Developing a Coherent Theoretical Framework for Forest School in the UK

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Abstract:

As an early leader in the development of Forest School (FS) in the UK, I published four books, eight book chapters and three academic papers between 2009 and 2019. This work is set within the context of other research on FS, an examination of which leads to the proposition that what is missing from this whole body of research is a coherent theoretical framework. This thesis draws out that framework and presents it as a systematic and synthesised interdisciplinary whole.

I describe my ethnographic journey, and explore the development of FS in the UK through related research. Participant observation, reflective accounts and interactive methodologies have led to an embedded understanding of the theories that underpin Forest School. Drawing on my publications and existing research, my reflective analysis shows how my understanding of the complex theoretical structure of Forest School grew over time, expressed in my published work. Research is included which indicates the benefits of FS to participants: social, emotional and personal growth, a sense of place and time, mindfulness and mental health, practical skills and knowledge, and awareness of sustainability. The existing research shows how academics have considered the theoretical roots of Forest School yet these explorations are incomplete, leading to the need for a coherent theoretical framework to support FS.

This framework synthesises pedagogical and practical approaches originating in different academic disciplines to create an interdisciplinary foundation for FS in the UK Theoretical themes form the framework: play, social constructionism and social constructivism, cultural context, attachment and evolutionary biology, which are held together by Six Principles devised by the FS community. These ensure the quality of FS delivery and thus the achievement of the identified outcomes. Lastly, I show the importance of Forest School as an intervention for a modern multicultural society, post-Covid and in a climate emergency.

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Contents:

Chapter 1: Introduction

This covering document is a synthesis of the main arguments in my submission for a PhD by prior output. The arguments embedded in my published works (see appendix), which are my unique contribution to Forest School (FS), are based on my research to establish the theoretical framework for Forest School. I have drawn on them to answer my research question, 'What are the key concepts that form the theoretical framework of Forest School and how do they interrelate?' To do this, I have undertaken a reflective analysis (Moffat, 2019) of my writing to draw out the framework set out in Chapter 4. The framework provides a critical step in addressing the key issue of the academic credibility of FS. It provides a more comprehensive exposition of the concept of FS than has existed hitherto, through the synthesis of its different constituent theoretical threads, for example the relevance of trees to human wellbeing, the role of play in personal development, and the central importance of education for sustainability.

This thesis is also a story of personal discovery as a teacher, Forest School leader and academic. As FS has developed over time as an educational and personal intervention in the UK, so I have researched and written about it, discovering what makes it unique. In the process I have also discovered more about my own commitment to FS and the importance of nature connectedness. Each publication (see appendix) progressively emphasises that commitment. By returning to my work and by engaging with recent academic literature as part of my reflective analysis, I have been able to elevate my thinking to a higher academic level. Within each chapter I tell a story that explains an element of my developing theorisation of FS. These build towards Chapter 4 which sets out my findings.

In this first chapter, I define Forest School and the role I have played in its development in the UK. I also illustrate my role in the development of FS by linking it to events in my own life, an approach consistent with an autobiographical reflection (Conteh et al, 2005), linking 'my story' (Dinesh, 2016) to the different elements that make up the FS framework.

In the second chapter, I undertake a critical literature review of published papers relating to FS in the UK, including my own published work. The findings of the literature review are organised into three key themes, the first of which is the outcomes from FS. The second theme is about the quality of FS provision and the last is the theoretical framework that is the focus of this thesis. In this section I discuss papers that link FS to social constructivism and early learning theories, play pedagogy, theories of place and time, culture and biology.

In the third chapter, I set out the methodologies, research designs and different research methods I have used in my work, including the reflective analysis that this thesis represents. I explain

how these synthesise to answer my research question. Over the span of the publications that I draw on for this thesis (see appendix) I have data from over fifty FS settings and have used a range of data collection methods and methods of analysis. These vary from sessions with younger children of nursery or infant age to sessions for adults with mental health issues, and for all ages in between.

In the fourth chapter, I present the theoretical framework that I have drawn from my research and my practice through my reflective analysis. This framework is divided into themes which encapsulate the different elements of the framework. To illustrate my vision of how the themes link together, I have constructed a diagrammatic tree (see figure 1 in Chapter 4) and a flow diagram (see figure 2 in Chapter 4) that make the connections between the themes and show how they interlink.

In the final chapter, I conclude by discussing the implications of this unique contribution to the body of knowledge about FS. I will have achieved a worthwhile contribution to FS if the theoretical framework I have set out here enables this powerful intervention to receive greater acknowledgement as a tool for the good in a time of crisis in the UK.

1.1 A history and description of Forest School in the UK

In my publications over the last ten years (see appendix) I have shown how FS has grown from distinct and identifiable origins. Three early events are significant in this genesis. The first event in the process of developing FS in the UK was a visit by early years' lecturers and students from Bridgwater College in Somerset to outdoor early years' settings in Denmark in 1993. They observed outdoor experiences in wooded spaces offered to three to six year olds attending kindergartens which were child-led and included the use of sharp tools and the lighting of fires. This inspired them to develop similar provision in the college nursery and to call it Forest School (Knight, 2012). The interest that the college's innovative nursery provision inspired across the early years sector led the Bridgwater College team to develop training courses so that other settings could replicate what they were doing. I visited Bridgwater College in 1996, after which I wrote and set up the FS training courses for the East of England in the early 2000s and registered them with the Open College Network (Open College Network West Midlands, 2017). Other courses have been developed since, and the Forest School Association now has schemes for endorsing trainers and courses.

The second event in the originating process was the early adoption by the Forestry Commission of Forest School as a way of working with children, including giving their financial support to spread the training, plus a Forest School Coordinator for each of the home

countries (Knight, 2016c). In 1996 the Forest School Co-ordinator for England invited myself and a dozen other early adopters of FS to form a steering group which would shape the formation of a national structure for FS in the UK (Forest School Association, 2020). The choice of the contributors to the group, and their choice to contribute or to leave (as happened) shaped the early development of FS. The tensions and problems we shared refined our thinking about FS (Neubert, 2009: 162), just as the personal histories and experiences that we brought to the group were also shared to create the foundations of the values and aspirations of FS and the language in which they are framed (Burr, 2015). These were embedded in the courses we wrote to train more FS practitioners.

The third event was an explicit agreement between the majority of the early adopters of a commitment to environmental conservationist values. We also agreed a bottom-up philosophy (see 3.1) to the way in which the movement would develop, and indeed continues to evolve (Knight, 2016c). This is a social constructionist approach, although we did not recognise it as such initially (Denzin & Lincoln, 2017). FS has been co-constructed over twenty years by practitioners including myself into a new and identifiable way of working outdoors. Together we developed the Six Principles (Forest School Association, 2011) that underpin the delivery of Forest School; they capture the vision of FS and are still in use today, see Coates and Pimlott-Wilson (2018). As I continue to engage with the FS community, I can see that the views of FS practitioners shape and modify FS by meeting together and sharing values and ideas, which is consistent with social constructionism (Burr, 2015).

The Six Principles (discussed in Chapters 2 and 4) encapsulate Forest School as an experiential process rather than an entity or tangible physical structure. It can occur wherever the conditions fulfil the criteria set out in these Six Principles. Forest School is a concept rather than a physical structure, and sessions can occur in any wooded space chosen by a FS leader for that purpose. This gives FS leaders the flexibility to offer sessions to a wide range of participants and in a wide variety of settings. It also places a responsibility on each leader to continually monitor whether their practice is meeting the Principles or not. In 2.2.2 I discuss some of the tensions that this lack of concrete manifestation of FS has created and how my work can help support FS leaders in their quest for quality FS provision. When the Six Principles are followed, FS offers participants opportunities over time to develop confidence and self-esteem through an immersion in and an engagement with the same woodland (Forest School Association, 2020). Wooded spaces where campfires provide a central focus is at the heart of FS sessions. Where there is a campfire, there is a central focus, a heart to the session, and this enables the participants to sit around the fire and feed back to the leaders about their activities and their feelings.

What other activities take place will vary, depending on the age, ability and interests of the participants, and the skills of the leaders. FS involves a small group of children or adults in a wooded space with a high ratio of leaders who facilitate activities chosen by the participants and who will offer instruction on specific skills when the participants agree that it is appropriate (Knight, 2009/13). This client-led and largely client-initiated approach is a central pillar of FS. The leaders use techniques typically associated with both Playwork and early years practice in the UK, making observations about the activities chosen and how the participants engage with them, and using these observations to make suggestions, provide further resources or to feed back to the settings which the participants have come from (Knight, 2014).

Forest School offers participants experiences over time, both time during each session and time over a number of sessions. Each session is ideally at least two hours long, preferably a whole day, and is repeated, ideally on a weekly basis. The number of sessions should be such as to give the participants the experience of all of the seasons of the year, and for older children and adults it may well be beneficial to continue over a number of years. I set out the reasons why repetition is critical in Chapter 4. The need for repetition marks a key difference between FS and many other outdoors experiences. Whilst it is necessary to practice skills such as rock-climbing and canoeing to develop a high level of competence, it is possible to have a successful rock-climbing or canoeing experience without repeated practice. It is also possible to participate and enjoy rock-climbing and canoeing as a one-off activity. By contrast, although it is possible to have a one-off enjoyable experience in the woods, this would not be Forest School. It would not fulfil the goals and aims of FS, which 'aims to promote the holistic development of all involved, fostering resilient, confident, independent and creative learners' (Forest School Association, 2011).

Although FS began as a way of working with children, it quickly spread throughout the UK as practitioners in different settings experimented with utilising the intervention for the benefit of different client groups (Knight, 2011a). I argue (Knight, 2016c) that rather than being exclusively a learning approach primarily for children, Forest School can also be utilised as an eco-therapy with beneficial effects for adults as well as children. In evidence, Knight (2011a) contains reports from sixteen practitioners engaged in working with a range of age-groups, including adults.

The FSA was initially constituted in the early 2000s as a Special Interest Group (now called 'Professional Groups') within the Institute for Outdoor Learning (Institute of Outdoor Learning 2020a). This is not unusual for a new initiative in the Outdoor Education world, nor is it unusual

for the Special Interest group to develop into a separate and autonomous organisation, and so in 2012, we constituted the independent Forest School Association (Knight, 2011a; 2013; 2016c). Two months before the launch of the new organisation my husband died suddenly and with myself in attendance as first-aider; I was later diagnosed with PTSD, which affects memory, self-identity and behaviour (PTSD UK, 2020). Ng states that change affects positionality (Ng, 2017), altering identity and thus one's bias as a researcher. My perspective on FS became more that of an observer and participant rather than a leader and organiser. Becoming a beneficiary of FS sessions, as well as a practitioner, has given me new insights into its value as a therapy which has in turn fed into my writing (Knight, 2016b; 2017a). I have adopted the humanist perspective of ecotherapy when considering self, personal agency, and the unconscious motivations that affect behaviour (Burr, 2015; Feltham et al, 2017).

Forest School is a potent intervention (Knight, 2016c) which can offer children opportunities to develop a strong social and emotional foundation to their educational journey (Knight, 2017b). It can offer respite and alternative perspectives to older children and adults (Knight, 2011). During a global pandemic being outside offers safer ways to be together, to learn, and to become more resilient (Department for Education, 2020). In a time of climate crisis, it reconnects participants with their environment (Knight, 2017a; 2018a) and FS develops sustainable perspectives through Nature Connectedness in its participants. This is relevant to both human and planetary health (Richardson, 2020).

Forest School is unlikely to be embraced by policy makers and educators across the UK without hard evidence of benefits based on a strong theoretical foundation. As can be seen in the literature review in Chapter 2, there is evidence of the benefits of FS (Davis & Waite, 2005; O'Brien & Murray, 2006; Knight, 2009/13; Archard, 2015) and researchers have made some theoretical links (Harris, 2015; Waite & Goodenough, 2018; Pimlott-Wilson & Coates, 2019). What is missing, and what this thesis sets out to do, is to present a coherent overview synthesised into a creditable theoretical framework that gives that foundation.

1.2. The Emerging Theoretical Framework

Evidence of how my ideas have emerged from narrative inquiries over time (Squire et al, 2014) are the eight book chapters I am submitting as part of my doctoral submission (see appendix). These chapters were requested by the different book editors, and I used the opportunity to explore in each the literature relating to a different theoretical discipline that has relevance for FS. The explorations create a storied analysis of FS (Litchman 2006) and the scope of the theories that have fed into its development in the UK. The chapters contributed to ideas about

theory integration (Eisenberg, 2019) as I collated findings from the differing conceptual frameworks, creating a form of learning journal (Moon, 2005) ready to be reflectively analysed (Moffat, 2019) in this thesis. The analysis, together with the review of current literature in Chapter 2, has informed the theoretical framework set out in Chapter 4.

Each of the book chapters enabled me to create a thematic narrative synthesis (Wright, 2020) with the purpose of illuminating the different themes that are all necessary to FS. In Knight (2010) I justified the need for risky play for children under the age of five years. Knight (2012) sets out the theoretical links between FS and early years' theorists who have influenced practice in the UK. I also introduced the concept of Friluftsliv and its relevance to FS. I set out an early version of the Six Principles of FS (FSA, 2011) in Knight (2014), linked to identified beneficial outcomes from FS. Knight (2016a) took a historical perspective on the roots of FS, searching for evidence of the roots of FS in a range of literature including Jung, and papers on evolutionary biology, Friluftsliv and Biophilia. These latter terms are discussed in Chapter 4. I was seeking for traces of FS in past European culture and societies (Jupp, 2006). My findings were that 'Forest School in the UK is analogous with one of its trees. It has its roots in our evolutionary past, prompting a love of nature. It has its trunk in tribal and agrarian societies, enabling people to develop Bushcraft, social and language skills' (Knight 2016a: 249). In Chapter 4, I explain how these different themes are connected to create FS

I introduced FS as an intervention suitable for all ages in Knight (2011b) with examples cited from Knight (2011a) and referencing the links across the outdoor learning sector. I discussed FS as an immersive learning environment led by the interests of the participants, linking to the Ladder of Participation (Hart, 1992) and to freely-chosen sensory play (Goldschmied & Jackson, 2004), demonstrating the value of a participant-led approach. In Knight (2017a) I considered the spiritual dimension of FS. The review considered how academic texts from Jung to the present day supported my hypothesis that spirituality and creativity permeate the outcomes of FS. My findings were that the Six Principles of FS (FSA, 2011) form a platform for evidencing aspects of creative and spiritual growth, benefiting the mental health of participants and fostering emotional connections with the natural world.

In Knight (2017b) I began with a literature search for the evidence of the theoretical origins of FS and its benefits, then looked at recent literature around formal and informal curricula. My findings were that in countries with formal early years and primary curricula, FS provided a beneficial counter-balance to the stresses that such formality in early education inevitably causes. I cited its popularity in countries such as South Korea, Japan and China, and deduced that outcomes for

young children include building resilience. Knight (2017b) also explored the importance of the training for FS leaders to the quality of the FS experience, citing the findings of the early research into the benefits of FS (for example, O'Brien and Murray, 2006) as discussed here in 2.1. Knight and Luff (2018a) discussed the links between FS and sustainability issues. Resilience in the face of climate change and the education in sustainability that are outcomes from FS are themes I have integrated into my model in Chapter 4.

Hiles et al (2017) described the process of thematic narrative synthesis as a form of analysis that intrinsically identifies codes and themes. The research for each chapter has informed my work for this thesis (Robson & McCartan, 2016), contributing to the theoretical framework that I expound thematically and diagrammatically in Chapter 4. The thematic analysis also links to ideas of social constructionism, in that in each case the process of selecting and reviewing the literature was a way to explore my understanding of an aspect of FS through a story (Wright & Høyen, 2020) that was necessarily linguistically embedded. Through the chapter-writing process I have analysed the literature that supports the cultural context of Forest School in the UK and the published evidence for its adoption and adaption across the world.

After revisiting my work and undertaking a literature review in Chapter 2, I have revised and consolidated the theoretical framework for FS set out in Chapter 4. The process of revisiting, reviewing and reflecting gave me insights into the connectedness and interdependence of the theoretical strands that are a part of FS, which supports the evidence for FS as an important intervention. As the impact of the pandemic and the concerns about the climate crisis become more apparent, FS gains in its relevance for our times.

Chapter 2: Literature Review

For this chapter I have carried out a systematic review of the literature pertaining to definitions of Forest School. A literature review aims to consolidate existing knowledge (Arthur et al, 2012) so, although the published works I am submitting contain literature reviews of different kinds, my aim was to position my work within the body of research. This included that which had informed my work and that which my work had informed, together with work that did neither, setting out the research in the field which would help me to identify the gap in the literature that my thesis aims to fill, namely that of a comprehensive theoretical framework for FS. I analysed the literature thematically, identifying explicit criteria that would support my aim to construct my framework. Whilst this could be criticised as a biased sample (Arthur et al, 2012), I relied on my insider knowledge of the field (Ng, 2016) to support my selection of representative papers.

I first undertook a metacognitive review of the published works submitted as a part of this thesis as I have carried out literature searches for each of them (see appendix). I then reviewed more recent published papers that explicitly refer to research about FS, looking for thematic links in the literature. I also reviewed papers that are helpful in exploring the place of FS in the wider field of outdoor learning. I discuss the interdependency of the different strands of outdoor learning and the ways in which they intertwine, and the effect on the evolution of the FS principles and practice thus far. In this chapter I review what can be said about the outcomes for participants at FS, how FS is valued within the field of education, and what has been deduced about the theories supporting FS thus far. A new paper (Garden & Downes, 2021) states that the research literature about FS is sparse, particularly for such a significant initiative. From the review it can be seen that there is a need to draw the different theoretical perspectives together into an interconnected whole, as set out in Chapter 4.

I start the chapter by considering the literature that places FS in the field of Experiential Outdoor Learning. I have then identified three recurrent themes that relate to research that is specifically about FS. Theme 1 considers the evidence for the benefits of FS to the learning and personal development of participants. The credibility of FS rests on clear evidence of benefit to participants from its sessions, and so it is important to establish what findings these research papers have reported.

Theme 2 discusses evidence of the tensions around maintaining the quality of FS. I have included in my review a discussion of the Six Principles of FS (FSA, 2011) which constitute the standards by which practitioners maintain the quality of their delivery of FS. Whilst they are

practical in their focus, they are predicated on the underpinning theoretical framework of FS, thus forging an important link between theory and practice. In this theme I discuss the evidence related to the quality of the FS provision. Establishing how quality is defined in the context of FS and how maintaining that quality of delivery affects the outcomes for participants is critical. The papers in this section also illuminate the imbalance in the power relations in FS between classroom teachers and FS practitioners, and between the formal school curriculum in England and the child-led curriculum in FS.

In Theme 3, I identify the theories that have been linked to FS by different academic researchers and discuss how they could and should interrelate. I consider research that includes claims about the theoretical concepts influencing the understanding of FS pedagogy and practice. All the papers considered here make valuable contributions to the developing theoretical framework. By considering the interest shown in FS from academics from a wide range of disciplines, and the findings from their research, I have identified the gap in the literature that my thesis aims to fill, namely that of a comprehensive theoretical framework for FS. What I argue is missing is the coherent and interconnected interdisciplinary theoretical framework set out in Chapter 4.

2.1 Experiential Outdoor Learning

As stated in Chapter 1, FS sits in the field of experiential outdoor learning. Dewey is recognised as a key figure in experiential learning generally, and outdoor learning in particular (Neubert, 2009). As a philosopher and educator writing almost one hundred years ago, Dewey criticised the top-down education system in the US (Dewey, 1938). His interests were in the experiential educational experiences of older children, and he saw education as a process of transformation through interactions with real experiences (Beard, 2018). His emphasis on social experiential learning that starts with the learner's current levels of understanding is comparable with the ideas of psychologist Vygotsky. He describes social constructivism (the role of the more knowledgeable other), and the 'zone of proximal development', which centres on starting a learning journey from the participants' current levels of knowledge and understanding (Vygotsky, 1978), important in the learning of younger and less able children. Seeing this conjunction of pedagogical ideas for young and old alike is helpful in recognising the relevance of FS to all ages, as I have discussed in Knight (2016a; 2016c).

Ord and Leather (2011) and Ord (2012) explored the importance of Dewey's focus on the continuum of each learner's experience. They considered his theory that older children and young adults experiencing outdoor learning are on a journey to further understand the world and

their place in it. Educative experiences carefully orchestrated by trained professionals engage participants in whole-body experiences that stimulate interactions with the wider world (Ord 2012). This is important support for the theme of sustainable education embedded in FS, as it links closely to FS Principles 2 (Sessions take place in a woodland to develop a lifelong relationship with the natural world) and 3 (FS creates a community of being, developing and learning). They criticise the simplification of Dewey's ideas by Kolb's 'plan-do-review' model (Kolb, 2014) and claim that Kolb fails to elucidate the complexity of those ideas. For example, they make the argument that a simple 'review' label does not encompass the entangled transactions between the experiences and the individuals as they accommodate and assimilate their learning (Ord and Leather, 2011). They argue that Kolb's theory fails to capture the role of the more knowledgeable other in relationships, conversations and awareness of the needs of the participant at that moment (Ord, 2012). The role of the other is central to both the social benefits of FS and to the role of the FS leader. The descriptions by Ord and Leather (2011) of learning through repeated and sustained experiences are appropriate to the complex developmental processes that take place at FS, where the 'over time' element allows the participant to adjust their understandings and knowledge at a pace appropriate to them (Knight, 2016b). This model of cognitive development demonstrates further links between Dewey and early years' theorists (Ord and Leather, 2011). 'Accommodation' and 'assimilation' are terms borrowed from Piaget (1950) and used by Dewey (Ord, 2012), assimilation being the process by which we integrate new experiences and information into our existing knowledge (Coates & Pimlott, 2018) and accommodation being how we adjust our understandings of the world as a result of problem solving (Piaget, 1926).

In an analysis of Dewey's writings over time, Seaman (2019) addresses the same issues of simplification by subsequent writers, and points out that Dewey abandoned the term 'experience' in favour of 'culture' in his writings, to better encompass interdisciplinary sociological, historical and developmental elements. He links these to both interactive experiential learning events and to anthropological change. Seaman also criticises how Dewey highlighted the importance of time to outcomes, claiming that children's engagement with nature occurring over time exhibited 'qualitatively different processes in affective, cognitive, and values-based domains' (Seamans, 2019: 347). Ord, Leather and Seaman all focus on principles of delivery of outdoor learning, with practical elements pertinent to FS, critically the importance of experiences taking place over time.

Pascucci (2016) focused on Dewey's interest in aesthetic education, analysing his theories through the metaphor of 'Alice in Wonderland'. He claimed that Dewey regarded play as both

a tool for deeper engagement of 'the senses of wonder, curiosity and the desire to learn' (Pascussi, 2016: 11) and as a diagnostic tool, citing Dewey's comments about students being 'cowed by fear or dulled by routine' (Dewey, 1934:175) as indicators of abuse or neglect. In this philosophical discourse he drew parallels with the role of the adult as imagined by Dewey, Vygotsky and Bruner, who have all developed theories of scaffolding, modelling and facilitating learning whilst allowing space for individuation. These theories correspond to my discussions on the role of the leader at FS as someone who not only facilitates experiences but also models behaviours and attitudes, and scaffolds the learning of the participants (Knight 2009/13; 2010; 2011b).

Beard (2018) considers the 'over time' element in terms of brain development, linking Dewey's thinking on transformational change to recent research about the importance of active learning for the development of neural pathways, described by Cree and Robb (2021) as 'whole body thinking' in their textbook on FS practice. Dewey made the case that practical and experiential learning, such as that which takes place at Forest School, has equal validity with the purely theoretical learning that takes place in the classroom (Seaman, 2019). Thorburn (2020) also draws on Dewey's work to argue for embodied experiences in education, highlighting the role of action on learning. His consideration of the importance of embodied learning compares and contrasts play-based learning with Foucault's ideas about the passivity imposed on school children affecting their learning potential in conventional indoor education (Garlen et al, 2021). Dewey's 'over time' argument challenges simplistic routines in favour of sequential learning episodes that 'encourage student decision-making' (Thorburn, 2020: 09), which is also mirrored in FS practice. Additionally, in both Knight (2012) and Knight (2017a) there is an emphasis on the importance of handing the locus of control to the children in order to maximise the benefits to their wellbeing, linking to the 'Ladder of Participation' (Hart, 1992), which identifies where the locus of control lies in any play experience. This is most clearly demonstrated during the fire circle at the beginning of FS sessions when the leader outlines the activities available in space and invites the participants to choose. On Hart's 8-point ladder, this sits at least at number 6. However, during the sessions the ideas of the participants are recognised and acted on (level 7 or 8), particularly in planning subsequent sessions in the end-of-session fire circle.

Whilst these papers focus on the experiences of older children and adults, reflecting Dewey's interests, his findings are echoed in the ideas of early years' theorists such as Vygotsky (1978) and Piaget (1926), and, as such, give relevance to the arguments for widening participation in FS to all ages. Dewey's work has influenced the field of experiential outdoor learning generally, placing FS within that outdoor learning community. His philosophical ideas about experiential learning form a

sound base for the theorisation of FS, particularly in its interdisciplinary nature   I contend that what is lacking in using Dewey as the sole theoretical basis for FS are the additional elements of theory unique to FS, such as the emphasis on particular elements of practice, as expressed across all the Six Principles of FS described in Chapter 1 and in 2.2.2.

2.2 Forest School

There is now an increasing amount of published research about Forest School although, as previously stated, it remains largely confined to rather small qualitative studies (Garden & Downes, 2021). In examining this research, three themes of interest emerge: (1) research evidence of the benefits of FS, (2) research relating to the quality of FS provision, and (3) research focusing on the theories supporting FS. I will use these as headings in my discussion here.

2.2.1. Theme 1: The Benefits of Forest School

The research evidence for the benefits of FS in the UK began to be published in the early part of the 21st century, showing the benefits to younger children in keeping with the roots of FS in early years care and education. The available literature identifies six main areas of benefit to children from FS sessions, namely increases in their emotional development, social skills, language and communication, physical skills and cognition. The Foundation Stage Curriculum at the time focused on these as desirable learning outcomes for young children (Department for Education, 2011), and providers became keen to evaluate the benefits of FS in these areas in order to justify the costs of providing FS sessions.

2.2.1.1 Benefits to social and emotional development

Research by O'Brien and Murray (2006) showed the benefits of FS to the social and emotional development of children in the first years of primary school. The specific findings were improvements in the children's self-esteem and self-confidence, their ability to work co-operatively, and in their motivation towards learning. Two primary schools in Wales were involved in Phase 1. In Phase 2 four additional groups from across the west of England and Wales used the Self-Appraisal Kit developed by the research team during Phase1, and were able to replicate the findings (O'Brien & Murray, 2006). The qualitative methodology was participatory, leading to a joint evaluation of the findings between the researchers and the leaders.   They used a mixture of adult storyboarding and observations, plus 'diaries' with children, including pictures and text. I discuss this methodology further in 3.3.2. The study was replicated across the UK by Borradaile (2006), and Hughes and Jenner (2006), both with the same results, establishing the replicability of the methodology. Whilst the findings were useful to practitioners, the lack of references to theory in these Forestry

Commission sponsored papers contrasts with the more academic work that followed.

The findings by Davis and Waite (2005) and Knight (2009) identified similar benefits to the social and emotional development of children between the ages of three and six, using the same methodology in Devon (Davis & Waite, 2005) and Suffolk (Knight, 2009). These research projects were independent of the Forestry Commission, adding further confirmation of the results. Different data collection and analytical methods were used by Pavey (2006), Maynard (2007a), and Ridgers et al (2012), which were research projects that all came to similar conclusions as the previous studies. The studies by Maynard (2007a) and Ridgers et al (2012) were of children in primary education and included informal interviews with six to seven year olds, finding benefits to children's personal, social and emotional development and well-being. Pavey's (2006) study looked at the effects of FS on primary aged children with special needs, and included the Boxall Profile assessment techniques (Bennathan & Boxall, 2014), extending the evidence of the benefits of FS to children with additional needs. Pavey's research evidence of increases in confidence, independence and motivation amongst children with complex learning needs is echoed by Hopkins (2011).

2.2.1.2 Benefits to language and communication skills

Research by Waller (2007) found evidence that the children co-constructed enduring 'shared narratives' (Jordan, 2004) and that their knowledge was being scaffolded by adults. Waller collected examples of their sustained shared thinking and storytelling, findings echoed in Knight (2009), and he used a qualitative methodology, the Mosaic Approach (Clark & Moss, 2005), to collect data, making regular visits to two settings for four-year old children. They were attending sessions in a natural environment with no pre-planned curriculum or learning objectives, and he observed their free play. His data were analysed using analytic methods developed by the EPPE project (Sylva et al, 2003). Whilst he observed practice in wilder settings that was play-based, child-led and supported by knowledgeable others, Waller did not identify these sessions as FS. This highlights a challenge for the FS community, namely, how to ensure quality sessions are identified as FS without a strong theoretical framework, as discussed in 2.2.2.

The research by Davis and Waite (2005), discussed above, also included further participatory data collection methods such as using video clips, and their methods of analysis additionally included both the Effective Early Learning (EEL) scales (Pascal & Bertram, 1997) and mapping of the space used based on children's drawings (Goodnow, 1977). These enabled discussion of additional findings, emphasising benefits for language and communication development. They concluded that the pedagogy of FS needs clarification before it will have the impact it merits on mainstream policy.

2.2.1.3 Benefits to physical development

The research by Trapasso et al (2018) focused on the benefits of FS to children's physical development by comparing the value of PE and FS to the development of 59 children in key stage two after 12 weeks of participation. Their findings were that whilst PE and FS both encourage more physical activity than a school day which does not include either, children reported feeling happier and more relaxed as a result of FS sessions. The findings also included benefits to well-being and mental health which contributes to the richness of the findings of this group of papers overall. This study used both quantitative methods (a questionnaire, accelerometers to measure activity levels, and anthropometric data collection by the research team) and qualitative methods (a 'write and draw' activity and focus groups analysed and coded thematically). Whilst most of the research discussed thus far has used qualitative methodologies, there is evidence from this paper (Trapasso et al, 2018) that quantitative research also demonstrates benefits from participation in FS sessions.

Austin et al (2013) also evaluated the effectiveness of FS on children's physical activity levels using both questionnaires and accelerometers. Follow-up focus groups collected evidence of benefits to the children's wellbeing from the sessions. Whilst this study has not been peer-reviewed it does evidence improvements in physical activity levels in primary school children from participation in FS.

These were two of the few papers I found with the primary objective of considering physical development in young children, although the benefits to physical activity are included in both Harris (2015) and Coates and Pimlott-Wilson (2018). The research by Ridgers et al (2012) also identified benefits including a greater awareness of opportunities for active learning offered by the natural environment. It is difficult not to include young children's activity levels in research in outdoor settings, and the value of FS to activity levels was considered by Knight (2011c).

2.2.1.4 Cognitive benefits

The research mentioned at the beginning of this section, by O'Brien and Murray (2006), Borradaile (2006), and Hughes and Jenner (2006), included findings that highlighted benefits to the children in the following areas: a sense of ownership and pride in the local environment, a relationship with and understanding of the outdoors, and increases in skills and knowledge. The study by Maynard (2007a) employed informal interviews with the teachers of three to five year olds, finding benefits to the development of positive dispositions towards learning. She found that nature play is important both for health and creativity. In Knight (2009) I found that parents and children recognised the beneficial effects on children's dispositions to learning (Claxton,

2002), and in their respect for and love of the natural world that still had an impact on them four years after their FS experiences. The theoretical and empirical insights in my research created a rich picture of the benefits of FS, complementing the Forestry Commission studies. This included the relevance of social constructivism (Knight 2013) and links to the educational theories of Pestolozzi, Froebel and Steiner (Knight 2009).

The research by Ridgers et al (2012) found benefits including a greater awareness of local nature and wildlife. They had undertaken semi-structured interviews with seventeen children between the ages of six and seven, and analysed key definitions of natural play before and after the sessions. Additionally, the researchers found that these skills were being transferred into their home and school environments, something also found in Knight (2009/13). Previously, the children had reported their parents' fears regarding playing outside the home environment and in inclement weather, factors now regarded as matters to manage rather than barriers to engagement.

2.2.1.5 Benefits to older participants

There are fewer published reports of research into the benefits of FS for older participants. The exceptions are the case studies in Knight (2011a) and the report by Archard (2015). The benefits recorded were in the confidence and resilience of the participants. In both examples, this helped the adults to re-engage with a society that had thus far failed to meet their needs. Both studies highlighted the savings that could accrue from such interventions to health and social services, were they to be more widely available.

Knight (2016c) and Heslop (2019) consider the benefits to both adults and children from intergenerational FS sessions. The role of the FS leaders was to facilitate the sessions safely and respectfully for all concerned. In both studies the leaders reported on the need to overcome differences in cultural expectations and assumptions about how best to exchange information. They also identified the value to the children from the knowledge shared and to the mental wellbeing of the older participants, feeling both valued and included in the FS setting.

2.2.1.6 Summary

In summary, the research discussed here has focused on the ways in which participation in FS increased children's development in the key areas of the early years' curricula in the UK. Being in wilder, wooded spaces has been found to stimulate the children's motivation and concentration (O'Brien & Murray, 2006). Handing the locus of control over their play to the children developed their confidence, independence and social skills (Pavey, 2006). Being given

the time and space to explore at their own pace stimulated language and communication development (Davis and Waite, 2005). Expressing themselves to interested adults develops social skills (Waller, 2007). The engagement between the wilder wooded world and the children, stimulating this rich development, enhanced their dispositions to learning (Knight, 2009/13) and their nature connection (Maynard, 2007a). The happy and excited children observed in these research projects were more active and had better mental health (Trapasso et al, 2018).

All of the papers and reports I have discussed here have a practical focus. In all of the projects mentioned in this section, the researchers also highlight the need for greater theorisation of FS, stating their beliefs that FS would not receive the recognition in mainstream policy that its outcomes warrant without stronger theorisation. The authors have made recommendations for changes to the UK curricula to take account of the identified benefits from FS, but all conclude that there is a need more robust theorisation of FS before this is likely to happen. This identifies a gap in knowledge that I will address in Chapter 4.

2.2.2. Theme 2: Quality of the FS provision

In this second theme I discuss the range of published research in which the quality of the FS provision is implicitly or explicitly critical to the findings. To address the quality of delivery, the FSA undertook a sociocratic consultation (Rau, 2021) with members to devise the Six Principles of FS (FSA, 2011). These were based on the experience of the FS leaders and were developed through discussion with and consensus of the FS community and could be said to be *a priori* in nature. They are important in that they reflect what quality sessions look like, but they do not include any reference to theory, which is a significant weakness. They are set out here:

1. **Long Term Principle:** 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. Nature Principle: 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. Holistic Principle: Forest School aims to promote the holistic development of all those involved, fostering resilient, confident, independent and creative learners.
4. Risk Principle: Forest School offers learners the opportunity to take supported risks appropriate to the environment and to themselves.
5. Leadership Principle: Forest School is run by qualified Forest School practitioners who continuously maintain and develop their professional practice.

6. Community Principle: Forest School uses a range of learner-centred processes to create a community for development and learning. (Forest School Association, 2011)

Arnold and Knight (2019) argue that the data shows that if the contribution of one or more of the Principles is missing, then the quality of the sessions will be compromised. Other researchers discussed below consider the pressure that the practitioners of the FS community experience and the consequences of compromise on the quality of the FS programmes. The papers that I discuss here include evidence for when this may occur and what the possible consequences of failures in quality might be. For example, drawing on a case study of a FS programme, Knight (2011a) explained how the quality of the programme was compromised by the leader being prevented from following the Six Principles, and the implications this had for the benefits accruing to the participants. The issue was the level of funding available and the caution of the school commissioning the sessions which limited the number (Principle 1) and location of the sessions (Principle 2).

Maynard (2007b) considered the relationship between the pedagogical approaches of mainstream teachers and that of FS leaders. Maynard carried out qualitative research with reception class children from a school for children with complex additional needs, over a period of 19 weeks. Interviews and discussions were carried out with school and FS staff, and she analysed the field notes and evaluations. By overtly drawing on Foucault's poststructuralist ideas (Ball, 2012) and theories about the construction of the child (Dahlberg et al, 1999) her analysis identified conflicts in power dynamics between the teachers and the FS leaders (Maynard, 2007b), each holding particular and conflicting truths in a discourse of risk (Principle 5), the comparative benefits of child-led or child-centred learning (Principles 3 and 4), and intervention or interference by adults. The teachers describe what they felt they need to do in order to maintain the school-based hierarchical relationship necessary for an ordered structure ('they needed to keep the children safe and meet curriculum targets' Maynard, 2007b: 385). This runs counter to the relationships that develop in a child-led environment such as FS, which might be described by an observer unfamiliar with FS as 'disordered'. The apparent disorder was unsettling to the teachers, as Maynard found (2007b), and the FS leaders were not equipped to deal with their uncertainty, leading to them losing the balance of power in the running of the FS sessions.

This power dynamic is a theme that recurs in papers about FS (Davis & Waite, 2005; Maynard, 2007a; Maynard, 2007b; McCree, Cutting & Sherwin, 2018; Coates & Pimlott-Wilson, 2018; Waite & Goodenough, 2018; Pimlott-Wilson & Coates, 2019), reflecting the challenge that the

informal child-led curriculum in FS can present to policy makers espousing a more formal curriculum. Maynard's paper (2007b) led me to interrogate the 16 case studies which were analysed in both Knight (2011a) and in greater detail in Knight (2011b). My conclusions about quality of delivery affirm her findings, particularly 'how a particular Forest School iteration reflects the strengths of the leading practitioner and the needs of their client group' (Knight, 2011b: 594). I found that higher levels of independence and greater perceived levels of authority enabled the FS leader to have greater autonomy over adherence to the Six Principles of FS.

Slade et al (2013) also revealed divergences of adult conceptualisation of FS in a study of primary school children attending a pilot FS programme. The likely outcomes and the methods used were both undervalued, by some teachers in particular, until the researchers supported them to revaluate the children's experiences. They analysed interviews undertaken with children, staff and parents, finding that some staff recognised the importance of utilising different learning styles and developing key skills underlined as important dispositions to learning by Claxton (2002), a link I have also identified (Knight 2009/13; 2016c). Other staff interviewed focused on the potential for links with the formal curriculum, which does not align with Principles 3 and 4 regarding the holistic, child-led focus of FS activity. None identified the importance of physical skills or environmental education, part of the ethos embedded in Principles 2 and 4. However, the parents interviewed did identify these and social skills as important benefits of the sessions. Most adults recognised the importance of standing back and allowing the children the freedom to explore but staff expressed concerns around safety issues. Several teachers felt that there should be more structure. Both of these attitudes run counter to best FS practice embedded in Principles 3 and 5. This led to meetings with the staff where FS staff used the characteristics of effective learning developed by the EEL project (Pascal and Bertram, 1997) to explain characteristics developed for early years best practice that are applicable to FS. Recourse to the FS Principles or known FS theory at the time was insufficient to affect a change in attitude, and thus is an example of the need for theorisation to support the delivery of FS.

More recently, the FSA have introduced schemes to promote quality FS, schemes that recognise FS Providers and endorse FS Trainers (Forest School Association, 2020). This led to Leather (2018) claiming that the Forest School Association had 'commodified' FS, making it commercial and overly-prescriptive. In response to his point on 'commodification' I argue (Knight, 2018b) that by identifying a structure for the delivery of quality FS, we are providing ways to ensure the freedom of the participants to engage in the key element of a participant-led approach. My most recent research (Arnold & Knight, 2019) is indicating that only the best quality FS sessions

deliver the best results. By comparing the EYFS Profile Data from 13 nursery settings across Cambridgeshire we were able to identify that settings who had provided FS for their preschool children scored more highly in the area of 'personal, social and emotional development'. The methods we used are discussed further in Chapter 3. Leather's paper (2018) also includes a well-argued critique of the lack of theoretical coherence in FS, discussed further in 2.2.3.

The paper by McCree et al (2018) reports on a longitudinal study of 11 children over their first three years of school, one of very few longitudinal studies. The results from their quantitative data revealed high levels of wellbeing, involvement and engagement during the duration of the FS programme, as well as strengthened nature connection and improved academic attainment. The qualitative findings indicated improvements in emotional self-regulation and resilience, and greater confidence and independence. The children had been identified by their school as being disadvantaged, and therefore at risk of under-achieving at school. They were attending a FS session once a week over this period as a targeted intervention. Using mixed methods and drawing on the child-centred Mosaic approach (Clark & Moss, 2005) the team were able to use the Leuven Scales (MacRae & Jones, 2020) to show that the children's attendance and academic attainment had improved in comparison to their non-participating peers at school. They discuss the role of social free play outdoors and how relationships with a particular place can establish emotional resilience and self-regulation. This point echoes the findings made by Harris (2021) above, who is a social geographer, underlining the interdisciplinary appeal of FS. McCree et al (2018) stated that the FS sessions gave time and space for slower, more creative forms of learning which are a part of Claxton's 'building learning power' (Claxton, 2002). They note that the head teacher became 'cautiously positive' (McCree et al, 2018: 990) in the light of the project's findings. The study demonstrates that with good evidence underpinned by sound theories, change is possible, the needs of children can be met and their life chances improved.

The observation made by Waller (2007) and the tensions identified by Maynard (2008) emphasise why FS practitioners need to have strong theoretical arguments, to give them the confidence to justify their methods in FS sessions and overcome the power imbalance. Without these it is hard for practitioners to explain and justify their approach, and to maintain good practice, as I have stated in Knight (2016c). They become excluded from the normal structure of education, and their sessions are judged to be of less relevance than the classroom-based lessons (Ball 2012). Waite and Goodenough (2018) highlight that FS training is the only formalised outdoor teacher training widely available. They and I (Knight, 2018b) highlight the need for standardised FS training within the English educational setting. This helps to protect the quality of practice and ensures that safety standards are met. Burr (2015) stated that our interpretation

of 'need' is both social and cultural, and is a matter of power relations. Waite and Goodenough (2018) identify the dilution of the learner-led principle of FS, and thus of standards of FS as curriculum-led principles dominate practice outdoors as well as indoors. Whilst the research evidence for FS outcomes is sparse, this is in part due to not all researchers recognising that they are observing FS, as in Waller (2007). However, Waite and Goodenough (2018) argue that over-theorisation could have risks for the playful and alternative elements of FS, which is contrary to the arguments in Knight (2018b).

The evidence from the papers I have discussed show the benefits of adherence to the Six Principles, to promote the development of personal, social and emotional development (Arnold and Knight, 2019). These positive outcomes lead to improvements in children's attendance and achievement in mainstream schools (Knight, 2009/13). However, these papers demonstrate that, despite the clear evidence of the benefits of FS, practitioners are struggling to maintain good practice in the face of pressures from teachers whose own work is prescribed by the statutory curriculum in England. It is more likely that policy-makers and head teachers will take note of FS if there is a theoretical framework underpinned by stronger evidence showing the benefits of FS. There is currently a gap in the literature between practice and theory. In the next section I identify what the gap encompasses.

2.2.3. Theme 3: Key Theoretical Perspectives

In this last theme I discuss papers which make valuable references to different theories relevant to FS. Gill (2011) compiled a review of 61 international studies about childhood experiences of nature that he described as a 'quasi-systematic review of the empirical evidence'. He found strong evidence of physical and mental health benefits, good evidence for long-term positive attitudes to nature, and some evidence of good quality play leading to growth in confidence, communication and psychosocial health. His conclusion that there is a need for more robust evidence to support the benefits of FS and similar provision points to a significant need for more research. I contend that the evidence needs to be interrogated in an interdisciplinary way, in order to construct a systematic theoretical framework.

Many key concepts in FS are rooted in early years' theories of child development and in pedagogies of play, both of which are underpinned by social constructivist ideas, as stated in Knight (2009/13; 2014). The field of social geography adds concepts such as space, place and time to research into FS (Harris, 2015; 2017). The cultural concept of Friluftsliv is discussed in the paper by Waite and Goodenough (2018), linking this to discussions of Biophilia. As a biologist, Wilson referenced both medical science investigating brain development and eco-philosophy when he coined the term Biophilia (Wilson, 1984). The papers cited here support

my argument that all of these concepts have shaped our understanding of the nature of FS but none are sufficient on their own. I will discuss these concepts in four separate subsections.

2.2.3.1 Social constructivism, early learning theories and the pedagogy of play

As stated in 2.1 above, O'Brien (2009) and I have argued (Knight, 2009/13; 2014) that a social constructionist theory is appropriate to Forest School, and underpins the Six Principles of FS (Forest School Association, 2011). Vygotsky stated that children learn from a 'more knowledgeable other' (Vygotsky, 1978) which may be an adult or another child. In FS a community of learners (Principle 3) are facilitated by the leaders (Principle 6) to co-construct their experiential learning. My 2014 literature review of early years' outdoor practices in the UK and Scandinavia discussed the influence of the work of Vygotsky on FS practice (Knight, 2014). Philosophers and educators, namely Rousseau, Pestalozzi, Froebel and Steiner, espouse outdoor child-led play as essential to healthy human development. Knight (2012) discussed how FS provides a natural space (Principle 2) and encourages children to take the lead in activities (Principle 3). Play at FS provides an environment that promotes holistic developments (Principles 4 and 5).

The centrality of social constructivism to FS is echoed in Coates and Pimlott-Wilson (2018). Their research investigated the social, cognitive, emotional and physical skill development of 33 children who had completed a six-week programme of FS sessions. They discuss the play pedagogy that underpins aspects of FS, considering its social constructivist nature as espoused by Vygotsky and Bruner. Their findings align with Knight (2012) in highlighting the importance of this theoretical perspective to understanding FS. Coates and Pimlott–Wilson (2018) undertook a phenomenological thematic analysis of semi-structured interviews which concluded with recommendations for the need for further research into the ways that FS can enrich the mainstream curriculum. Knight (2010) suggested that a play-based approach to learning, such as that used in FS, contributes to better learning outcomes than didactic teaching. This links to the philosophical position held by Dewey as discussed above (Dewey, 1938).

Waite and Goodenough reviewed research to consider how educational theory, particularly in the early years, highlights the importance of FS as 'non-cognitively focused, hands-on, environment-responsive activity' (Waite and Goodenough, 2018: 41). Drawing on the FS Principles, empirical evidence and the theory of cultural density, they identify the problems of defending the FS approach in what can become a curriculum-based outdoor learning agenda. This theme is picked up by Pimlott-Wilson and Coates (2019) and together the two papers are a robust defence of FS as a counter to the dominant English neo-liberalist educational agenda that threatens the learner-led activities and self-regulation which is central to quality FS delivery.

Coates and Pimlott-Wilson (2018) mention structured and adult-led activities which indicates that the raw data collected may not have met the child-led FS Principle 3 but that does not negate the value of their discussions. Further analysis of the data (Pimlott-Wilson and Coates, 2019) considers the intersection between formal and informal education, and the nature of learning in primary schools. They conclude that FS can both function to counteract the institutionalisation effects on children of mainstream settings, whilst at the same time developing the skills in children that are valued by neoliberal states. Both the school staff and the children appreciate the enjoyment of the social constructivist nature FS and the skills developed through participation in play.

2.2.3.2 A Bio-Ecological model

Recently, Murphy (2020) contributed to the debate about theoretical underpinnings by exploring an idea I developed (Knight, 2012), that of using developmental psychologist Bronfenbrenner's Bio-Ecological model to create a theoretical model for FS. The appeal of the theory is the recognition of the environmental layers that impact on the child as s/he develops (Bronfenbrenner 1979). Murphy's literature review discusses Bronfenbrenner's views of the child 'not viewed as a passive recipient, but as an active participant in their own development' (Murphy, 2020: 200). Murphy's paper is a valuable contribution to the debate, particularly regarding its emphasis on attending to the child's voice, and the spiral nature of experiential education methods (Murphy, 2020). However, her claim that this is a new element is misplaced, as previous researchers have included this (Knight, 2009; Kanyal, 2013). She links Bronfenbrenner to Vygotsky's social constructivism (which emphasises the role of the adult) and his theories of proximal development (that learning needs to start with the child's current levels of understanding before they can successfully progress) (Vygotsky, 1978). However, the scope of the Bronfenbrenner model is insufficient to encompass on its own the wide range of ways to engage with FS for different age-groups (Knight, 2016c), referring exclusively as it does to researching the developing child.

2.2.3.3 Geographical concepts of space, place and time

A key theme in FS is the importance of giving children space and time in nature (4.4.2). It is explicit in Principles 1 (that FS takes place over time) and 2 (that FS takes place in a wooded space), and implicit in Principle 3 (that FS builds a community of learners). Harris (2015) found that the space and time provided by FS sessions develops the personal, social and emotional development of children which has a positive effect on their formal learning when they return to the classroom. She drew on my early definitions of FS (Knight, 2009; 2011a) as the reference point for her descriptions of FS in her qualitative research project. She observed 72 children

participating in FS sessions and undertook semi-structured interviews of 20 FS leaders which she then coded, analysing her findings through three themes of space: (1) as a physical entity, (2) as one where different behaviours are permitted, and (3) as a space outside of the National Curriculum. Harris (2017) developed her arguments to emphasise the benefits of FS to children's mental health and wellbeing. In interviews, some practitioners spontaneously indicate difficulties in facilitating child led and child-initiated activities whilst identifying the importance of this approach (Knight, 2017b). This emphasises that FS training as set out in Principle 6 (4.3.6), and the backing of a sound theory framework gives practitioners the tools to create quality FS experiences. In Harris's observations it is clear that the research was based on a pilot project of six sessions, which does not meet Principle 1, the need for a long-term succession of sessions, typically defined as covering all four seasons (Knight, 2016c). Despite this, there was evidence of the benefits of FS to social, emotional, spiritual and language development at all ages, as there was in the studies in 2.2.2.

Harris (2017) suggested that more studies are required to relate the children's attachment to a place in promoting environmental citizenship and behaviour. Typically attachment theory is considered in relation to the work of Bowlby and Winnicott with respect to the relationship between a child and his/her main caregiver (White et al, 2019). Research in the field of outdoor learning has considered attachment to 'place' as increasingly important to health and wellbeing (Gray and Birrell, 2015). In her most recent paper Harris (2021) focuses on this theme, which I discuss further in Chapter 4. In Harris (2017) she considered whether FS sessions over time would influence children to make more environmentally friendly lifestyle choices as they grow up, something she discusses further when she revisits her data (Harris, 2021). Her nexus of interest in reconnecting children with nature considers FS as a play-based learning and child-centred pedagogy. She argues that freeing the participants from the norms and conventions of classroom enables their physical, social and emotional development. Harris references the works of Kellert, a socioecologist who espouses the theories of Biophilia (Kellert, 2002), discussed below. Her contributions from the fields of educational and social geography adds support to my arguments that 'place', 'time' and attachment are important elements in FS, as discussed in Theme 7 (4.4.2).

2.2.3.4 Friluftsliv and Culture

Environmental citizenship and nature connectedness can be seen as cultural issues that are at the heart of FS (Principle 2). An accusation of cultural discontinuity (Leather, 2018) was centred on the adoption by the FS community of the term 'Friluftsliv', coined by Henrik Ibsen (Leirhaug, 2009) to describe the cultural links to nature in the Scandinavian countries (Knight, 2016a). I tackle whether

the term can and should be used as being integral to FS in Knight (2018b), agreeing with Waite and Goodenough (2018) that Friluftsliv has a Scandinavian context but also has a valid one for FS in the UK. They make the point that the social constructionist nature of FS has allowed the movement to include the principle of Friluftsliv into FS through the choice and unconscious bias of the practitioners who have socially constructed FS. Additionally, many of FS practitioners espouse the deep ecology of Arne Næss (Næss & Jickling, 2000) which also has its roots in Friluftsliv (Knight, 2016a).

Friluftsliv embraces traditions and links to specific natural places, resembling an indigenous relationship with the land (Brookes & Dahle, 2007). At FS the links to place, space and time enable the leaders and the participants to create stories which build their own 'traditions' in the wooded space they use (Cree & Gershie, 2014). The research by education academics Gray and Birrell (2015) into a year-long 'Touched by the Earth' programme found that creative activities such as creating stories help to create nature interconnectedness. Research by Malone and Waite (2016) found that this interconnectedness not only improved children's quality of life but also their respect for the natural environment. In his literature review, Stonehouse (2021) claims that outdoor educators are not explicit in capturing the ethical behaviour of participants as outcomes from their work. In FS, Principles 2 and 3 are concerned with fostering pro-social and pro-nature behaviours but the approach adopted by the FS community is not discussed in his paper. Both development advisor Van Norren (2020), and philosopher Lent (2021) argue that keeping personal health in balance with the health of the planet offers a more sustainable future for all. This is in line with the findings of Martela et al (2020), whose research into the rankings that make up the World Happiness Report 2020 found that building a sense of community and unity among the citizens are the most crucial steps towards a society where people are both happy and responsible citizens. The report concludes that in the Nordic countries, which are all ranked in the top ten, this societal impetus began with social and educational innovations in the nineteenth century. The nineteenth century, in 1859 to be precise, is when the term 'Friluftsliv' was coined (Leirhaug, 2009), marking a conscious cultural connection between nature connectedness and human well-being.

The term 'Friluftsliv' expresses a key theme in FS, and FS Principles 1 and 2 suggest that through regular immersion in nature, FS can offer a way to foster nature connectedness in children and adults alike. Lent (2021) argues that recognising our interconnectedness with all life on earth is the best hope we have for tackling climate change. Kellert described the immersive experiences such as those that take place at Forest School as 'an essential, critical and irreplaceable dimension of healthy maturation and development' (Kellert, 2002: 141). Friluftsliv has been described as a philosophical and cultural ethos (Vikander, 2007) that encapsulates a deep kinship with nature. The fostering of

this kinship is at the heart of FS (Cree & Robb, 2021), identifying Friluftsliv as an essential part of the FS theoretical framework.

2.3 Conclusion

The papers discussed in this chapter refer to a number of theoretical perspectives: social constructivism, the pedagogy of play, geographical concepts of space, place and time, attachment theory, social construction and the cultural concept of Friluftsliv, as well as Bronfenbrenner's Bio-Ecological model. All of these are relevant to FS and I have discussed each of them in my work. Individually they support parts of the theoretical framework I set out below, but are insufficient alone to accommodate all aspects of FS. Beard states that for some, what he describes as 'boundary disputes' (Beard, 2018: 29) can cloud a recognition that learning is 'prior to, and broader than, notions of formal and informal education' (Beard, 2018: 29). The possibility of a degree of 'silo mentality' (Long et al 2021) may account for the failure of Leather (2018) and Murphy (2020) to acknowledge the inclusion of certain elements in previous papers on FS. The interdisciplinary interweaving of ideas is central to FS, and has its origins in the social constructionism, discussed more fully in Chapters 3.1 and 4.1. The interconnectedness approach (Lent, 2021) gives FS its unique richness.

I recognised from the meta-analysis of my writings the need to articulate the theories that underpin FS and how they interrelate, in order to enable FS to be fully recognised and valued. Reading the studies of Dewey's work have reaffirmed the position of FS in the field of experiential learning with its interdisciplinary nature. The papers discussed in this section enrich the theoretical base for FS with contributions variously from the fields of education, psychology, biology, sociology and health. However, they are mainly concerned with outcomes and processes, each demonstrating a strong orientation to practice. My concern is that the lack of a more academic and integrated theoretical framework leads to FS being overlooked as a credible contribution to the health of people and the planet. For example, two excellent books published this year, both written by experienced FS trainers for practitioners in the field (Cree & Robb, 2021; Harding, 2021), explain in colloquial terms the importance of whole-person learning, the value of nature to mental health and wellbeing, and the importance of recognising ourselves as a part of the natural world. These books focus on practical advice to FS leaders rather than being peer-reviewed papers that would lend their work the credibility it deserves. This emphasises the importance of weaving together the disparate theoretical elements of FS in a comprehensible and academically persuasive way. Rotman (2020) achieves something similar in interweaving history, psychology and the anthropology of religion, offering a template for interdisciplinary theorising.

I discuss my integrated framework for FS in Chapter 4 and before that, in Chapter 3, I set out the methods I have used in the writings that I am submitting for my PhD, answering my question 'What are the key concepts that form the theoretical framework of Forest School and how do they interrelate?'

Chapter 3: Methodology

This chapter is a reflective analysis of the research approaches I have used in the published work which I am drawing on for my PhD by prior publication (see appendix). All my research has been underpinned by a social constructionist paradigm (Burr & Dick, 2017) consistent with my positionality as an insider researcher (Costley et al, 2010). As stated in Chapter 1, I have been at the centre of FS development in the UK, a position which has an impact on my access to data (3.2), in the ethics of my research (3.3) and on my role in my research (3.4). My interpretations of the data (3.5) are also influenced by this ethnographic and in part auto-ethnographic methodology (Dinesh, 2016).

Using a range of research methods developed over time I have built a progressively deeper understanding of FS. I demonstrate in this chapter how that conceptual evolution has provided the data for my themed findings, which are presented in Chapter 4. The developmental progression is a process consistent with my ethnographic approach (Hammersley & Atkinson, 2019) and enables my response to the research question for my PhD by prior publications, namely: 'What are the key concepts that form the theoretical framework of Forest School and how do they interrelate'. I begin by setting out my philosophical perspective (3.1), and then an overview of how my research design has developed and progressed over ten years of study (3.2). In 3.3 I describe the research methods I have used, and then in 3.4 the methods of analysis.

3.1 Philosophical Assumptions

Ontology is concerned with the assumptions that one makes about the nature of existence and reality (Niebaur et al, 2020). My ontological philosophy is interpretivist and my understanding of FS is both fluid and personal (Costley et al, 2010). This stance recognises my research data as contingent upon the conditions of its production. That which I claim to 'know' is rooted in my experiences and those of the FS community that I interact with (Charmaz & Henwood, 2017). Epistemologically, my work sits within a social constructionist paradigm. This is consistent with my contention that the concept of FS in the UK was co-constructed by the original founders of the FSA, of which I was one, and continues to be shaped by the views of FS practitioners meeting together as a community, and sharing values and ideas (Knight, 2011b; 2013; 2016c; 2018b). Epistemology deals with what we can and do know (Mosselson, 2010). My understanding of FS is based on my experiences with and discourses between practitioners over twenty-five years, and it is likely that it will develop further in the future through additional social experiences and negotiations (Weinberg, 2014).

Language is key to social constructionism (Burr, 2015). It is through language that FS practitioners (including myself) have developed a shared understanding of Forest Schools. Burr (2015) suggested that in social constructionism, language is critical to the realities we co-construct. In Chapter 1.2 I described how a discursive model was intrinsic to the creation of FS in the UK, and that the process of socially constructed meanings is one of the main central tenets of FS (Knight, 2009/13). Language, debate, knowledge and understanding are linked and come with social, cultural and historical 'baggage' (Quist, 2013) such as that shared by the early FS adopters (1.2). As a consequence, how I construct the reality of FS is conditional upon my past and present experiences, both as a FS practitioner and as a teacher and academic (Kolb, 2014). It is a personal version of Socratic enquiry (Benson, 2010) and also a way of shaping knowledge through words and debate. Knowledge, reality and truth are human constructions and as such are not fixed or absolute (Burr, 2015).

Charmaz (2014) and Lichtman (2006) described social constructionism as the perspective whereby social scientists acknowledge that their interpretation of their research is in itself a construct of their own experience. As an experienced FS practitioner, I contend that FS practitioners co-construct their own reality (Knight, 2011a; 2013; 2016c) and that, as a collective entity, FS is open to change and development both over time and through the changing experiences of its members (Moon, 2005). The theoretical framework of FS has required adjustments over time (Robson & McCartan, 2016) as demonstrated in my writings. For example, in Knight (2009) my focus is largely on the structure of sessions and the benefits for children. In Knight (2011a) I am more concerned with the Six Principles of FS (FSA, 2011) and by the time I published Knight (2018b) I am debating the social constructionist nature of FS. The theoretical framework that I present in Chapter 4 has thus emerged from the body of my publications.

3.2 Research Design

Hammersley and Atkinson (2019: 21) suggest that 'the conduct of ethnography can seem deceptively simple' leading to the dearth of training or research guidance. Initially, this lack of early training or guidance about the research process was certainly true for me and was at the heart of the developmental nature of my progress as described in the introduction to this chapter. However, my position as one of the founder members of the Forest School Association has given me the social capital (Reyes, 2018) to amass a wealth of ethnographic observations plus written accounts from participants, with access easily negotiated. My position in the FS movement gave me a positionality of power, raising an ethical issue I discuss in 3.3. I reflected on and analysed the data using the principles of a grounded theory approach. The rich data that I

have accumulated has culminated in this critical analysis of a selection of my own writings, namely the books, chapters and papers that I am submitting for this thesis (see appendix).

My intention has been to describe and interpret FS in order to raise its status and credibility, reasoned from my experience as a practitioner and as a researcher. I am motivated by my awareness of the benefits that FS can offer, benefits I have observed in practice and researched for my publications (Vliegenthart, 2019). The accounts of my own FS work (Knight, 2009/13; 2011a) tell the story of FS but also 'mystory' (Dinesh, 2016) and are therefore in part auto-ethnographic. They are also in part a systematic autobiographical reflection (Conteh et al, 2005), enabling me to understand how the disparate elements of my own background are reflected in the different elements that make up the FS framework.

I have come to this theoretical perspective as I reflected on the changes in my understanding of FS through experience, research and debate. This has created the 'ethnographic funnel' (Silverman, 2010), whereby my developing understanding has gradually sharpened my understanding of FS and the theories that underpin its practice (Best, 2012). In order to answer my research question for this PhD, I felt that the best way was to revisit the good practice I had found in the field and analysed for my publications. I could then develop the theoretical framework from my experience as a practitioner and researcher.

The work I draw upon here covers a period of more than ten years. During this time, I was undertaking research by gathering observations, carrying out interviews and documenting data to produce a detailed account of FS. Elements of my work are auto-ethnographical, reflecting on my own work as a Forest School practitioner and my immersion in the FS world. I had 'an important story to be told, a story that lies deep within the soul' (Conteh et al, 2005: 3). Reyes (2018) described this acknowledgement of the socio-demographic traits of the researcher as her ethnographic toolkit, one that needs to be recognised and explicitly stated. In my case my toolkit is my role as a leader in the development of FS, as explained in Chapter 1. Indeed, the first book I wrote (Knight, 2009/13) has an auto-ethnographic core as it is largely an examination of and reflection on my own FS sessions. This 'existential sociology' (Punch, 2014), the study of human existence as it is experienced by the researcher in the real world, can yield insights about core meanings and experiences, exactly what I was hoping to find. However, work spanning this time-frame cannot be categorised simplistically. Some of the sessions I have reflected on were those I led myself (Knight, 2009/13). Some of the stories I have used (Knight, 2011a; 2013) were written reflective accounts by the leaders of their FS sessions which were analysed by me. Some were later re-analysed and coded (Knight, 2011b). Some of my accounts of sessions run by other people (Knight, 2016c) could be said to be ethnographic immersions and participant

observation (Burgess, 2006) leading to embodied learning (Maslen, 2020). In addition, I have used a range of other methods to enrich my findings, as discussed in section 3.3. In summary, my approach is largely ethnographic which is appropriate to the study of FS, which is itself steeped in reflective practice and observation.

I have also considered how, when collecting reflective accounts from fellow practitioners (Knight, 2011a; 2013; 2016c), I was dependent on my information (Murchison 2010) and was trusting in the habit of reflective practice embedded in FS training and practice through the fifth of the FS Principles (FSA, 2011) and my knowledge of the FS leaders I had selected. Accepting the advantages of being an insider researcher and having 'shared understandings and trust' (Costley et al, 2010: 1) with my colleagues, I might have questioned my interpretations of those records. However, being a reflective practitioner, both as a teacher and as a FS leader, the process of self-examination is in-built, and I believe that critical reflection has led me to strive for credible interpretations of all the data collected. Reflection-in-action, or having reflective conversations with the situation (Schön, 1992) will have assisted me in examining my own beliefs in the light of that data. My insider-knowledge of the skills of different practitioners, a part of my role as a participant researcher, was a strength in the process of selecting settings to examine (Mosselson, 2010) but could have resulted in a narrow perspective on the field of FS. To overcome this, and where practical, I have also collected additional data, some of it quantitatively. For example, for two pieces of research (Knight, 2009/13; 2016c), I used quantifiable questionnaires; both of these are discussed further in 3.3. In both instances the quantitative elements formed a part of larger qualitative studies with the aim of enriching my research findings.

As already stated, I have used a range of qualitative methods to collect data within this broader ethnographic approach. For example, in my work I have used observations and interviews, allowing for the evolution of ideas and lines of enquiry (Robson & McCartan, 2016). Initially this range of methods was used in response to the approach of other writers (Knight, 2009/13), as I wanted to replicate the NEF study (O'Brien & Murray, 2006) to experience their techniques, as discussed in 2.1. Subsequently I have adopted this way of working as one that suits my ethnographic style and social constructionist philosophy.

3.3 **Ethics**

Research concerning children and vulnerable adults is rightly subject to strict ethical protocols. Drawing together this number of publications and then reappraising them creates additional ethical layers. Initially, each of the publications was subject to the

ethical approvals of the university where I was working. For example, for Knight (2009) I sought permissions from the schools I worked with, the parents of the children involved and the children themselves. Photographs used for the book had written permissions from the settings and parents and/or participants in line with Sage Publications Ltd guidelines. Knight (2011a) and Knight (2011b) were based on the same data so that I needed to gain initial approvals for Knight (2011a) and then return to the contributors to gain their consent for Knight (2011b). After the publication of that paper (Knight, 2011b) all raw data were destroyed.

My role at the centre of FS development also has both ethical and methodological implications. The author Ng highlighted the need for ethnographic researchers to acknowledge that our lived experiences are a part of our research data (Ng, 2016) and to consider the effect that we are having as we research. The role of the qualitative researcher is often that of the insider (Punch, 2014). As a well-known FS trainer, practitioner and writer, it is inescapable that I have had an impact on the FS sessions I have observed (Knight, 2009/13; 2016c) just by being present at them. Researchers do not live in a 'social vacuum' (Charmaz, 2014), and research will inevitably be influenced by the interactions researchers have within their research contexts. This might raise concerns around power and influence (Robson & McCartan, 2016) whereby my status as a researcher, academic and FS practitioner may have influenced the behaviour of those I observe and interact with, even potentially creating stress to practitioners. It could also give a different picture of those FS sessions than may have occurred without my presence. Middleton (2020) discusses how, as an insider researcher, his aim was to influence national policy, much as I hope to do. To combat accusations of bias as much as was possible, I sought case studies and observations from fellow practitioners where I was not present and accepted contributions I had not directly recruited, as well as observations when I was there, and records of my own sessions. When using material from sessions I discussed my purposes and role before and after visiting or receiving accounts of sessions and gained permission to use the material after I had written it up. By sourcing material in a variety of ways I endeavoured to gain as rich a picture of FS sessions as possible.

I am content that all ethical procedures were carried out appropriately at the time of data collection and publication for the works I am submitting for this PhD, and these are set out in 3.4 for each method used. When I was planning to undertake the meta-review of my work, I did consider whether I should re-contact all the participants in the published works but decided that as the information was all in the public domain and was being referenced by other students and researchers, this was unnecessary. What I was reviewing would be my findings and the

processes by which I came to those findings, rather than a re-examination of the raw data, all of which has been destroyed.

3.4 Data Collection Methods

In this section I consider the data collection methods I have used in the publications I am submitting for this thesis (see appendix). These are: participant observation, using a 'Self-Appraisal Methodology/Toolkit', questionnaires, written reflective accounts, an interactive workshop and analysis of Early Years Foundation Stage assessments.

3.4.1   Participant Observation

In my early publications (Knight 2009/13) I report on the work I carried out in my own FS sessions. I recorded my own sessions and took notes after the sessions with two classes at one primary school. School 1 was a village school with access to a coppice where Forest School sessions were run. Ninety-eight children were involved in the research and six teachers participated. School 2 was also a village school where the head teacher was on a training course I was leading, to become a forest school leader. The Forest School sessions were run in a woodland a short walk from the school. Thirty children participated and two school staff. I anonymised the data and obtained written consent from the school and the parents and oral consent from the children, in line with ethical protocols (Punch, 2014). It was not a seamless exercise. I tried using a Dictaphone but the wind noise and background sounds made transcribing challenging. Note-taking was more successful once the sessions were established and the children were working autonomously, but recording in the field is recognised as being fraught with challenges (Willig, 2012). I was also able to capture the 'voice of the child' (Kanyal, 2013) through the pictures and accounts they made when back in their classrooms, which enriched my findings. This research was an auto-ethnographic account that has proved a valuable record, giving me an inner perspective both on my practice (Moon, 2005) and on the nature of FS in practice. It also continues to be popular with trainee practitioners since its publication, as it remains one of the few detailed descriptions of a full term of FS sessions.

My last book (Knight, 2016c) is based on the observations that I carried out in thirty-one forest school sessions, speaking with over fifty leaders and the participating children and adults. In most of the settings I was also able to take photographs of the participants engaging in FS activities, which provided useful aide memoire as well as illustrations to choose for the book. This was an easier process than recording my own sessions as I could dip in and out of participation in order to make notes and take photographs, material to reflect on and learn from (Moon, 2005). Seven years had passed since my previous observations, and I was sampling settings from across Great Britain so there were new and valuable insights to be gained. Before

my visits I ensured that the appropriate permissions had been obtained, and I shared my write-ups with the settings prior to publication. Photographs used for the book had written permissions from the settings and parents and/or the participants in line with Sage Publications Ltd guidelines.

3.4.2 Self-Appraisal Methodology/Toolkit: a storied approach to data collection

I used the Toolkit from the NEF study (Murray, 2003, cited in Murray & O'Brien, 2006:18) to explore the replicability of the results of that study (Knight, 2009/13) with the primary school classes I was working with in the early 2000s. This was in part due to my limited knowledge of research methodologies at the time, leading me to seek a common-sense understanding of the process. Murray's study described and reported the process by which a self-appraisal methodology was developed and then translated into a toolkit for others such as myself to use. We could collect evidence of the benefits of FS sessions with children between the ages of three and seven years (Murray, 2003, cited in O'Brien & Murray, 2006:18). It is a storied approach to data collection (Hiles et al, 2017) and as such appropriate in a FS context where storytelling is used a great deal (Cree & Gersie, 2014). I wanted to try the toolkit for myself as I had concerns about the robustness of the methodology and thus the reliability of the results (Silverman, 2010). Initially the study had seemed to me to be overly anecdotal, a thought later echoed by Gill (2013), and although it proved possible to produce similar results, I was concerned that it was more of a self-fulfilling prophecy than rigorous research. However, this may be due to early exposure to researching using quantitative methods (Lichtman, 2006) and I now value this qualitative approach. After six weeks of appraising my own sessions and the methods used in that appraisal, I found that the methods were appropriate to the task, giving rich observations to reflect on. As discussed in 2.1, the other studies that used the Toolkit (Borradaile, 2006; Hughes & Jenner, 2006) found similar research results. In this way I learned about FS both by replicating the methodologies of others and by comparing my findings with the research of others (Knight, 2009/13; 2011b).

3.4.3 Questionnaires

In order to seek evidence of any long-lasting effects from participation in FS sessions, I used questionnaires with children and their parents from years 3 and 4 in the two schools I had worked with (Knight, 2009/13). These children had participated in FS sessions with me when they were in the reception and year one classes. One written questionnaire was sent out to 130 parents across both schools, to be completed anonymously, with a response rate of 20%. This was a low response rate; I consider that it was because the children of the parents surveyed were no longer participating in FS, and so they had no direct interest in the questionnaire nor any

benefit to gain from responding. It was also distributed and collected by the school offices, and so may have languished in children's book bags rather than reaching its destination (Greetham, 2019). I used a similar set of questions as an oral prompt and carried this out discursively with the children in Years 3 and 4 in School 1 and anonymised the results. Taking both sets of results into account, my findings demonstrate a long-lasting perception across all three groups that there had been improvements in the language and communication skills of participants, and amongst the children there was a belief that their confidence, self-esteem and social skills had been improved through participation in FS. The advantage of using a questionnaire was that it enabled me to sample a larger number of adults than I otherwise might have done (Siraj-Blatchford, 2020), and also compare their views with those of the children. Despite the limited data from the parents questioned, I consider the findings to be some evidence supporting the idea of long-lasting changes in behaviour and attitudes due to sessions being delivered over time (Knight, 2009/13). It will require further study to capture that benefit more accurately.

The research for my last book (Knight, 2016c) began with a questionnaire-based survey distributed to 220 FS practitioners at the 2015 FSA conference. My intention was to gather evidence of the spread of FS across the UK and across a range of client groups. It was placed on the chairs in the main conference area, with a collection box on the way out and was anonymous unless the participants wished to self-identify. A response rate of 28% was obtained, which while not very high, did give some evidence of the continuing geographic and client-base spread of FS. From this I was able to establish where in the UK I needed go to sample FS practice across a range of client groups. This was a very different set of objectives from the previous questionnaires, when participants were invited to give open answers (Brace, 2018) in addition to some scored questions. The goal here was simply to elicit numerical data about the FS practice across the UK as a part of the planning process for the book (Knight, 2016c). The free comments from practitioners also generated additional richness for the book in that it gave me more data about differences in practice to reflect on.

3.4.4   Written Reflective Accounts

For Knight (2011a) I collected 16 written reflective accounts of FS sessions from FS practitioners across the UK who were engaged in different ways of doing FS (Knight, 2011a). I used my own in-depth knowledge of the FS community and my expertise as a trainer to select contributors. I needed them to be delivering sessions to differing groups of participants across the UK, and to be delivering what I believed to be of good quality FS sessions. I wanted them to provide evidence for the range of ways in which FS could be used. Contacts were initially by email and participation was voluntary. Each participant sought the relevant ethical approval and

permissions from their settings. Once their contributions had been edited, I returned them to their originators and secured their written permission to use their work. The seeking of permissions was repeated once I decided to use the case studies to write a peer-reviewed paper (Knight, 2011b). All photographs used handwritten permissions in line with Sage Publications Ltd guidelines. The identity of clients was anonymised by the originating writers. My study illustrated how the different uses of FS had developed in the fifteen years since the inception of the idea (Knight, 2011a). Using this data, I began to explore more rigorously the theoretical framework for FS and set out the theoretical links diagrammatically, analysing how and why they are each part of FS (Knight, 2011a). After the publication of the subsequent paper based on these case studies (Knight, 2011b) all raw data were destroyed.

I also collated written reflective accounts as part of the research for my last book (Knight, 2016c). These were from FS leaders from eight settings that I was unable to visit but were either geographically of interest or were using FS in original ways. They included some from both Northern Ireland and the Republic of Ireland. To ensure the rigor of my work, I ensured that the appropriate permissions had been obtained, and once their contributions had been edited, I returned them to their originators and secured their written permission to use their work. Photographs used for the book had written permissions from the settings and parents and/or participants in line with Sage Publications Ltd guidelines. Again, this provided me with further insights into emerging trends in current practices and informed my thinking about my theoretical framework.

3.4.5   Interactive Research Workshop

'Workshopping' is a term I am familiar with from my training as a drama teacher. It describes the process whereby practitioners co-create – an idea, a play, or a hypothesis, for example. In this way, research into the relationship between FS and sustainability was based on a workshop at the 2014 FSA Conference which I carried out with my colleague, Dr Paulette Luff, asking practitioner colleagues to describe and reflect on their practice through the lens of the 7Rs of Sustainability proposed by Pramling, Samuelsson and Kaga (2008).

Our aim was to elicit data about the views of participants. Practitioners participated voluntarily and we made it clear from the outset that we intended to use the findings from the workshop in a publication (Knight & Luff, 2018a), and that their contributions would be anonymised. Through debate, the research participants helped us to co-construct our ideas about the link between sustainability and FS (Robson & McCartan, 2016), which is further evidence of the social constructionist nature of FS. The raw data were destroyed after the book was published. The

findings were that there was evidence of a synergy between the theoretical underpinnings of FS and Early Years Education for Sustainability (Knight & Luff, 2018a).

3.4.6   Secondary Analysis of Early Years Foundation Stage Assessments

Working with the Cambridgeshire Early Years Team who were heading a multi-agency steering group has given me access to data from early years' settings in Cambridgeshire. Working with the Early Years Sector Development Manager, Graham Arnold, I undertook a comparative study between settings where the children had participated in FS sessions and settings where they had not, to ascertain whether we could identify benefits to their scores in the area of 'Personal, Social and Emotional Development'. We used the Cambridgeshire Assessment System for Early Years (CASEY), a shared computer system which helps early years' settings in Cambridgeshire to manage their information on children's progress (Cambridgeshire County Council, 2018). We collected Early Years Foundation Stage (EYFS) data from seven settings where the children had access to FS sessions (Arnold & Knight, 2019). We focused on Personal, Social and Emotional Development (PSED) as previous studies (e.g. Knight, 2009/13) had indicated that the effects were most marked in this area. Settings haduploaded the data without individualising the children and the names of the settings were removed from the paper to anonymize the findings. Children's assessed level of development was compared quantitatively against the results for the wider sample of children on CASEY who are not accessing Forest School through their setting. Our findings were presented graphically by my research partner and the results were discussed by me (Arnold & Knight, 2019).

3.5 Methods of Analysis

Whilst the majority of my data have been analysed in line with my qualitative research approach, I have also used methods of analysis more consistent with a quantitative approach. To clarify, I discuss my methods of analysis in two subsections, one on qualitative analysis and the other on quantitative analysis.

3.5.1   Qualitative analysis

As with much auto-ethnographic research, my data analysis has been ongoing and iterative (Wellington, 2015). It has been progressive, as my understandings and theorisation have developed over time. I have given emphasis to different forms of thematic analysis (Terry et al, 2017) in different publications, as I will explain.

In Knight (2009) I started by using grounded theory principles (Charmaz & Henwood, 2017). Intuitions and reflections emerging from immersion in my data (Terry et al, 2017) led to my next steps in theorising and thence to more data collection. By identifying patterns, themes and

differences (Robson & McCartan, 2016) I was able to build an initial theoretical construct of FS. In this early research (Knight, 2009), I reflected on my observations to create a storied analysis of what FS looked like (Punch 2014: 217). In the first edition of my first book (Knight, 2009) this was in the form of a narrative. In the second edition of this book (Knight, 2013) I incorporated the Six Principles of FS (Forest School Association, 2011) which had emerged collaboratively from the debates described in Chapter 1.1. This was a successful first step in theorising FS by starting with reflective practice, a process that as a teacher was familiar to me. This professional expertise enabled me to use my reflections to draw from those observations and stories an initial picture of FS theory.

In Knight (2011a; 2011b) I coded the recurring themes and patterns in the case studies collected and used abductive reasoning to build my knowledge of the probable key elements of FS practice (Stainton Rogers & Willig, 2017). This process was also informed by grounded theory principles; I had requested accounts from the field and then analysed the insights they provide (Litchman, 2006). I built up a stronger thematic pattern of the theoretical framework for FS (Conteh et al, 2005). I set this initial model out diagrammatically in order to analyse the theoretical links thematically (Knight, 2011a). The progress I made in my data analysis using coding and thematic patterning moved my research theory from an unstructured narrative in Knight (2009) to a narrative analysis (Terry et al, 2017) in Knight (2011b).

In order to further analyse the case studies in Knight (2011a), and thus to enable me to write the paper, Knight (2011b), I used the computer programme NVivo 8 as a data management tool. O'Toole and Beckett (2013) outlined the use of computer programmes to assist with coding. It gave me the advantage of being able to analyse the commonalities and differences, sorting keywords (Silverman, 2010) into codes in a thematic analysis which in turn identified categories that fed into my growing sense of the theoretical framework for FS (Lichtman, 2006). Once again, I diagrammed my findings (Knight, 2011b). This was to show differences in the characteristics of the leaders and the groups and, by contrast, the similarities between the sessions and the outcomes. The process of interrogating the case studies in this way enabled me to focus my thoughts and compare my findings (Terry et al, 2017). The data showed that the differences identified by the coding did not adversely affect the outcomes for the clients provided that the delivery of FS adhered to the Six Principles of FS (Forest School Association, 2011). This finding gave me supporting evidence that the Six Principles of FS are valid ground rules for the successful delivery of FS sessions. After the publication of the paper (Knight, 2011b), all raw data were destroyed, as eventually were the coded data.

I was, however, still not satisfied with my theoretical modelling as I felt it did not encompass the

whole of the FS story. To collect data for Knight (2016c) I visited twenty settings across Great Britain, selected not only on the basis of the survey results discussed below but also on the basis of recommendations from other FSA directors, with a view to capturing a record of good practice with a range of client groups. I was unable to travel to Northern or Southern Ireland or to six other settings I wanted to use in my research, so I included reflective accounts from the FS leaders who were on site for those eight to use as case studies. My analysis was therefore a combination of my own observations and the reflective accounts of other FS leaders. I was confident that these differences did not compromise my data as in all cases I let the settings lead the discussion regardless of whether I was the observer or whether I relied on accounts from others. Hammersley and Atkinson (2019) identified the benefit of the constant comparative method to further develop categories and themes which for me included collecting new data as well as rereading the old. My goal was to 'gain an insider's depiction of the studied world' (Charmaz, 2014: 21), and to gain rich data.

Rather than code and categorise as before, I reflected on the observations and drew out the interweaving narratives of FS (Lichtman, 2006) by age-group and by 'challenge'. By challenge, I mean the questions that I and other practitioners need to reflect on as we travel on the FS journey. For example, by reflecting on the observations I made in a private school setting, I was led to read further around other relevant philosophies of education that exist in that private sector, in this case Steiner (2011) and Hahn (1936), concluding that FS practitioners need to have debated for themselves what is and what should be their understanding of the purpose of education. I ended the chapter that contained that observation by challenging FS practitioners to decide on their philosophy of education. Each of the 15 chapters (Knight, 2016c) deals with a different age-group and includes between one and three of my observations and one challenge to reflect on. I researched the literature pertinent to those observations and that challenge, and end each chapter with a personal reflection based on that literature. The book, therefore, is a personal learning journal (Moon, 2005) creating a storied analysis of commonalities and differences in FS (Litchman, 2006). The journey of the book covers all the key aspects of Forest School with all ages and in all areas of the UK. Through the book I achieved greater clarity about the theoretical framework of FS and created another version of the diagram in the book (Knight, 2016c), one not dissimilar to that in Chapter 4, figure 1.

I have added more research data to enrich my findings throughout my journey. Storytelling is a central part of FS (Cree & Gersie, 2014) and so narrative inquiry (Squire et al, 2014) is a natural method to use to explore its processes, as exemplified by the NEF study (O'Brien & Murray, 2006) which I replicated to explore in my study and its outcomes (Knight, 2009/13). I used their

Self-Appraisal Toolkit, which required storyboarding eight key questions with the class teachers of the children I was working with. This was a narrative analysis (Terry et al, 2017) I shared with the class teachers, reflecting on the story of the session each week. We evaluated the outcomes on posters with several purposes in mind. They became multipurpose, supporting our reflection-on- action (Moffat, 2019), keeping the parents abreast of our progress, thus ensuring their buy-in to a different experience for their children, and lastly the posters were used to inform the school of our progress in order to facilitate a debate over the long-term implementation of sessions (Knight, 2009/13). After six weeks there was indeed evidence of development across the groups in the areas of co-operation, self-esteem, confidence, motivation and decision-making (Knight, 2009/13). The richness of the data made it possible to make comparisons with the schools' classroom records. I was also able to compare my data with those from other studies in my literature search (Knight, 2009/13), and my findings were consistent with the other replications of the original NEF study who were also using the same methods (O'Brien & Murray, 2006; Borradaile, 2006; Hughes & Jenner, 2006). This indicated to me that even with the differences of location and leader, the outcomes for this age group (three to seven years old) were similar.

3.5.2   Quantitative analysis

To capture data from a large cohort of potential recipients, I have used questionnaires on two occasions. As stated in 3.4.3, for Knight (2009/13) I drew up a questionnaire for the 130 parents of children I had worked with in the past. I had no opportunity to test it in advance of the distribution in both schools. My goal was to seek evidence of long-lasting effects from participation in FS sessions and questionnaires provided useful data to evidence behavioural and attitudinal changes. The design was, in retrospect, somewhat naive, but I did endeavour to avoid mistakes such as leading questions, prestige bias and ambiguity (Robson & McCartan, 2016). I also left space for open comments at the end. In addition, I adapted the questionnaire to use as an oral prompt and interviewed approximately 50 of the children myself in one of the schools. This gave me the benefit of having a script to keep the results in approximate alignment with the parents' questions whilst enabling me to modify my language for the different ages of the children. The problems it gave me were in maintaining an unbiased attitude whilst talking to the groups of children (Robson & McCartan, 2016), requiring professionalism in both my language to the children and in my recordings of findings. The questionnaires were analysed using graphs and charts (Knight, 2009/13). Whilst the generation of graphs and charts signifies a quantitative approach, the analysis is about indicative evidence of trends and themes, to enrich my understanding of FS. I concluded that whilst the results could only be treated as indicative, they were useful evidence to support the idea of behavioural and attitude changes from sessions

carried out over time (Brierley, 1994). This could be a useful direction for future research.

I surveyed 220 practitioners attending the 2015 FSA conference using a questionnaire, with the aim of recording the range of (then) current FS activity across the UK to provide data for my book, Knight (2016c). The seven questions invited open answers and avoided bias or leading questions. I made the frame of reference clear, stating that I was researching for a new book, and left the forms to be returned to a box at the side of the conference hall (Robson & McCartan, 2016). With a response rate of 28%, the picture the answers drew was partial, but helpful in deciding my next step. I was able to analyse the responses and draw up graphs of the ages and types of FS reported, together with a map of the numbers of respondents by region. I also noted the diversity of qualifications amongst the practitioners, identifying a theme which I followed up in the book. The findings of this survey provided general ideas which contributed to my choice of settings to visit or collect data from. I could see from the survey the range of practitioners and the variations in the clients being supported, as well as the geographical spread covered by Forest School in the UK. This informed the design of the book (Knight, 2016c).

In the 2019 paper (Arnold & Knight, 2019) we analysed Early Years Foundation Stage Profile data for Personal, Social and Emotional Development levels from seven nursery settings. As stated in 3.3.6, we used CASEY, the Cambridgeshire Assessment System for Early Years (Cambridgeshire County Council Early Years and Childcare Team, 2018). I have explained in 3.4.6 that we collected and compared anonymised Early Years Foundation Stage (EYFS) data from seven settings where the children had access to FS sessions with results from the wider sample of children on CASEY who are not accessing Forest School through their setting, focusing on Personal, Social and Emotional Development (PSED). The detailed statistical analysis was undertaken by my colleague, Graham Arnold. I was then able to recognise and discuss the significance of the data trends, and as such we jointly interrogated the data. I then wrote up our findings (Arnold and Knight, 2019). Whilst initially we were disappointed that the difference in the scores was not greater (only an average of 0.5 of a sub-stage of the EYFS Profile ahead), when we shared the data with the FS advisor for the settings, she was able to identify anecdotally that the higher-scoring settings (which had scores that were statistically significant) were those where the FS leaders were able to follow the Six Principles (Forest School Association, 2020) in full, whereas some of the lower scoring settings had had constraints placed on the leaders' delivery methods by the settings. This is a line of enquiry I am hoping to follow in future research. I am looking forward to when circumstances permit us to resume our research.

In the light of this data analysis, we believe that it is possible to demonstrate that Forest School activity in early years' settings is having a demonstrable impact on children's development in the personal, social and emotional domain. Even more importantly for me was the faint but unmistakable trend that FS sessions adhering to the Six Principles of FS resulted in better outcomes for the children than those that were unable to do so, something that not only needs more research but also underlines the relevance of this thesis for the future of FS. These publications (Knight, 2009/13; 2016c; Arnold & Knight, 2019) demonstrate that using different methods can enhance interpretability and strengthen arguments (Robson & McCartan, 2016) particularly when repeating similar research activities over time, as is the case with my work.

3.6 Conclusion

In addition to my own auto-ethnographic research and the reflections in and on practice that I have undertaken (Schön, 1992), I have observed FS practice in over 31 settings and collected reflective accounts as case studies from some 40 more settings. I have circulated questionnaires to about 130 parents with a response rate of 20% and used an oral questionnaire with 60 children across two academic year groups. I have distributed questionnaires to two hundred and twenty FS practitioners of which 61 responded, and have elicited the opinions of 30 FS practitioners through workshops. The research participants from the case studies and the observations for Knight (2016c) have helped me to understand the reality of FS (Robson & McCartan, 2016), thereby participating in a social construction of a theoretical framework of FS.

The process of a reflective analysis of the writings I am submitting for this thesis (see appendix) has revealed an evolution of ideas and methodological skills in my research, reflections and writings. As I have stated previously, the progression represents an 'ethnographic funnel' (Best, 2012), as a way of constantly refining the theoretical model for FS. My research and writings have enabled me to respond to the professional challenge about the lack of theoretical rigour in FS (Leather, 2018). In this chapter I have considered my methodological perspective, underpinned by my social constructionist philosophy. My research design throughout my research journey has been largely ethnographic. My analysis has been auto-ethnographic and also a systematic autobiographical reflection (Conteh et al, 2005). Within that consistent framework I have used a range of data collection methods to present a rich picture of FS and its development in the UK.

I began my journey of researching FS by building a construct of what FS looked like and what the outcomes could be for younger children (Knight, 2009). I collected evidence of the different client groups benefitting from (Knight, 2011a) and what elements were consistent in each

iteration of FS (Knight, 2011b). In this way I began to visualise a theoretical framework for FS. I carried out a number of literature reviews for different book chapters enabling reviews of all the literature relevant to my developing thematic analysis of FS (see appendix). My last book covered all the ways in which FS is now being used in the UK, which gave greater clarity about the theoretical framework of FS. I put together a diagram (Knight, 2016c: 98) that demonstrates the progression of my thinking towards the diagram in Chapter 4 (figure 1). My final paper (Arnold & Knight, 2019) returns to the benefits of FS for children's development in the personal, social and emotional domain, analysing and reflecting on data from the Early Years Foundation Stage Profile. For this thesis I have conducted a meta-review of my own literature and a review of papers pertinent to the theorisation of FS. Taken as a whole, my writings are linked by my reflective analysis, thus creating a single ethnographic account leading to the theoretical framework I now present as Chapter 4.

Chapter 4: A Thematic Theoretical model for FS

This chapter sets out my findings concerning the underpinning theories of FS, answering my research question: 'What are the key concepts that form the theoretical framework of Forest School and how do they interrelate?' As discussed in my literature review, many academics have identified concepts that form a part of the FS framework. Leather (2018) has linked FS to Dewey's theories about experiential learning. O'Brien (2009) and Knight (2009/13; 2014) discussed the importance of social constructionism to the early development on FS. Concepts such as biophilia (Wilson, 1984) and nature connectedness (Lent, 2021) have been linked to FS by Malone and Waite (2016) and Murphy (2020). The work of psychologists and educators in the field of early years education have explained the benefits of FS, particularly around the provision of free and risky play (Davis & Waite, 2005; Maynard, 2007a; Knight, 2009; Ridgers et al, 2012). All of these concepts are relevant to FS but are each insufficient on their own to explain the rich depth of Forest School provision and to explain why it is effective in benefiting participants of all ages. What has been lacking is the overview that knits them all together and shows how each one is a part of the whole picture. This is the theoretical model that I set out in this chapter.

The review of my own publications, together with the research reviewed in Chapter 2, has been a reflective learning process which enabled me to develop an overarching theory and create my original contribution to knowledge. It is an interdisciplinary model of a complex and multi-dimensional phenomena informed by research. An interdisciplinary approach is one which recognises the value of different theoretical perspectives, combining elements from each and valuing what each one contributes to developing a deeper understanding of any phenomena, in this instance that of FS. By contrast, the papers reviewed in Chapter 2 create a multidisciplinary picture of FS, in that each views FS through a singular lens, which tends to 'convergence insufficiency' (Burton et al, 2019). The rich interdisciplinary model of FS has been absent until now.

I have critically analysed and grouped the key concepts into the themes that emerged from section 2.2.3 of my literature review. I explain here why they are important to FS and compare how each theme has embedded within it theories that come from different disciplines. I begin with a discussion of how the development of FS has been led by the social constructionist ideology held (consciously or unconsciously) by the majority of its originators, and how it continues to change and grow through ongoing convocation and discussion in a way consistent with social constructionism. Next, I set out how key theoretical aspects of FS can be expressed through five theoretical themes.

The first theme is simply called 'play', a small word encompassing important ideas. Naturalist

models of education which follow the interests of the participant and consider the needs of the whole person, irrespective of age or ability (Robinson, 2001), define 'play' as something which embraces experiential learning and creative self-expression. I therefore include in my discussion the theories underpinning first-hand hands-on experiential enquiry expounded by Dewey (1938) and the importance of creativity as described by Robinson (2006). The next theme is social constructivism as explored by Vygotsky (1978), which emphasises the importance of the social context of FS, where participants as well as leaders can scaffold the learning journey of others. Under the third theme of culture I discuss how FS in the UK not only sits within a cultural context but also challenges some cultural assumptions, particularly about risk and adventure. My fourth theme is 'attachment'. I draw from theories about the importance of attachment to significant others (Bowlby, 1969), and research exploring the importance of attachment to place (Wattchow & Brown, 2011) to show how FS creates a secure space for development and learning. Lastly, under the theme of evolutionary biology I discuss the importance of FS in meeting our human need for contact with the wilder world in general (Wilson, 1984) and with trees in particular (Jung, 1963).

I illustrate the way in which these concepts cohere into a single overarching theoretical construction by visualising my analysis of FS as a tree (see figure 1). This is a similar diagram to one I have used in my work before (Knight, 2016c; 2018b); I find the concrete image of a tree a potent visual representation of my ideas (Charmaz, 2014) and one relevant to the sylvan nature of FS. The development of FS has been a drawing together of theories that feed into the thematic roots of FS, just as in nature the mycorrhizal fungal network (Simard, 2009) informs the roots of trees within the soil. As stated in 1.1, the early developers of FS agreed what the important elements of FS were. We formalised them into the pedagogical and practical approaches expressed as the Six Principles (FSA, 2011). Thus, the roots and the different elements are bound together by the trunk of the Principles. Combined together they enable the flowering of the outcomes, the different branches symbolising the different ways in which FS can be expressed, provided that the Six Principles are adhered to.

To continue the tree analogy, I have first planted my tree into a 'soil' of social constructionism. I am not alone in identifying the importance of Social Constructionism to FS, as I am not alone in identifying the different elements in my figures. What is unique is the way in which I have researched and drawn together their links and influences. This is also illustrated in figure 2 below. The imagery places FS as one tree in the forest of Outdoor Education (OE). Recent research revealing the interconnectedness of trees, how they communicate and support one another (Wohlleben, 2017) extends this analogy to encompass the fact that some of theories from OE are also important to the framework of FS. For example, FS leaders need a range of different outdoor skills,

usually described by the umbrella term 'Bushcraft', another tree in the OE forest (Knight, 2016), with a definition that includes 'to tread softly on the land and survive and live well with what nature provides us' (Bushcraft Professional Practice Group, 2021). The theoretical themes are illustrated as the roots which are informed by the different disciplines discussed below. The Six Principles of FS form the trunk of the tree and are the practical transportation of theoretical constructs that ensure the quality of FS delivery. The leaves represent the known benefits as discussed in Chapter 2.2.1.
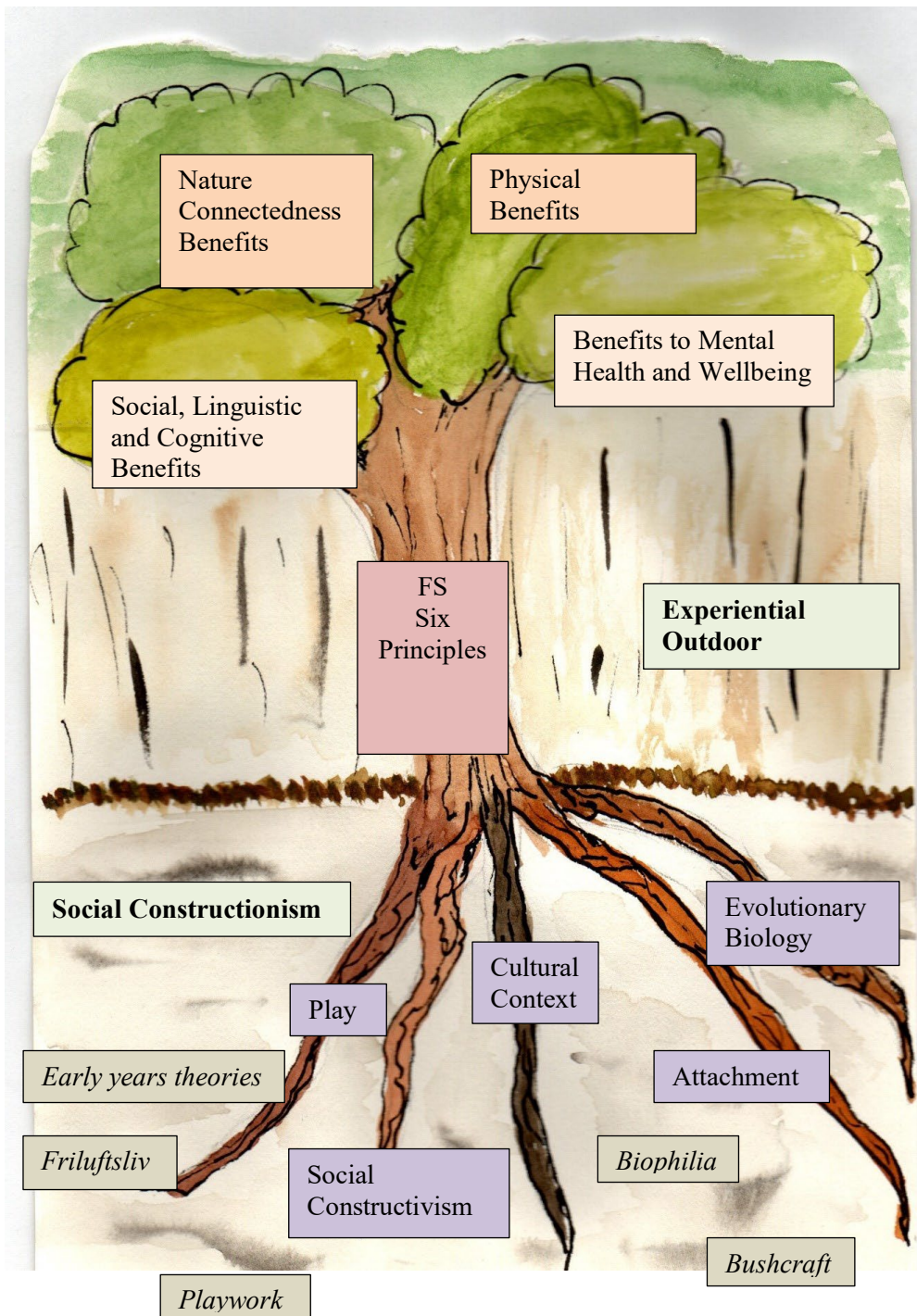

Figure 1: A diagrammatic and thematic representation of FS Theory

I link the themes to the Six Principles of FS (FSA, 2011). As they are currently presented by the FSA, they do not include references to theory, but by revisiting the Six Principles in the light of my thematic theoretical approach, I have found it an instructive way to link theory to practice. The Principles have a role in guiding the delivery of FS sessions to ensure that the benefits, identified by research also discussed in Chapter 2, accrue for the participants.

Seeking to define FS while it is constantly changing underlines the crucial nature of my role as an insider researcher. As an insider researcher I share an understanding of the nuances of FS (Costley et al, 2010) with the other members of the movement and thus I am less likely to attempt to convert FS into 'a fixed and unalterable' definition (Weinberg, 2014: 25) and am more likely to develop a more flexible overarching interdisciplinary model informed by my research, as seen in figure 1.

4.1 Themes and Concepts

4.1.1 Soil - Social Constructionism

Social Constructionism is the philosophical perspective that underpins the conceptualisation of Forest School. It is a theory that assumes that realities are socially constructed by people and are therefore 'the product of collective processes' (Charmaz 2014: 198). The processes happen through social exchanges between key actors (Schwandt, 1998). Applying this to FS, the interrelated feelings and ideas of the early FS leaders constructed knowledge in a living context (Moon 2005), through assumed shared beliefs and through discussion and debate. In this way, the characteristics of FS in the UK were based on the collective prior knowledge, experiences and cultural contexts of the originators of the Forest School Association (FSA). Although all the participants shared a commitment to developing FS, in reality each one had a slightly different perception of what FS was, because of their different experiences. For some people their immediate context was from a particular field of education, variously early years, school-based, or tertiary and post-compulsory. For others it was from the complementary fields of outdoor education, or from non-educational Silvan backgrounds such as the Forestry Commission. Each of the originators of the FSA also brought wider cultural knowledge based on past experiences and interests. Through sharing and discussion we negotiated a shared version of our 'truth' about FS (Burr, 2015). The diversity of inputs to the development of FS is echoed in the diversity of researchers into social constructionism. Moon's background is in health and education, Charmaz began her career as a sociologist, Schwandt and Burr are both psychologists, but in different fields. Their different perspectives help illuminate a complex concept.

The Forestry Commission's education section, the Forest Education Initiative (FEI), was initially an

important part of the social construction of FS. They supported the initial development of FS, and their research department (Forest Research) commissioned the earliest research into the outcomes from FS, as discussed in Chapter 2 (O'Brien & Murray, 2006). As the values and priorities of the Forestry Commission changed, so its role and influence in FS also changed (Knight, 2016c). Since December 2020, the Welsh FS trainers have re-aligned their training with the FSA (Davies, 2020). In Scotland, the Forest and Outdoor Learning Award is delivered by FS trainers who have always been part of the FS movement, and who align their ethos with the rest of the FS community through their membership of the FSA (Hill and Brady, 2020). This is an example of how continuing dialogues ensure that FS leaders share a culture, history and commitment to the values of FS, forming a community of practitioners who have socially constructed FS in the UK.

Social constructionism underpins the way in which Forest School in the UK acquired its structure and identity and also how and why it continues to evolve and change (Burr, 2015). Each member of the FSA is entitled to a voice, and the exchange of ideas that typically happens at FS gatherings such as national and local conferences (and under Covid restrictions via webinars) resembles the sharing of concept maps (Moon, 2005) that shape and change policies and practice (Weinberg, 2014). Trainers negotiate changes to courses through the Endorsed Trainer scheme (FSA, 2020). When trainees attend courses, these take place in woods and wooded spaces and the culture of FS is transmitted through shared experiences and dialogue. Participation in these gatherings is recommended via FS Principle 5, which states that 'Forest School is run by qualified Forest School practitioners who continuously maintain and develop their professional practice. The Forest School leader is a reflective practitioner and sees themselves, therefore, as a learner too' (FSA, 2011). Through such collective processes FS continues to be socially constructed, making it an adaptable, creative and open movement (Knight, 2016b).

The lenses that these ideas are viewed through come from the disciplines of health, education, sociology, and psychology, as well as researchers with OE backgrounds such as Ord (2012) and Leather (2018). There has been an acknowledgement of the importance of social constructionism to the conceptualisation of Forest School from different research disciplines (Knight, 2009; Leather, 2018; Waite & Goodenough, 2018). My unique contribution is to place social constructionism into the over-arching theoretical framework of FS.

4.1.2 Social Constructivism

Whilst playing spontaneously has benefits for all, carefully facilitated play has greater benefits, and in FS there is a recognition of the importance of social constructivism in that process. Waller et al

(2017) articulated the social constructionist philosophy espoused by academics across the early years' sector in Europe, and how this links to the provision of outdoor play. Montessori also emphasised the social context of learning, stating that 'education is a natural process spontaneously carried out by the human individual… by experiences upon the environment' (Montessori 2016: 8), the 'environment' in this instance including human as well as non-human contacts (Knight, 2012). The importance of 'experience upon the environment' is echoed by Bronfenbrenner (2005), whose bio-ecological model highlighted the role of the relationship between the child and their environment in the learning process, an environment where the 'significant other' plays a crucial part. Vygotsky (1978) focused on the centrality of socially-constructed play in learning and development, highlighting the social nature of learning. He formed the concept of the zone of proximal development which identifies the optimum conditions for acquiring knowledge and skills as the gap between an outcome that a child achieves with ease and an outcome about which they are unfamiliar. In that gap, a 'more knowledgeable other' can work alongside the child to increase their potential for success (Vygotsky, 1978). Using the term 'more knowledgeable other' broadens the potential for partnerships of support to include more than just the FS leader, something that is important when recognising the goal of FS sessions to create a community for development and learning (FS Principle 6). Knight (2009/13) discusses how transactions between children can be effective learning opportunities for both of them just as much as the interventions of an adult (Gewirtz & Cribb, 2020). Harris (2015) similarly recorded examples of children supporting each other's learning.

The relationship between the participants, the leaders and the environment is perceived as a dialogic process in FS. John Locke introduced the term 'tabula rasa' (blank page), mentioned above in the section on play (Schouls, 1992).   It was an improvement on the pre-enlightenment idea of children being born with 'original sin'. When applied to humans, his theory fails to embrace the interaction that takes place between a sentient participant, with prior knowledge and a genetic inheritance, and their environment. Locke's philosophy was helpful in improving educational provision at the time, but the 'tabula rasa' approach to education in the UK has left a legacy of didactic teaching that ignores the need for interactions and exchanges over time in the learning process. This interaction is expressed in FS Principle 2 as the developing relationship between the learner and the natural world. The benefits of such interactions have been theorised by Claxton (2002) as 'building learning power', creating the psychological dispositions within the child to embrace learning effectively, building their attitudes incrementally as a dialogic process. In Knight (2009) I discuss the importance of his theory to FS, following from my discussions with a colleague of Claxton's.

Social Constructivism at FS is an iterative process that includes the development of the leaders. A

responsibility of the FS leader is to step back and ask themselves questions such as those posed at the end of each chapter in Knight (2016c), as a continuing process of self-evaluation. Reflection is at the heart of what it is to be a teacher (Moon, 2005) as well as a researcher (Terry et al, 2017; Moffat, 2019), and explicit in FS Principle 6 which includes the statement 'Reflective practice is a feature of each session to ensure learners and practitioners can understand their achievements, develop emotional intelligence and plan for the future' (FSA, 2011). The process of reflection that takes place at FS sessions enables the recognition of the balance of skills and support that uses social construction to help everyone at FS to achieve. Bruner (1960) described this process as 'scaffolding', to describe the planning that follows the reflections to enable a continuous flow of growth and development. Scaffolding is a similar concept to the social construction of knowledge, in that it engages the skills of the more knowledgeable other to progress the development of the participant.

Central to many experiential outdoor learning theories are Dewey's philosophical assumptions (Neubert, 2009). Neubert et al (2009) acknowledged Dewey's philosophical assumptions as both pragmatic and constructivist. My interpretation is that they are both constructivist and constructionist, reflecting my discussion in Chapter 3 on the use of these terms. His constructivist ideas involve interactions between the environment and the individual but also include the social context (Beard, 2018), resonating with Vygotsky's ideas about how children learn (Vygotsky, 1986). Interactions and continuity were, Dewey claimed, what distinguish educative experiences from experiences that fail to educate (Dewey, 1938). Continuity is the constructivist element in Dewey's philosophy, in that every experience and each iteration of that experience builds on what existed before for the participant, to develop their knowledge and understanding. The experiences of practitioners and participants in FS sessions are both in a fluid state of knowledge with meanings co-created from shared lived experiences (Dewey, 1938), which is interpretivist in that it recognises the process by which meanings are negotiated and created (Schwandt, 1998).

FS leaders apply social constructivist learning theories in the delivery of good quality FS provision (Knight, 2009/13) which differentiates FS from some other forms of outdoor learning. The Institute for Outdoor Learning (2020b) states that 'Outdoor Learning is a broad term that includes discovery, experimentation, learning about and connecting to the natural world, and engaging in adventure activities and outdoor sports'. In practice, the difference between FS and many other outdoor activities is often the nature of the structures involved. For example, the Institute for Outdoor Learning (2021) uses terms such as 'instructor', 'coach', and 'trainer' to describe much of their workforce, indicating a didactic approach at odds with the participant-led approach of FS. In contrast, Outdoor Learning also embraces theoretical concepts such as green therapies and green

ecology that have aspects in common with FS (Cree and Robb, 2021). The OE Forest has many species of trees in it.

Gaining practical skills and knowledge is an important outcome in developing confidence, physical skills and both physical and mental health. At FS these are learned through a social constructivist model of following the participants' interests and then scaffolding the learning process. FS leaders' outdoor skills are varied and diverse, and from the beginning 'skill share' sessions have been a feature of FS gatherings, enabling practitioners to widen the range of tools they have to support participants (Knight 2011a, 2011b). This links to Principle 5 and the need for leaders to develop their own skills. It is also beneficial to the sharing processes at gatherings where the skills of leaders from different backgrounds can support one another. For example, teachers may feel a need to be in control, as discussed by Maynard (2007b). Outdoor Learning instructors may feel the impulse to instruct (Knight, 2011a). Early Years practitioners may feel that they lack sufficient Bushcraft skills (Knight, 2010). Together the community of practitioners can support each other, socially constructing the increase in their skill sets and fostering the community of FS. Creating communities of shared experience in FS is part of what makes FS special. For example, Knight (2016c) described sessions for older people experiencing mental health issues, who gain through FS the mental resilience to contribute to sessions for younger children, sharing their knowledge as 'elders'. The benefits are manifold; the participants are experiencing a boost to their self-esteem if they are able to share their knowledge with others, the others are experiencing a wider range of activities than might otherwise be available and witnessing the leaders modelling what it is to be a learner, demonstrating that learning is a life-long process.

FS Principle 6 encapsulates the reflective process, and states that 'a learner-centred pedagogical approach is employed by Forest School that is responsive to the needs and interests of learners' (FSA, 2011). This approach was shared by medical doctor Maria Montessori (2016) and educational psychologist Vygotsky (1978). The Principle ends with the note that 'Observations feed into 'scaffolding' and tailoring experiences to learning and development at Forest School' (FSA, 2011), referencing the ideas of psychologist Jerome Bruner. Dewey's social constructivist philosophy, together with constructivist concepts from Montessori, Vygotsky, Bruner et al, are at the heart of FS theory. In my theorisation of FS I combine these social constructivist learning theories from philosophy, education, medicine and early years practice into the over-arching theory of FS.

4.1.3 Play

Experiential models of education, such as the theories of Dewey which follow the interests and curiosity of the participant (Pascucci, 2016), define 'play' as a tool for deeper engagement in their

learning. Play is relevant to all ages, particularly when initiated by the players themselves, and is part of what it means to be human. Play is how we all learn, and it is also crucial to our mental health (Robinson, 2001). Play is at the heart of FS practice (Knight, 2010).

Definitions of play are many and various. 'Play' can be defined as 'a child's work' (Montessori, 2016), can be offered as a therapy (Axline, 1971) or may be a mode of creative expression (Robinson, 2001). The currency of the word 'play' in common speech indicates the wide range of its applications, and Hughes (2012) has identified fourteen play types. Play is important enough to have its own NGO, Play England, who describe play as 'what children and young people do when they follow their own ideas and interests, in their own way, and for their own reasons' (Play England, 2009). The UN Convention on the Rights of the Child Article 31 (UNICEF, 2013) recognises children's rights to engage in play, describing it as cultural and artistic as well as recreational.

Play is central to early years pedagogy and practice (Knight, 2010), and the UK lecturers who brought the idea of FS from Denmark were early years specialists visiting early years settings there. The role of play in FS is in no small measure informed by key early years learning theories and FS continues to thrive in early years' settings in the UK (Knight, 2016c). The lecturers from Bridgwater and their Scandinavian colleagues were versed in the educational philosophies of Rousseau, Pestalozzi, and Froebel, discussed in Knight (2012; 2013; 2016a), all of whom emphasised the benefits to children of playing, and of playing in nature. These eighteenth century thinkers had in turn influenced Vygotsky (1978), Piaget (1926), and Montessori (2016) in the twentieth century. Early years practice in the UK is infused by the philosophical ideals of all of these thinkers, as is early years practice across Europe.

Piaget (1950) emphasised the role of practical, hands-on construction of knowledge, thoughts and ideas, particularly through symbolic play. Montessori viewed mainstream educational practice at the time as repressive and restricting (Montessori, 2016), ignoring the importance of play to learning. This view of education is similar to that of Bruner (1960), who conceptualised learning as an active process in which learners construct new ideas and concepts for themselves through playful experiences (Bruner, 1960). Neill (1998) declared that play aids the emotional learning of adolescents, and put his beliefs into action in his school, Summerhill. These ideas were first articulated by Froebel in the 18th century. He compared the space and time allocated to all other living things to grow and develop to the 'tabula rasa' approach to human education at the time (Froebel, 2005), one that envisions learning as pouring information into empty vessels. The 'tabula rasa' approach still finds favour in some mainstream settings, rather than an interactive process linking to the educational ideologies of Dewey.

It is not just children who have benefitted from FS practitioners attending to early years' theories. The Deweyan philosophical perspective about experiential outdoor learning (Dewey, 1938), as explored in Chapter 2, informs FS practice through its emphasis on active learning. Dewey's conceptualisation of ideas that are constantly developing in response to experiences over time (Beard, 2018) is consistent with the FS approach and with the ontological and epistemological assumptions I have set out in Chapter 3. In Dewey's 'Art as Experience' (1934, cited in Pascucci, 2016), he referred to the aesthetic approach of hands-on inquiry, experiential learning that goes beyond the immediate experience to embrace an ongoing exploration of learning and of knowledge acquisition. Pascucci (2016) described this process as 'play'. With adults the play often but not exclusively manifests itself creatively, for example as storytelling and music (Shaw, 2014). All kinds of play are relevant to FS (Else, 2009), whether sessions are with younger children or adults (Knight, 2009/13; 2011b), as contributors to Knight (2011a) researched. Burrows (2011) explored symbolic play with young adults on the autistic spectrum, Cree (2011) shared communication play through stories with troubled teenagers, and Brady (2011) used deep play, sharing drumming with recovering drug addicts.

Playwork theory offers a further reflection on the importance of play in FS. It focuses principally on the play needs of children of school age (City & Guilds, 2020), usefully articulating the need for play at ages beyond the early years. It has at its heart the ethos that play should be 'freely chosen, personally directed and intrinsically motivated' (Playwork Principles Scrutiny Group, 2005), which is consistent with the learner-centred ethos of FS. Huizinga (1938), an influential theorist in Playwork, coined the term 'Homo Ludens', encapsulating in that term the role of play for healthy human development at all ages. Knight (2009; 2012; 2014) considers the relevance of Playwork theories to the theorisation of FS. For example, Playwork espouses the use of 'loose parts' (Brown & Patte, 2013), describing those materials that have no predetermined use and thus inspire the greatest creativity. Woods are full of such things, for example leaves, sticks and logs (Knight, 2009/13), illustrating how the concepts of FS and Playwork are aligned. The limitless affordances, or perceived purposes, of such objects create a flow through play of ideas, opportunities and creativity in FS (Cree & Robb, 2021). The playful creativity of all ages of participants in FS is served by the use of 'loose parts' and the stories they help us to tell (Knight, 2016c).

Play is also used as therapy, as exemplified in the seminal 'Dibs in Search of Self' (Axline, 1971). I have pointed out that FS leaders must resist setting themselves up as therapists without the appropriate training (Knight, 2016c); however, all play offers opportunities for self-expression that can provide relief and new ideas to participants (Webb & Baggerly, 2015), whosoever facilitates it.

Play specialists in hospitals work with children of all ages (Brown & Patte, 2013) to provide effective ways for young people to cope and to offer opportunities for self-expression, and researchers have recorded the therapeutic benefits of play at FS, for example Wicks (2011). Play theories demonstrate that FS is not only about cognitive development. It can lead participants to a more relaxed state, a state more focused on the present, and a heightened awareness of their immediate surroundings. Very young children have the capacity to be in that state naturally (Knight, 2009/13). The pressures of the modern world can interrupt their deep immersion in play (Hughes, 2012); giving them the tools with which to hold onto that capacity is precious and helping older children and adults to reawaken it is a great gift. Deep immersion in play can afford participants moments of deep joy (Else, 2009). It is also key in developing confidence in their own skills and autonomous thinking (Pimlott-Wilson & Coates, 2019).

Else (2009) postulated that it is our capacity to remain playful into adulthood that makes the human species creative and inventive, and that the play state is one that enables emotional and social fulfilment. Robinson (2006) highlighted the importance of individual creativity to society. Play at all ages supports 'human beings in coming to terms with what and where they are' (Hughes, 2012: 262). Through play we can acquire and refine some key social, emotional and cognitive skills as well as develop our creativity. A good play space will be changing and unpredictable (Hughes, 2012), making the natural world ideal for play. FS Principle 6 includes a reference to play, 'Play and choice are an integral part of the Forest School learning process, and play is recognised as vital to learning and development at Forest School' (FSA, 2011) and FS Principle 3 states that Forest School 'aims to promote the holistic development of all those involved, fostering resilient, confident, independent and creative learners**…..**Forest School programmes aim to develop, where appropriate, the physical, social, cognitive, linguistic, emotional and spiritual aspects of the learner' (FSA, 2011). There is evidence of the effectiveness of this playful approach; in Chapter 2, I discussed the evidence for younger children (Davis & Waite, 2005; O'Brien & Murray, 2006; Borradaile, 2006; Hughes & Jenner, 2006; Pavey, 2006; Maynard, 2007a; Waller, 2007; Knight, 2009; Ridgers et al, 2012). The evidence is sparser for older children and adults, with the exception of studies such as Archard (2015). In Knight (2011a; 2011b), however, I analyse eleven case studies that demonstrate how quality play-based FS can achieve these outcomes for all ages of participants.

Theoretical perspectives on play as seen at FS are multidisciplinary, from the early years' sector, playwork, psychology, philosophy, health and education. The researchers cited above draw on a range of theories which, when amassed, inform the richness of FS activities. In my framework I have drawn them together to add this richness to the theorisation of FS.

4.1.4 Cultural Context

Social constructivist and social constructionist theories are contextual and historically situated, and their processes and outcomes will be affected by the society they are rooted in. The impact of cultural pressures and biases in the UK have affected the development of FS, as I will discuss here. For example, Papatheodorou and Moyles (2012:4) referred to 'the long-standing European traditions and history of early childhood care and education' as having pan-European philosophical roots. This was recognised by Gupta (2013), who felt that the Western early childhood pedagogies and ideologies were so dominant and homogenous as to pose a threat to the cultural integrity of early years care in Asia. A recognition in the UK of the importance of access to nature for young children's development can be traced back to the work of the MacMillan sisters in the late 19th century (Knight, 2012), stemming from observations of child development in the social conditions following the industrial revolution.

Academics in the field of early years' research have argued strongly in defence of access to nature for young children, as can be seen in Waller et al (2017). The studies Waller and his team have collected demonstrate the growing concerns shared across cultures about reductions in children's opportunities for access nature and to form 'nature connectedness' (Waller et al, 2017: 6). Developing nature connectedness is recognised as a contemporary cultural imperative (Richardson et al, 2020) and is a key element of FS (Cree & Robb, 2021). This links to FS Principle 6, 'creating a community' (FSA, 2011), one that includes the natural context as well as the people. While they are in those wilder spaces, they are building an enduring connection with the natural world (Knight, 2009/13).

The place of the natural world in the culture and history of FS is why FS sessions inculcate participants so well with values of sustainability (Knight, 2017b; 2018a). This reiterates the importance of linking learning to direct experiences. Donaldson (1978) critiqued Piagetian theories and explained how 'human sense' affects young children's understanding of instructions. She showed how hard it is for them to comprehend something they have not experienced, thus placing their understanding within its social and cultural context. The idea of how the experiential context relates to understanding is doubly relevant when we consider how important it is for the future of the planet that children have an empathy with the natural world and engage with the issues affecting climate change. There is evidence of children's closer engagement with environmental issues after they have experienced FS sessions (Knight 2009/13, 2018a) and it is covered in FS Principle 2 which includes 'Forest School aims to foster a relationship with nature through regular personal experiences in order to develop long-term, environmentally sustainable attitudes and practices in staff, learners and the wider community' (FSA, 2011). FS encourages awareness of the natural

world and how to care for it (Knight, 2017a; Knight & Luff, 2018a). Kellert (2002) researched the effects of direct natural experiences at different ages in fostering this awareness and Knight (2016a) charts the history and importance of the relationship between people and wooded nature.

My research shows how participation in FS engages participants with environmental issues (Knight, 2017b), indicating that FS leaders are environmentally aware and work to foster the same awareness in their participants. It is possible to care about the environment without the influence of FS, of course, but it is not possible to lead FS sessions and not care about the environment, as it is central to FS culture and training (Harding, 2021). Cudworth and Lumber (2021) have researched the links between Nature Connection and FS, finding that the emphasis on free play and exploration nurtures participants' holistic development through a connection with a wilder environment. Ridgers et al (2012) compared baseline assessments of children's interests in nature before and after FS sessions, recording changes in their knowledge and understanding. Nature connectedness ensures that it is not just the wellbeing of the human participants that is fostered by developing their sense of belonging to a particular spot, it may also benefit the place where their sessions occur. In one example (Knight, 2016c) children, outraged by the invasion of their place by the (necessary) work of tree surgeons, demanded the right to be the voice of the trees in negotiations with school managers. In another, younger children established their guardianship of their own space (Knight, 2009/13) by creating paths that enable safe walking in their wood but deliberately fail to lead walkers to their special circle-place. Thomashow (2002) used real-life examples to demonstrate how harnessing the 'wild nature' of adolescents links them to ecological processes and a compassion for other species. Perhaps this goes some way to explaining Greta Thunberg's focused passion (Thunberg, 2019).

The positive effect of FS in developing social behaviour is a feature that attracts schools and other educational establishments to the idea of accessing FS and, fortunately for the participants, this provision of FS sessions also leads to opportunities for personal growth (Knight, 2016c). Burrows (2011) found improvements in social and communication skills with young adults on the autistic spectrum. Else (2009) described learning shared cultural norms through shared play, thus creating a playful community, a tenet of Playwork. I published the evidence that these key outcomes from FS sessions are seen as much in adult participants as in children (Knight, 2011a). Knight (2016c) argues that enabling the conditions to be met for personal growth through FS is an established outcome.

Due to cultural and societal changes, the UK is experiencing a range of health crises arising from reduced amounts of exercise and poor eating patterns (Knight 2011c and 2017b). The benefits to physical health and wellbeing that accrue from FS have attracted researchers from sports and health disciplines. Austin et al (2013) charted the physical development that children gain from FS, as did

Trapasso et al (2018). This later study considered gender as a factor in physical activity and found that FS did better than PE lessons in encouraging physical activity in girls, as well as improving the happiness of all participants. It is also an enabling environment for participants with particular needs, encouraging their development in ways that have surprised their teachers (Pavey, 2006; Hopkins, 2011). Combined with initiatives around mental health, several local authorities have set up a 'Natural Health Service' to encourage adults to exercise and get outdoors (Hardman, 2020). FS Principle 3 states that FS aims to promote the holistic development of all those involved.

The wide-ranging benefits from FS are echoed in its origins in Scandinavia. When the idea of FS was brought to the UK from Denmark it arrived with the cultural background of the wider engagement of the Nordic peoples with their environment. The term 'Friluftsliv' was coined by the Norwegian writer Henrik Ibsen (Leirhaug, 2009) and Knight (2009) brought this to the attention of the wider FS community from 2009. This portmanteau word translates as 'Free (fri) Air (luft) Life (liv)', encapsulating the Nordic cultural traditions of being outside frequently and regularly, and through this process developing a caring relationship with the environment. There is a Nordic breadth to this cultural concept. For example, 'Skogsmulle' is a Swedish outdoor pedagogy that has influenced FS delivery in the early years (Knight, 2017b), and Danish forest nurseries (Knight, 2009/13) were visited by the Bridgwater tutors in 1993 and inspired the whole FS movement.

The term Friluftsliv is now in use outside the boundaries of Scandinavia; Brookes and Dahle (2007) suggested the relevance and meaning of Friluftsliv in an international post-modernist world. Dahle explained Friluftsliv as a 'nature-life tradition', initially within Nordic communities (Dahle, 2007: 27). I use their paper in my response to Leather's (2018) warning for the need to navigate cultural differences, as they suggest that the term Friluftsliv when used outside of Norway is applied to the local landscape wherever it is being discussed (Brookes & Dahle, 2007). This acknowledges the legitimacy of the term beyond the geographical borders of Norway as a way to express nature connectedness. It is cultural appreciation of the term rather than cultural appropriation by using it inappropriately. FS leaders appreciate that being a part of a culture of respect for the environment encourages the adoption of a more sustainable lifestyle (Suganthi, 2019). At FS one can rarely ski, hike, canoe or fish (activities associated with Nordic Friluftsliv) but it is possible do those things appropriate to where one is situated, creating a culture of being outside and a respect for nature (Knight, 2011b; 2016c). One of the social aspects of Friluftsliv is the sharing of campfires. When I lived in Norway our 'Sunday ski' (a part of the Friluftsliv culture for families there) always involved a stop midway to light a fire and share a drink. This is something that FS and the Nordic traditions have in common. For older groups it is often the role of fire to stimulate emotional responses and prompt story-telling (Wiessner, 2014). Cree and Gersie (2014) showed how the relationship between

learners and the natural world can be articulated through story-telling in the woods. Fundamental to FS, the concept is encapsulated in FS Principles 1 (long-term, frequent and regular sessions outdoors) and 2 (making a relationship with the natural world) (FSA, 2011). Friluftsliv links FS explicitly to sustainability outcomes through a shared emphasis on regular contact and a respectful relationship.

FS practice can offer challenges to the cultural norms in the UK. FS differs from other outdoor learning opportunities by its emphasis on provision for the youngest children. Despite the recognition of the importance of outdoor play in the early years (for example White, 2019), until FS was introduced into the UK the age at which children were offered outdoor adventures was typically around seven years old. For example, PGL, currently the largest provider of adventure holidays in the UK, still targets seven- to seventeen-year-olds (PGL, 2021). The Outdoor Education Advisers' Panel (2021) does refer to maturity rather than age, and includes the Early Years Foundation Stage in some advice on outings, although not for adventurous activities. Even new research concerning when it is most effective to engage children in wilder nature typically starts with five-year olds (Hughes et al, 2019). By contrast, research into FS is evidencing that preschool children learn well in wilder spaces (Pimlott-Wilson & Coates, 2019). Knight (2011c) suggests that the tension between research evidence for the benefits of wilder outdoor play and the reluctance of some practitioners and policymakers to provide such opportunities is a cultural attitude to risk, something also explored by Gill (2007) and Lindon (2011). Most theories of Outdoor Education and all those concerning Playwork recognise the relevance of facilitating safe-enough risk-taking. Gill (2007) set out the value of risk in developing those attributes listed in FS Principle 4, namely resilience, confidence, independence and creativity (FSA, 2011). Ken Robinson (2006) linked our capacity to take risks with creativity, and creativity with innovative progress. He blamed education policies for stifling the natural capacity of children for risk-taking. Dodd and Lester (2021) identify risky adventurous play as a mechanism for reducing risk for childhood anxiety. Hughes (2012) linked the role of risk in play to the capacity to make informed life choices as adults. These researchers make it clear that taking reasonable risks is part of healthy human development. FS Principle 4 states that 'Forest School offers learners the opportunity to take supported risks appropriate to the environment and to themselves' (FSA, 2011), recognising the theoretical importance of facilitating risk in FS sessions.

Cultural differences are also evident between the contrasting pedagogies of mainstream education and FS practices in the UK. Theories from sociology support a recognition of the cultural pressures that affect FS leaders as they work alongside mainstream education settings (Maynard, 2007b). Sociologist Susen (2020) underlines the importance of evidencing benefits of sociological programmes in neo-liberal societies, which could be said to include some FS projects. Whilst it

focuses on higher education, his analysis of education taking place in commodified and regulated institutions shines a sociological light on the pressures inherent in the whole UK education system which, as I have stated above, deskills teachers and pressurises children, with impacts on their mental health (Knight, 2016c). Ironically, schools offering FS sessions frequently target them as an intervention for children eligible for free school meals or 'pupil premium' (Knight, 2016c). These are socially disadvantaged pupils who typically achieve less well in school. Maslow's Hierarchy of Needs (1954, cited in Knight 2009/13) illustrates the theory that people will not achieve their true potential unless their health and wellbeing needs are met. Children's mental health and wellbeing were a priority before the pandemic, as can be seen in the focus on mental health throughout the papers discussed in Chapter 2. Post-pandemic it is an even more important issue. A sociological perspective places value on the role FS plays in developing the support for children as exemplified in FS Principle 3, which states that 'Forest School programmes aim to develop, where appropriate, the physical, social, cognitive, linguistic, emotional and spiritual aspects of the learner' (FSA, 2011). Adults with mental health problems or who are lonely may participate in Forest School sessions (Knight, 2016c), supporting evidence that FS is one of the eco-therapies that works for all ages (Burls, 2007).

We are social beings and the importance of creating cultural communities is embedded in what it means to be human. The theoretical exploration of the cultural pressures and biases affecting FS in the UK have come from a range of theoretical research fields including the early years, outdoor education, psychology and health. Each perspective contributes to the theoretical framework of FS. What Early Years philosophies and theories have given FS is an understanding of the importance of nature, play and social interactions to children's healthy development. Friluftsliv widens this understanding to incorporate wellbeing at all ages. Health studies emphasise the importance of enjoyable social interactions in nature to mental health. Nature connectedness studies underline their importance to the future of the planet. Placing the theorisation of FS into a single area of study would be to ignore the richness of what FS can offer to participants and to UK society.

4.1.5 Attachment

Researchers recognised at a very early stage that key outcomes from FS were social, emotional and personal growth, as I discussed in Chapter 2 (O'Brien & Murray, 2006; Borradaile, 2006; Hughes & Jenner, 2006; Knight, 2009). The social and emotional benefits of FS were underlined as significant by child psychologist Margot Sunderland at the FSA conference in 2013 (Knight, 2016c), and she linked FS to Attachment Theory. I have also cited the work on attachment by both Bowlby and Ainsworth (Knight, 2009/13; 2016c), emphasising how secure attachments underpin healthy social and emotional development. Sunderland reinforced the importance of the role of group play using

natural materials for developing social and emotional competences (Sunderland, 2016). Increasingly, the wider implications of secure attachments for life-long learning are also being recognised (for example, Wilson-Ali et al, 2019). Very early in my writings I made the link between FS and Maslow's hierarchy of needs (Knight, 2009), which indicates how the secure foundations that come from strong attachments are needed to maximise individual potential, something reiterated by Cree and Robb (2021). Neill (1962, cited in Vaughan, 2006, p. 10) stated that traditional schooling does nothing to address the 'emotional damage and social evils' of modern society but as Cree (2011) illustrated, FS meets basic level emotional needs before working on the higher level needs that Maslow (1954) identified. FS Principle 6 states that FS creates 'a community for learning and development' (FSA, 2011), and these communities offer emotional support. Gaining confidence from developing social and emotional skills also underpins children's communication abilities. Knight (2009/13) cites the incidence of a child with a speech impediment literally finding her voice through her FS sessions. Research on improved communication from participation in FS sessions is reported in Waite and Davis (2007), Waite and Goodenough (2018), Barrable and Arvanitis (2018) and others. At a time when children's communication skills are a matter of concern (Knight, 2016c), FS is recognised in many schools and nurseries as beneficial to their development.

EY developmental psychologists teach us that participants need a 'significant other' and a secure setting to feel safe enough to learn efficiently, and early childhood is an optimum time to foster a loving and caring bond between each child and their world (Pascal et al, 2019). Giving children a strong emotional, physical and cognitive foundation in their early years will offer them the best chance to reach their full potential in later life (Knight, 2009/13). Without secure social and emotional foundations children can fail to thrive (Davis & Waite, 2005) and may not be able to make use of the facts that they obediently learn by rote. Many early years' theorists from Rousseau onwards emphasise the benefits of time spent in the natural world to building secure foundations for development (Knight, 2009/13). Knight (2009) discussed this recognition in early years' practice from the McMillan sisters onwards (McMillan, 1927), and Knight (2016c) set out the health implications of ignoring this. Louv (2010) described the lack of access to wilder spaces as 'Nature Deficit Disorder', prompting the founding of the 'Children and Nature Network' in the US. Nature connectedness is a physical and a psychological need (Richardson et al, 2020). With adults the process may take longer to achieve lasting change, as socio-ecological researchers have explored (Carpenter & Harper, 2016). Forest School is not the only way to affect change in adults, but it does have the added benefit of being good for the planet and for society (Knight, 2012).

A sense of belonging, in a place and at a time, aids social and emotional growth (Geddes, 2018). My research shows that theorists consider both attachment to others and an attachment to a particular

place to be relevant to the mental health of participants (Knight, 2009/13; 2012) referring to the relevance of space and time to build these beneficial bonds. Developing a sense of belonging in a place and time links attachment theory (Geddes, 2018) to nature connectedness (Wattchow & Brown, 2011); FS Principle 2 emphasises the importance of forming a relationship with the natural world (FSA, 2011). It enhances the participant's sense of security and self-identity (Knight, 2016a) and their confidence in decision-making (Knight, 2009/13). That ability then feeds into further understanding and learning (Knight, 2016c). Wattchow and Brown (2011), Casey (2001) and Deakin (2008) explored at depth the importance of a connection to a particular place in nature. Harrison (2011) researched place-based education and concluded that this type of education in wilder spaces affects the sense of belonging in older participants. This contributes both to their wellbeing and to their concerns for the environment. Participants can observe the minute changes and feel embraced by the unique qualities of a particular setting. This echoes the work done by Nurture Groups (Bennathan & Boxall, 2014); I have worked with one such group in Suffolk, subsequently reporting on how the group used FS to support their work (Knight, 2016c). Harris' research (2017) considered the benefits to children in mainstream primary schools of FS as an alternative space in supporting learning as well as wellbeing, findings echoed by Coates and Pimlott-Wilson (2018). These research projects emphasise the benefits of teamwork and collaboration, fostered by being in a place where the children have decided the social boundaries.

Participation in FS creates this sense of belonging. It emerges from returning to the same spot to participate in sessions week after week and developing a relationship with that space. The time element of building a relationship with a place demonstrates how 'frequent and regular sessions' enable participants to see seasonal change (Knight, 2017b), which is a part of deepening understanding of and connection with a particular place. In Knight (2009/13), I explore in greater depth what a sense of place means for the wellbeing of all ages of participants. Wicks (2011) reported the impact of FS on the social, emotional and personal growth of care-experienced children, showing how FS could have a healing impact on children by helping them feel a sense of belonging and acceptance. In two different instances Bronfenbrenner's Bio-Ecological model has been adapted (Knight, 2012; Murphy, 2020) to illustrate the relationship of place to FS. This engenders a sense of partnership with and responsibility for that place (Knight, 2016c). The nurture that participants give to their settings with the guidance of their leaders echoes back to each individual being nurtured in turn by nature. Increased wellbeing, personal growth and nature connection (Knight, 2014) are particularly pertinent in a time of Covid and climate crises in society.

Both Piaget (1950) and Vygotsky (1978) have explained how learning comes from repeating experiences, thus developing their understanding. Montessori (2016) advocated following the lead

of the child in their need for repetitive activities. This links to FS Principle 1 'a long-term process of frequent and regular sessions' (FSA, 2011), and how FS delivered over time brings about lasting change with all ages (Cree, 2011; Brady, 2011). Dewey (1938) reflected on the importance of recurring and repeated sessions over time. The initial research by Murray (2003, cited by O'Brien & Murray, 2006:18) explained this process, and Arnold and Knight (2019) demonstrates that it is still important to the quality of FS. I discuss this in Chapter 2 as a primary concern for the future of FS, citing the evidence from McCree et al (2018). Neglecting the 'over time' principle is the thing most likely to happen in school settings under pressure from the formal curriculum, and evidence is building that it will undermine the success of FS (Arnold & Knight, 2020). Knight (2013) recorded case studies of FS sessions that take place over the span of at least a year, so that children experience the changes of the sessions in their wooded setting. These theories emphasise that each person needs their own time for deep learning to take place. They teach us that participants need both a 'significant other' and an attachment to a secure setting to feel safe enough to learn efficiently.

Time is essential to make lasting changes to behaviour with children and adults (Knight, 2014) and to be truly creative (Knight, 2009/13). It is about recognising and understanding our place in time that permeates into our being, creating that attachment that recognises our place in the world. It can give a sense often be expressed as 'awe and wonder' through knowing about the age of trees and the length of time they take to grow. This combines a cognitive response with both an emotional and a spiritual dimension (Knight, 2017a). An increasing amount of FS work is being done with adults, and I have concluded that their improving mental health is due to the nurturing qualities of the wooded space (Knight, 2016c). Knight (2011b) explained about the release of oxytocin that lowers stress, and how that can happen through Earth Walks, guided meditations and Sit Spots (Knight, 2017a). Knight (2016c) explained how the practice of mindfulness can build emotional resilience. With young children it is natural to fall into a deep concentration that is almost trance-like while engaged in tasks (Knight, 2009/13). Playwork recognises the 'timelessness' of play, when participants lose track of time in deep play experiences (Else, 2009). Whatever the methods offered during FS sessions, the result is a deeper understanding of the spiritual power of nature (Knight, 2017a). Varela et al (2016: 123) claimed that 'the point of mindfulness…is to enable the mind to be fully present in the world', and as I state (Knight 2016c: 183), 'unhappy people cannot care about the planet if they do not care about themselves'.

Combining research findings from theorists in the fields of psychology, education, philosophy, geography and ecology has given me an insight into the importance of attachment to health. It is a wider concept than attachment to a significant other, as it includes attachment to place, 'sites of lived experiences and meaning making' (Wattchow & Brown, 2011). The health that accrues from having

a sense of place facilitates growth and development, not just for the human participants, but also from the non-human wider world. Humans and the planet are healthier if we feel an attachment to a place that in turn is a part of our self-identity. In FS sessions, this attachment is fostered by the criteria expressed in FS Principle 1, that 'Forest School is a long-term process of frequent and regular sessions in a woodland or natural environment'. Attachment theories are important elements in the theorisation of FS.

4.1.6 Evolutionary Biology

Developmental psychologists, Heerwagen and Orians (2002), recognised that, while human society has changed radically over time, our biological changes have been much slower. Our physiological and psychological needs are not very different from those of our hunter-gatherer ancestors. Biophilia is a term introduced by biologist EO Wilson in 1979 and expanded by him in 1984 (Wilson, 1984), to describe our innate need for wilder spaces (Knight, 2016a). Jung (1963) stated something similar in his autobiography, also recognising the centrality of trees to man's wellbeing (Knight, 2017a). Although this predates Wilson by at least thirty years, the concise term and the accessibility of Wilson's writing has made 'Biophilia' the popular expression of our interconnectedness with the natural world. As such, it is an important theoretical cornerstone of FS. The concept of Biophilia encapsulates the way in which FS satisfies the innate human need for wild spaces and thus improves our wellbeing, mental and physical health. In addition, Kahn (2002) stated that over 100 studies show the reduction of stress that comes from spending time in nature and relates this benefit to restoring our connections and our commitments to the environment and sustainability. Thus, our innate need for wild spaces means that our wellbeing is enhanced when we spend time in nature, improving our mental and physical health. In turn, nature benefits from our attention as it can increase our commitment to its wellbeing and health (Knight & Luff, 2018a). Concepts of Biophilia (Wilson, 1984) and nature connectedness (Richardson, 2020) have been linked to FS by Malone and Waite (2016) and Murphy (2020).

I have recommended that all young children are given the opportunity to participate in FS sessions so that the malleable frontal lobes of the brain develop in harmony with the more primitive parts of the brain (Knight, 2009/13; 2016a; 2016c). These older parts of the brain, principally the limbic system, developed in a time when humans were a part of the natural order (Verbeek & de Waal, 2002). The growth of the frontal lobes of the brain which support concentration, problem solving, social and emotional intelligence are stimulated by positive relational experiences centred in the limbic areas of the brain (Cree & Robb, 2021), the kind of experiences that happen at Forest Schools (Perry, 2002). This harmony in the brain creates happier, healthier children (Knight, 2011a; 2016b). FS can facilitate brain changes and adaptations (Knight, 2009). Biology explains the process by which this

happens through the myelination of nerve fibres in the brain (Brierley, 1994). A brain response creates a neural pathway but this will only become a part of who we are if the response is repeated until the pathway is coated by a sheath of myelin (Brierley, 1994). Once developed, that response, which may be a learned action or a learned behaviour, is now a part of who we are and becomes difficult to change. I describe this as analogous to walking across a grassy field (Knight, 2009/13). The first time the path is walked it only bends the stems. The more often that the path is walked, the more the grass is worn away and the land beneath becomes compacted. Eventually there is a track that will exist even if the path ceases to be used, as aerial photography of archaeological sites or in times of drought has shown. In parallel, behaviours learned as a child will resurface in adulthood and can be very difficult to change (Knight, 2016c). This process emphasises why FS sessions take place over a prolonged period of time, as stated above when discussing the emphasis on repetition as set out by Piaget (1950) and Vygotsky (1978). FS leaders are helping participants to make new neural pathways in the brain (Knight, 2009/13), creating neural pathways that create positive behavioural dispositions (Brierley, 1994), processes that take time.

Through play we learn and develop and find resolution from mental health problems (Webb & Baggerly). Playworkers consider play to be a biological drive (Hughes, 2012), something intrinsic to being human (Brown & Patte, 2013), linking play to Biophilia. Gray (2018) highlights the evolutionary importance of play in developing skills, resilience, innovation, and cooperation, and, as I have shown, these are the outcomes that have been identified from participation in FS sessions (Knight, 2009/13; 2011b). 'Animals play to learn and rehearse the skills for life and to establish relationships and bonds or ties' (Knight 2017a: 78), and we have that same trait. Murphy (2020) linked Bronfenbrenner's Bio-Ecological model to FS to emphasise the importance of the 'over time' element of his ideas.

Biophilia links the relationships between humans and nature and the impact this has on our wellbeing (Kahn, 2002; Kellert, 2002). We combine these traditions in culturally-embedded stories, reminding us of what it means to be human (Wilson, 1984). Traditions such as campfires are part of our evolutionary connection with nature, as I discuss in Knight (2017a). What takes place around the fire is the telling of stories that deepen our cultural knowledge and our sense of social connection (Wattchow & Brown, 2011) and there is emotional potency in sitting and sharing a campfire (Cook 1999). The use of fire by our ancestors dates back over two hundred thousand years, and predates the evidence from bones and teeth that these ancestors cooked their food (Wranham, 2009). For thousands of years humans have shared fires (Hume, 2017), and not just for light, heat, energy and cooking. It fascinates and 'fires' the imagination, creating a sense of community (Cook 1999) and giving a focal point for stories (Wattchow & Brown, 2011). Of course, it is not only FS practitioners

who value campfires, but also the Scouting movement and, indeed, many outdoor activity groups. At FS children learn how to be safe around fire, how to light and extinguish them, and how to do so in an environmentally responsible way, as stated in FS Principle 4 'Forest School offers learners the opportunity to take supported risks appropriate to the environment and to themselves' (FSA, 2011).

Kaplan and Kaplan (1989) developed Wilson's (1984) ideas about Biophilia further, defining a four-stage Attention Restoration Theory. This suggests that opportunities for mental and physical health and well-being come from time spent in the natural world (Kaplan, 1995). Mitten (2009) researched how health services were recognising the healing power of nature, and today many hospitals as well as hospices have healing garden areas. Knight (2009/2013) cited research showing that healing times in hospitals had been improved by a view of trees. The research into different eco-therapies demonstrate that contact with nature calms the body and reduces hypersensitivity to stress (Kaplan, 1995). However, not many therapies and interventions start with the developmental building blocks of young children's wellbeing, as FS sessions in the early years do. There is observational evidence that FS engenders in participants a conscious awareness of their existence as a part of the natural world (Knight, 2009/13; 2016c). Biophilia theories underpin Principle 3 in its emphasis on the role of nature in healthy holistic development. Reducing contact with the natural world will lead to 'biophobia' (a negative approach to the outdoor world with the potential to result in brain deficiency) replacing 'biophilia' (Orr, 1994).

The importance of trees to our wellbeing was recognised by Jung (1963) and in theories of Friluftsliv (Dahle, 2007). Deakin (2008) is just one of many modern authors to write about the effect of trees on their own wellbeing. The centrality of trees to FS has caused some difficulties to practitioners in inner cities (Milchem, 2011). Over time, FS leaders have discussed various ways to provide access to trees for participants (Dabaja, 2021). Reflecting on my own writing, I detect a growing firmness in linking trees to good quality FS between statements in Knight (2009) and Knight (2016c). Through acknowledging the importance of trees to physical health, mental health and wellbeing, Principle 2 entwines around all of the theoretical themes, demonstrating how they all link to FS. 'Forest School in the UK is analogous with one of its trees. It has its roots in our evolutionary past, prompting a love of nature. It has its trunk in tribal and agrarian societies, enabling people to develop bushcraft, social and language skills' (Knight 2016a: 249). Thoreau (1841) pointed out the universality of forests and trees in all the mythologies then known and in all the major religions, indicating the relevance of trees to our mental states.

Psychologists, philosophers, theologians, biologists, foresters and Playworkers have all contributed theory and research evidence linking FS to evolutionary biology. Synthesising their ideas adds

richness and credibility to the importance of recognising our biology when theorising FS.

4.2 Conclusion

In my search for the complete theoretical framework for FS I have read work by academics and researchers from a wide range of disciplines. I have explored their different and separate ideas in my writings, but I concluded that it is when these ideas are synergised into a whole that 'the whole is greater than the sum of the parts', as Aristotle said (Cohen, 2016). The theoretical picture, shown in figure 1, resembles that of the 'Wood Wide Web' (Wohlleben, 2017: 50), with the tree of FS being nourished by nutrients from a rich mycorrhizal network of interdisciplinary research and thought. This 'gestalt' image (Honderich, 1995) creates a whole picture of FS and its place in the pantheon of outdoor experimental education. In figure 2, I have illustrated how I grouped my interdisciplinary explorations into thematic discourses; social construction, play, social constructivism, culture, attachment and evolutionary biology, to show that each are important elements in FS. I have illustrated the theoretical strands of research emerging from different disciplines. I have also highlighted how they are translated into practical courses of action through the Principles of FS to achieve the outcomes discussed.

To summarise my theoretical framework, I will reverse the flow of ideas and start with the Principles, working back through the themes and theories towards the disciplines that support them. In each case the researchers and theorists come from more than one discipline. Each piece of research and theory discipline shines a different light on the themes discussed through the lens of their own original discipline.

Principle 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. The cultural concept of Friluftsliv has been analysed by OE researchers, showing how adopting the cultural norm of interacting on a regular basis with nature builds attachment, connectedness and wellbeing. I discuss how this has been linked to our biological needs through being with trees, lighting fires and storytelling. Theorists working in outdoor education (OE), particularly the philosopher Dewey, also contribute to the discussion of social constructivism when thinking about older children and adults participating in FS, and how their lived experiences co-construct meanings to give continuity to learning and development.
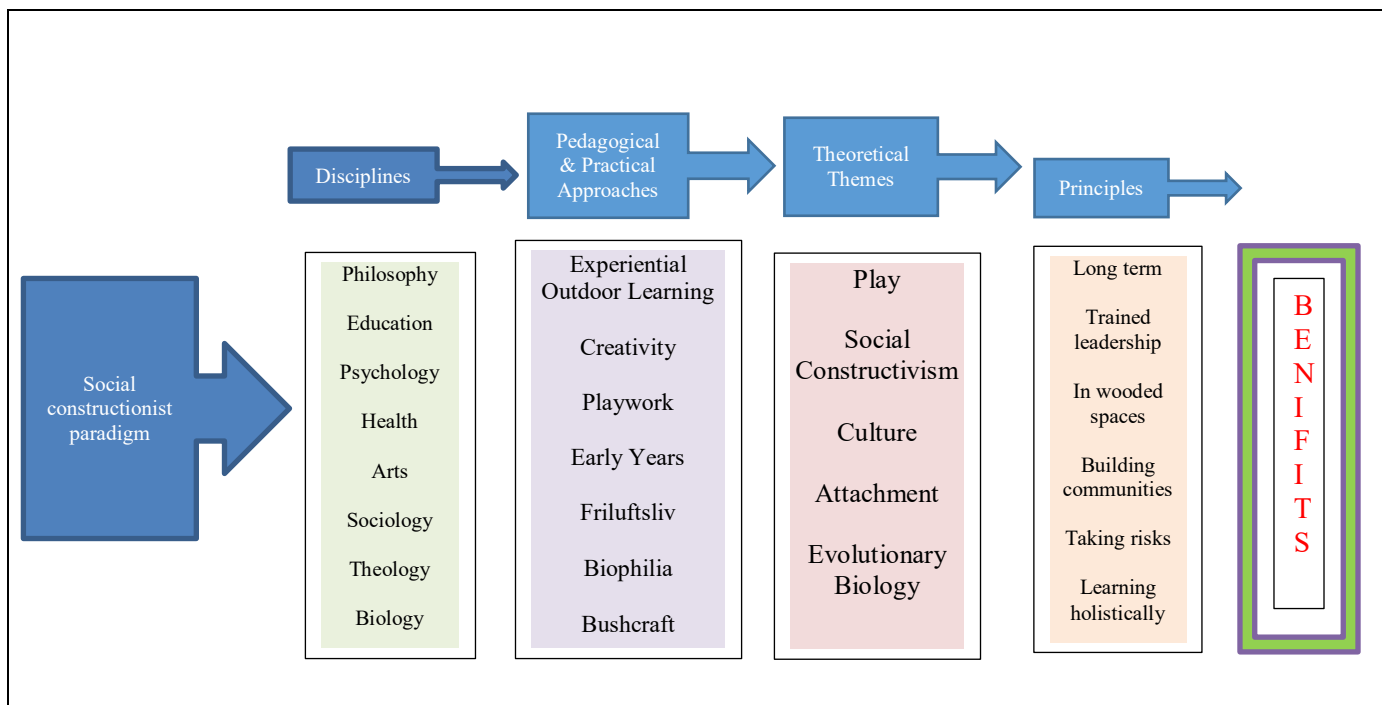
Figure 2: The theoretical flow of ideas underpinning Forest School

Principle 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. Research links theories of evolutionary biology to the importance of developing habits of connectedness to nature, of caring for nature and for each other. Brain development theories inform us of how and when there is the optimal chance of creating neural pathways that create positive behavioural dispositions (Brierley, 1994). Young children's brains develop in response to environmental stimuli. With adults the process may take longer to achieve lasting change than with children, as socio-ecological researchers have explored (Carpenter & Harper, 2016).   Recognising the importance of nature to being a happy human has been a valuable contribution from research in both the disciplines of health and sociology. The papers that recognise the value of trees and the benefits of meditative practices in wooded spaces provide evidence for the increase in healing and the decrease in stress that comes from being in nature. Knowledge about the importance of secure attachment has come from psychological theories, together with research from outdoor education about the importance of an attachment to particular places.

Principle 3: Forest School aims to promote the **holistic** development of all those involved, fostering resilient, confident, independent and creative learners.   Creativity has been shown to be important in both education and psychology. Self-expression is one key to achieving fulfilment, just as the art of storytelling is a fundamental form of human communication, and

one that facilitates positive social behaviours. In addition, the theories underpinning Playwork value creativity as a part of what it means to be human. Aside from evidence around the benefits of play for all, playwork researchers have offered insights to FS leaders about the benefits of utilising 'loose parts', those incidental objects such as leaves and sticks that are the intrinsic materials of woodlands. When considering the importance of play, the shared influences from philosophers Rousseau and Froebel linked the practitioners from Denmark who set up the nature nurseries with the visiting lecturers from Bridgwater College. They then began the FS movement as a play-based provision for young children, now extended to benefit all ages.

Principle 4: Forest School offers learners the opportunity to **take supported risks** appropriate to the environment and to themselves. In the discussion of the cultural influences on FS, theories from early years' researchers serve to challenge the UK norms by substantiating adventurous activities at FS that offer risk to our youngest children as ways to promote self-confidence and nature connectedness. Researchers from OE have identified Bushcraft as central to the acquisition of the skills requisite for undertaking many adventurous activities, particularly those on offer at FS sessions. Friluftsliv encapsulates ways to undertake such adventures in safe-enough ways which are respectful of the environment.

Principle 5: Forest School is run by **qualified** Forest School practitioners who continuously maintain and develop their professional practice. Most professional bodies, whether based indoors or outdoors, emphasise the importance of continuing professional development, and FS is no exception. Psychologists Piaget, Vygotsky and Bruner, all working with the youngest children in education, developed ideas about the role of the more knowledgeable other that have guided the role of the leader in FS. Dewey has theorised about the value of continuing experiential outdoor learning to learning and development. His philosophies underpin much OE research.

Principle 6: Forest School uses a range of learner-centred processes to create a **community** for development and learning. I began this chapter with an explanation of how Social Constructionism is the philosophical paradigm that underpins the theorisation of FS. This was also discussed in Chapters 2 and 3. Reflective practice underpins theories of personal development (Moon, 2005). Early years' theories about how children learn are centred on the child's direct experiences (Donaldson, 1978). Whether adult or child, leader or learner, the position of the person is central to their own development.

<u>In Summary.</u> In Figure 1, I illustrate how the thematic roots of FS are informed by the different disciplines, just as in nature the mycrorrhizal fungal network (Simard, 2009) informs the roots of trees. FS has grown organically from its roots and has become a powerful intervention for all ages and abilities. In Figure 2, I show how each of the theoretical themes of play, social constructivism, culture, attachment and evolutionary biology are a part of FS and are informed by the range of pedagogical and practical approaches.

FS is held in a theoretical framework that is an interdisciplinary synthesis of ideas drawn from several academic disciplines. Play, social constructivism, culture, attachment and evolutionary biology are all equally important, and are illuminated differently by the spotlights of different theoretical disciplines. They have been identified by research, observation and reflection. In combination, they represent a powerful intervention for both education and health in a way consistent with complex systems theory (Burton et al, 2019). The Six Principles (FSA, 2011) encapsulate how the theories interweave to determine their practical application in the delivery of FS. I have discussed how this unique combination has enabled a range of benefits already recorded in research, referring to the evidence I collated in Chapter 2. With firm links to known theories and respected researchers, FS sessions should now be made more widely available.

Chapter 5: Forest School: the Complete Picture and Contribution to Knowledge

In this final chapter I conclude by discussing the implications of my thesis for the body of knowledge about FS. FS has been co-constructed by the early adopters (including myself) into a new and identifiable way of working outdoors, and with outcomes that have been researched and discussed since Murray's project (2003, cited in O'Brien & Murray, 2006:18) at the beginning of the 21st century. I have discussed in Chapter 2 my contention that the early adopters have hitherto failed to articulate a complete and comprehensive theoretical framework for FS. I therefore set myself the task in this thesis of answering the question 'What are the key concepts that form the theoretical framework of Forest School and how do they interrelate?' through a reflective analysis of my body of published work about FS (see appendix).

I have explained in Chapter 1 how FS has grown from distinct and identifiable roots. I have shown that early adopters have taken on board both a commitment to environmental conservationist values and a bottom-up social constructionist philosophy to the way in which the movement developed and continues to evolve. Kumar argues that 'transformation is a process, not a product. Transformation is continuous evolution, not a static state' (Kumar, 2020: 46). This orientation is consistent with FS being co-constructed (Moon 2004: 42) and continuously developed by the Forest School community.

In Chapter 2, I discussed how the work of other researchers into FS has considerable synergy with my own. I have cited my own work but also the work of other academics who have researched the benefits that can accrue from participation in FS sessions. This is a rich and varied tapestry and the many contributions have each added their own colour. Together we have created a mass of evidence about the benefits of FS, discussed in 2.1. These include increasing levels of confidence, improved social skills, better abilities to communicate, increased motivation and concentration, enhanced physical skills and improved knowledge and understanding. In addition, many researchers have identified theoretical elements that underpin FS, for example social constructivism (O'Brien, 2009; Coates & Pimlott-Wilson, 2018), the pedagogy of play (Coates & Pimlott-Wilson, 2018), geographical concepts of space, place and time (Harris, 2015), social construction and Friluftsliv (Waite & Goodenough, 2018), and Bronfenbrenner's Bio-Ecological model (Murphy, 2020). In 2.3 I discussed these theoretical aspects of FS and concluded that while many of the theoretical ideas that I identify as underpinning FS in Chapter 4 were present, they were not discussed as a synthesised whole. As I have explained in Chapter 2.2, one problem that the FS community has is to ensure that FS practice is of good quality, in order to achieve the outcomes listed above and discussed in

Chapter 2.1. The quality of delivery and the integrity of the concept of FS is held in place when practitioners adhere to the Six Principles of FS, as discussed in 2.2.

In Chapter 3, I set out the methodology I have used over time in my writings and upon which I draw in this thesis. My work is underpinned by a relativist ontological position (Niebaur et al, 2020), and an interpretivist/social constructionist epistemology. Given this perspective, my understanding of FS based on the experiences and discourses of twenty-five years is likely to evolve still further in the future (Burr, 2015) but I present in Chapter 3 the ethnography of my research journey with FS to date. As stated in 3.5, as well as reflecting on my own practice as an FS leader and trainer, as part of my research I have observed FS sessions in over 31 settings. I have collected around 40 reflective accounts from other FS leaders. I have used questionnaires and interviews to ask parents and children about their past experiences of FS and discussed my research into FS with over 30 practitioners. Through literature reviews I have explored theories pertinent to FS and my research questions. I have reflected over time (Conteh et al, 2005) to formulate a coherent and comprehensive theoretical underpinning to Forest School, presented in this document.

The outcome from my reflections follows in Chapter 4. This chapter sets out the theoretical framework underpinning Forest School. Using the image of a tree to draw the elements together seems fitting for a visual representation of FS. My diagram (figure 1) summarises the complex and interdisciplinary phenomena that is FS, which is just one tree set in the forest of Outdoor Education. Referencing recent research on the 'Wood Wide Web' (Wohlleben, 2017) I illustrate how different theories feed the thematic roots of FS along the mycrorrhizal fungal network (Simard, 2009) of social constructionism. The Six Principles of FS form the tree trunk which holds the quality and strength of FS delivery. Together, they inform the interactions between the leader, the setting and the participants themselves as they co-construct meaningful outcomes (Moon, 2005). It is this unique combination that creates the outcomes discussed in Chapter 2.1. From the trunk grows the accumulated evidence for the outcomes of FS identified in Chapter 2. I have grouped them under four headings: physical benefits, benefits to mental health and wellbeing, social, linguistic and cognitive benefits, and benefits for nature connectedness.

In figure 2, I create a flow chart to show how the theories stem from different academic disciplines, contending that it is this breadth of knowledge that underpins FS and makes it such a rich and valuable intervention. Researchers from disciplines as varied as biology and education have all theorised aspects of FS. I have drawn them together into a whole. My contribution to knowledge is this coherent interdisciplinary framework synthesising the theoretical roots, linking them to the guiding principles of good practice and showing how these co-create

conditions necessary for enabling the identified outcomes for participants. This will offer the evidence of the credibility that FS warrants as an educational and a therapeutic intervention. It will give academic credibility to what is already a popular phenomenon (Arnold and Knight, 2019). The theoretical framework creates a useable and cohesive model with which to support the ongoing development of FS in the UK. It will enable educational leaders from school governors to Ofsted to better understand the requirements for the delivery of FS to ensure the best for the children in and out of schools. Forest School enables all participants to succeed, to be creative and to be their individual selves. Trained leaders who observe, reflect, plan and adapt can see that whatever the participant chooses to do is important to them at that moment, and for a reason that is intrinsic to them at that moment. My synthesis of the different theoretical threads underpinning FS makes the benefits to the mental health of adults as well as children easier to comprehend (Knight 2011b). It could also assist FS practitioners when bidding for funds to provide sessions for adults in need.

Extra impetus for my work is the recognition that in the context of a global pandemic, an outdoor learning environment is a safer place to work and learn in (Department for Education, 2020). At a time when we are concerned with the mental health of all and the educational progress of children, FS has a timely contribution to make to this agenda in the UK. Together with the evidence I discussed in 2.1 above, my framework could strengthen the current multiagency campaign of which the Forest School Association is a part, for a Nature Premium (Nature Premium, 2020), an entitlement for all children to have time in nature as a part of the National Curriculum. Such an entitlement would help address some of the effects of the economic inequalities revealed during the pandemic. FS is already recognised as being valuable in supporting school-aged children at socio-economic disadvantage. Knight (2011a) includes case studies where FS has helped nursery-aged children, families and adults struggling with a range of challenges in their lives.

In the periods of lockdown in 2020 and 2021 people have been walking in their own local spaces more than previously. Canton (2020) describes the process of engaging with a natural space over time, and the emotional and cognitive benefits it brings. I have shown that these outcomes are congruent with FS, and thus FS has a timely resonance in 2021. Sessions for adults have offered a community of support for those whose work has dried up and for those whose social support has disappeared during the pandemic.

In a post-Covid world which is also dealing with a climate crisis, having a strong connection to nature will give FS participants a greater sense of wellbeing (Richardson, 2020) as well as more

determination to act to preserve the planet. The need to promote pro-environmental behaviour by connecting people with nature is relevant both for their wellbeing and for the health of the planet (Hughes et al, 2019). FS practitioners embrace a nature connection that sees humans as a part of nature, not separate from it (Cree & Robb, 2021) addressing the problem of 'environmental generational amnesia' (Kahn, 2002). In addition, the outcome of engaging participants with sustainability issues at a time of environmental crisis gives FS potential as an educational intervention. My conclusions here are that the purpose of education is about sustaining the individual, society and the planet, and that FS is an effective way to do that.

This is closer to the world view of indigenous cultures who are more likely to recognise the deep interrelatedness of all life (Lent, 2021). Lent (2021) is not alone in suggesting that the focus of modern society needs to focus more on GNH (gross national happiness) and less on GNP (gross national product) (Van Norren, 2020). As discussed, GNH consistently places the Scandinavian countries in the top 10 (Martela et al, 2020), and this is where the roots of FS lie.

For future research, I have identified four areas worthy of further study. The first is that FS has become so diverse in its application as to require practitioners to self-examine whether they have had the appropriate training to support the full range of participants, as discussed in Knight (2016c). It is relevant now to explore how practitioners are dealing with these challenges and how their training needs are being met. Further research into the diverse applications of FS could inform the continuing evolution of FS training.

The second area for further research is one discussed in 2.2 and researched in Arnold and Knight (2019). Issues around the quality of delivery of FS, particularly in school and nursery settings, are, I argue, compromising the quality of the outcomes captured (Arnold & Knight, 2019). This is brought into focus by a new paper (Whincup, Allin & Greer, 2021) discussing how teachers are being forced to adapt the FS principles to meet school demands. Designing a project to investigate the problem more explicitly is a challenge I am discussing with my research partners in Cambridgeshire.

Thirdly, there is a lack of diversity in OE generally and in FS in particular. In FS we do not have the gender imbalance associated with more traditional OE pursuits but we are failing to attract an ethnically diverse workforce. This has been discussed at conference and identified in the FSA Equity, Diversity and Inclusion Policy (Forest School Association, 2021) but as yet it has not been possible to identify a satisfactory remedial strategy.

Lastly, the theoretical theme of attachment when considered in respect of FS needs deeper

exploration. The theories of Bowlby and Ainsworth that relate to children's attachment to a significant other were discussed in Knight (2009), and the theories of Wattchow and Brown (2011) relating to attachment to place in Knight (2016c). I have discussed their relevance to FS in Chapter 4 but I consider that there is more to be investigated. The human need to belong is a powerful contributor to mental health, relating as it does to the fact that we are a social species, and it has some layers that have been recognised in indigenous cultures and possibly lost by modern man.

All of these areas of concern require sensitive research design as they will potentially challenge existing practice, but if the unique intervention that is FS is to survive and flourish, these are matters that warrant further investigation. My thesis provides an incentive to further research. It also provides a useful synthesis of the key concepts that form the theoretical framework of Forest School and demonstrate how they interrelate. This will strengthen FS practice moving forward as a solid platform for future research concerning this field.

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Appendix: A Description of the Published Work Submitted for this Thesis

Books:

2009/13 *Forest Schools and Outdoor Learning in the Early Years,* **(2nd edn), London: Sage.** The first (2009) and second edition of my first book set out my research into how the ForestSchool approach can be incorporated into early years practice. I used case studies, and reported on my action research. I surveyed children and parents one to four years after thechildren participated in FS sessions in their early years classes. I found links between FS and the attitudes of early years pioneers such as Froebel, Piaget and Vygotsky to the importance of being outdoors. *In January 2021 an agreement was signed between SAGE and Nobel Akademik to translate Forest Schools and Outdoor Learning in the Early Years, 2nd edn into Turkish.*

2011a *Forest School for All***, London: Sage.** By commissioning and curating practitioner's reports from across the UK I aimed to show how the Forest School ethos applies across a wide range of clients, to address issues such as obesity, public health and social wellbeing. I began an exploration of them for key indicators of successful practice continued in Knight (2011b). My findings contribute to the development of the Six Principles (FSA, 2011). *Following a lecture tour there, this book has also been published in South Korea.*

2011c *Risk and Adventure in Early Years Outdoor Play: learning from Forest Schools***, London: Sage:** The book was written to address the concerns of early years' practitioners about facilitating riskier play in their settings. I also explored different kinds of risk, for example emotional risk. I used examples from my own Forest School practice and researched ideas to inform less confident colleagues.

2016c *Forest School in Practice,* **London: Sage:** I aimed to explore the long and diverse journey that the Forest School Approach has had within the UK and research its benefits for all people, young and old. It started with a questionnaire-based survey of practitioners attending the 2015 FSA conference, to record the groups participating in FS across the UK. Each of the 15 chapters deals with a different age-group and includes between one and three reflective accounts that I made from across the UK. In each, I researched the literature pertinent to those observations and ended with a personal reflection on the nature of FS for that age group. The journey of the book covered all the key aspects of Forest

School with all ages and in all areas of the UK. *Following my two tours there, this book has now been published in China.*

Book Chapters:
2010 'Forest School: playing on the wild side', in Moyles, J. (ed) *The Excellence of Play.* 3ʳᵈ Edt. pp. 186-198. The chapter starts with the premise that in the UK there has been a reintroduction of wilder outdoor play, and that there is understandable reluctance on the part of some practitioners to engage with this. I describe one initiative for wilder and riskier play, Forest School, and discusses why risk taking and outdoor play is important for the under-fives. I suggest ways in which practitioners can develop their own skills and some of the safety issues.

2012 'Valuing Outdoor Spaces: different models of outdoor learning in the early years', in Paptheodorou, T. & Moyles, J. (eds) *Cross-Cultural Perspectives on Early Childhood,* London: Sage. This book considered the evidence for the effectiveness of national and international policies to improve the quality of Early Years Education in the 21ˢᵗ Century. My chapter drew together literature to highlight the importance of outdoor play in the early years in post-industrial western countries. I discuss theories that are universal to early years theorisation in post-industrial western countries, in particular those of Rousseau, Pestalozzi, Froebel and Steiner. I also introduce the concept of Friluftsliv and its importance to FS. My conclusions are in a diagram based on that by Bronfenbrenner to illustrate the benefits of nature-based outdoor provision to children in the early years, to developing healthy lifestyles, care for the environment and education for sustainable development.

2014 'Working with Forest Schools', in Maynard, T. & Waters, J. (eds) *Exploring Outdoor Play in the Early Years,* Maidenhead: OUP. This book aimed to critically examine issues around outdoor experiences in the UK, Scandinavia and the Antipodes. My chapter cited references to show that a social constructivist approach links FS explicitly to the work of Vygotsky. The literature review also linked to one example from my practice, and evidenced wellbeing, creativity and personal growth. I included in the chapter the early version of the Six Principles of FS (FSA, 2011).

2016a 'Forest School in the United Kingdom', in Humberstone, B., Prince, H. & Henderson, K., (eds) *International Handbook of Outdoor Studies*, London: Routledge.

This book is the work of members of the European Institute for Outdoor Adventure Education and Experiential Learning, and my aim was to position FS in the UK in a European context. I undertook a literature search to explore the evolutionary and historical roots of FS, including the Playwork movement. I considered the influence of the philosophers Hegel and Voltaire and the educators Pestalozzi, Steiner and Montessori on the learner-centered nature of FS. I explored the link between 'Friluftsliv' and the eco-philosophical thinking of Arne Næss. Finally I considered brain development, biophilia and the evolutionary theories of Kahn (2002) and Kellert (2002). I concluded that because FS is in tune with our needs as humans it can help children to develop healthily and happily.

2016b 'Forest School: a model for learning holistically and outdoors', in Lees, H. & Noddings, N. (eds) *The Palgrave International Handbook of Alternative Education*, London: Palgrave Macmillan: The aim of the book was to consider alternatives to standardised education systems, particularly in first world countries. My chapter considered FS as an immersive learning environment that is led by the interests of the participants. I introduce FS as an intervention suitable for all ages in Knight (2016b) with examples cited from Knight (2011a) and referencing the importance of links across the outdoor learning sector. A literature search of alternative nature-based educational opportunities in the UK and abroad illustrated the reach of FS into programmes run by bodies such as the National Trust. My conclusions were that where the ethos and principles of FS are being followed then the sessions can legitimately be called FS.

2017a 'Forest School: opportunities for creative and spiritual growth', in Pickering, S. (ed), 2017, *Teaching Outdoors Creatively*, London: Routledge. This book looked at ways to increase creativity in primary education in England. My aim was to explore more fully the links between FS and social, emotional, spiritual and language development at all ages. I undertook a wide-ranging literature search to identify evidence for the importance of elements of FS such as Mindfulness and a sense of place and time. Citing Jung (1963), I linked humans to nature via our evolutionary past, described by Wilson (1984) as Biophilia, using the universality of tree imagery across time and cultures as evidence of this. I concluded that FS offers opportunities to become better at protecting ourselves and the natural world.

2017b 'Forest School for the Early Years in England', in Waller, T. et al (eds) *The Sage Handbook of Outdoor Play and Learning*, London: Sage. The book was a product of the

Outdoor Play and Learning Special Interest Group in the European Early Childhood Research Association (EECERA). Its aim was to analyse international understandings of outdoor play. My literature search initially considered the current positioning of FS across the UK in the policies and curricula of the home countries. I then evaluated some of the published research into FS, drawing together evidence of the benefits of FS to social development, language development and the seven key concepts for sustainability identified in the UNESCO paper by Pramling Samuelsson and Kaga (2008). I linked this to research I had carried out with my colleague, Dr. Paulette Luff (Knight & Luff, 2018a)

2018a Knight, S. and Luff, P. ‘The Contribution of Forest School to Early Childhood Education for Sustainability’, in Huggins, V. & Evans, D. (eds) *Early Childhood Education and Care for Sustainability*, **Abingdon: Routledge.** This book was a product of the Association for Professional Development in the Early Years (TACTYC). The chapter was based on an interactive research workshop, enabling FS leaders to reflect on their practice through the lens of the 7Rs of Sustainability proposed by Pramling Samuelsson and Kaga (2008). Our findings were that FS offers a strong route to developing sustainable awareness in young children through the acquisition of skills, knowledge, attitudes and values.

Academic Papers:

2011b ‘Forest School as a Way of Learning in the Outdoors in the UK’, *International Journal for Cross-Disciplinary Subjects in Education (IJCDSE),* **Special Issue Volume 1 Issue 1, 2011.** In this paper I examined the reports from Knight (2011a) in greater detail utilizing the computer software package NVivo 8 as a coding tool. The conclusions supported those in the book (Knight, 2011a), particularly ‘how a particular Forest School iteration reflects the strengths of the leading practitioner and the needs of their client group’ (Knight 2011b). This fed into the development of the Six Principles of FS by the Forest Schools Association (FSA), and which are now adopted by the FSA as fundamental to guiding good practice.

2018b ‘Translating Forest School: A response to Leather’, *Journal of Outdoor and Environmental Education* **21, 19–23 (2018). https://doi.org/10.1007/s42322-017-0010-5** This paper was a response to a paper that critiqued the lack of theoretical rigour in FS, its pedagogy and the lack of theoretical coherence at the heart of FS (Leather 2018). In that

paper Leather identified 'social constructionism' and 'social constructivism' as two concepts new to FS. I had already mentioned them (Knight, 2009/13; Knight, 2015; Knight, 2016c). I therefore reiterated my stance and defended the accusation that the FSA had commodified FS.

2019 Arnold G. & Knight S. 'An Analysis of the Impact of Forest School Provision on Early Years Foundation Stage Outcomes using CASEY ' in Shelley, M.& Kiray, S. A., (eds) Education Research Highlights in Mathematics, Science and Technology. Iowa, USA: ISRES Publishing. We analysed EYFS Profile data for PSED levels from settings using the Cambridgeshire Assessment System for Early Years (CASEY) who offered Forest School provision. We were able to identify that settings who had provided FS for their preschool children scored more highly in the area of 'personal, social and emotional development'.