org/10.1080/0305764X.2013.792787>

Waite, S., & Davis, B. (2007). The contribution of free play and structured activities in forest school to learning beyond cognition: An English case. In B. Ravn & N. Kryger (Eds.), *Learning beyond cognition* (pp. 257–274). Copenhagen: The Danish University of Education.

Waite, S., Bølling, M., & Bentsen, P. (2016). Comparing apples and pears?: A conceptual framework for understanding forms of outdoor learning through comparison of English Forest Schools and Danish udeskole. *Environmental Education Research*, 22(6), 868–892. <https://doi.org/10.1080/13504622.2015.1075193>