

Routledge
Taylor & Francis Group

Education 3-13

International Journal of Primary, Elementary and Early Years Education

ISSN: 0300-4279 (Print) 1475-7575 (Online) Journal homepage: www.tandfonline.com/journals/rett20

A systematic review of forest schools literature in England

Angela Garden & Graham Downes

To cite this article: Angela Garden & Graham Downes (2023) A systematic review of forest schools literature in England, Education 3-13, 51:2, 320-336, DOI: 10.1080/03004279.2021.1971275

To link to this article: https://doi.org/10.1080/03004279.2021.1971275

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

Published online: 25 Aug 2021.

Submit your article to this journal

Article views: 27827

View related articles

View Crossmark data

Citing articles: 42 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=rett20

EDUCATION 3-13
2023, VOL. 51, NO. 2, 320–336
https://doi.org/10.1080/03004279.2021.1971275

OPEN ACCESS Check for updates

A systematic review of forest schools literature in England

Angela Garden and Graham Downes

Liverpool John Moores University, UK

ABSTRACT

This paper draws on the breadth of Forest School research literature spanning the past ten years in order to categorise theorisations across the papers. As Forest Schools in the UK are still a fairly recent development research is still limited in quantity and can lack theorisation at a broader level of abstraction. The systematic literature review draws largely on the framework produced by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) ([2019b]. What is a Systematic Review? Accessed: 13 August 2020. http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=67). The paper highlights a set of overarching themes for Forest School research as well as providing a conceptual map representing three distinct contexts: early years, special education needs and disability, and formal education. In addition, a set of more abstract themes emerged from work associated with the Forest School space.

ARTICLE HISTORY
Received 17 November 2020
Accepted 17 August 2021

KEYWORDS
Forest School; literature review; wellbeing; learning; space

Introduction

Forest School is a popular outdoor education initiative with international reach. Evolving from a diverse range of backgrounds, work under the Forest School label has overarching aims that encourage children to develop various personal qualities in natural learning environments (Cree and McCree 2012). However, the literature on Forest Schools presents a range of different (and sometimes competing) approaches, revealed through a range of methods and foci. For example, whilst some studies focus on the potential impact natural spaces have on mental health, others focus on the potential of the outdoors to offer a more efficacious alternative to classrooms as learning spaces. Using a broadly systematic approach, this paper reviews the oeuvre of journal papers to identify the different approaches to Forest School research and the various claims they make to efficacy. It will conclude by considering possible lacunae within the existing body of work to suggest the development of new methodologies within the field.

There is a significant level of heterogeneity within the activities undertaken under the Forest School banner. This is problematic when attempting to unravel what makes Forest Schools unique from other outdoor learning experiences. The rationale for this review is to capture this heterogeneity but also to establish underlying themes in the research to date. The review does not attempt to define what constitutes a Forest School: it takes researcher identification of Forest School activities as its starting point. As such, the literature itself defines what constitutes a Forest School. Whilst examining work that explicitly acknowledges a focus on the topic, the review recognises that these activities sit within a wider range of outdoor learning that has a longer history and, subsequently, a larger body of research literature to draw on. Forest School literature is therefore located within the wider outdoor learning context where there is a crossover of conceptual ideas.

CONTACT Angela Garden a.s.garden@ljmu.ac.uk

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (http://creativecommons.org/licenses/by-nc-nd/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

Table 1. Quantitative research reference.

Turtle, C., Convery, I. and Convery, K. (2015) 'Forest Schools and environmental attitudes: A case study of children aged 8–11 years', *Cogent Education*. Taylor and Francis Ltd., 2(1). doi: 10.1080/2331186X.2015.1100103.	Questionnaires for pupils sent out to schools with Forest Schools and schools without Forest Schools. A total of 195 usable questionnaires were returned (some forms were incomplete or were incorrectly completed): 136 from non-Forest Schools and 59 from schools that had completed a Forest School programme.	Forest Schools. Experiential learning. Environmental education.	Representative sample.	Only quantitative study in literature.	The study identified that there was a statistically significant difference in environmental attitude between groups of children that had participated in a Forest Schools programme and those that had not participated, with children who had taken part in Forest Schools demonstrating a more pro-environmental attitude.

The systematic approach draws largely on the framework produced by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) (2019b). As a relatively new phenomenon, research on Forest Schools is still limited in quantity and lacking theorisation at a broader level of abstraction (Merton 1967). By this, we mean that a consistent set of overarching theories is not evident in the body of work on Forest Schools. By adopting a more consistent approach to selecting and reviewing the literature, we therefore aim to ensure we have captured the breadth of writing on Forest Schools and to categorise the various theorisations that have developed about them.

Methodology

According to the EPPI Centre, a systematic approach is a process whereby:

- explicit and transparent methods are used;
- a standard set of stages are followed;
- accountable, replicable and updatable methods are employed. (2019b)

We ensure that the knowledge base is represented accurately by demonstrating a clear and consistent set of protocols for the selection and review of the literature. The starting point for developing this approach was a clear set of objectives that emerged from the rationale stated in the introduction; that is, the need to provide an overview of the range of approaches to Forest School research and to identify possible lacunae with a view to future research. Our objectives were thus:

- To identify key methodologies that have been employed in Forest School research
- To identify key themes that can be deduced from Forest School literature
- To identify opportunities for development in methodological approaches
- To identify opportunities for theoretical development

Rules were generated for search criteria that aimed to capture a fair representation of the breadth of work, whilst also establishing appropriate boundaries for what constitutes Forest School activities and what does not. We were specifically interested in up-to-date empirical work. For this reason, we chose to focus only on published journal articles from the last ten years. We also used Boolean

Table 2. Qualitative methodology: Summary of articles and references reviewed.

Article/Reference	Methodology: Qualitative	Keywords/phrases	Sample	Relevance	Findings
Bradley, K. and Male, D. (2017) 'Perspectives of young children with autism spectrum disorders, their parents and educational professionals', *Educational and Child Psychology*, 34(2), pp. 80–93.	Thematic analysis.	Autism. Severe learning difficulties. Forest School. Special schools. Pupil voice.	4 children, their parents and 2 educational professionals participated.	Engaging in challenge and risk-taking. Thematic analysis of data.	Learning outcomes: Benefits of engaging in challenge and risk-taking. Experiencing success (parents/professionals). Opportunity to make friends (children). Children able to articulate or depict a range of subtly differentiated emotions.
Connolly, M. and Haughton, C. (2017) 'The perception, management and performance of risk amongst Forest School educators', *British Journal of Sociology of Education*. Routledge, 38(2), pp. 105–124. doi: 10.1080/01425692.2015.1073098.	Paper investigates how risk perception amongst teachers in Forest Schools, both shapes and is shaped by, their understandings of childhood, pedagogy and their own professional identity. Addresses reasons for fear of tisk.	Risk. Childhood. Forest School. Teacher professionalism. Nature. Outdoor education.	Qualitative methods: focus groups. The study involved a total of 37 participants, all of whom had trained, or were training, to be leaders in FS education (in addition to being teachers).	Concepts of modern childhood and risk. Child-led, outdoor learning.e	Perception and management of risk. 'Good' risk-taking through FS education. Wider cultural understandings of childhood and risk. Teachers more risk-averse approach to FS education than originally conceived within the Scandinavian origins and original philosophy.
Coates, J.K. and Pimlott-Wilson, H. (2019) Learning while playing: Children's Forest School experiences in the UK. *British Educational Research Journal*, 45(1), pp. 21-40.	Thematic & Phenomenological.	Outdoor learning. Play-pedagogy. Alternative education. Peer interaction.	33 children from 5 clusters of primary schools.	Primary school children engaging in Forest School. Formal and informal learning.	Break from routine & being physically active outside positive. Freedom and choice. Social constructivist play pedagogy. Learning through play. Being creative Collaboration and teamwork. Managed risk.
Cumming F & Nash M An Australian perspective of a Forest School: shaping a sense of place to support learning *Journal of Adventure Education and Outdoor* Learning 2015 vol: 15 (4) pp: 296-309.	Case study.	Sense of belonging/ place. Self-esteem. Engagement.	Small-scale research.	Australian case study of a Forest School.	Strategies promote a sense of self, belonging and relational connections, helping to develop dimensions of place, identified as place attachment and place meaning. Implications for future planning.

Elliott, H. Forest School in an inner city? Making the impossible possible? *Education* 3-13, 2017 pp: 722-730.	Views of staff and parents sought via questionnaire.	Inner-city school.	18 respondents.	Opportunities for staff, teachers and children to work together.	84% of parents happy for children to learn outdoors whatever the weather. Parents would like more information and more involvement in the project. The majority of respondents knew little or nothing about Forest Schools. Range of ideas about their purpose and structure.
Haq, N. and Sarah, B. (2014) 'Perceptions about Forest Schools: Encouraging and promoting Archimedes Forest Schools', *Educational Research and Reviews*. Academic Journals, 9(15), pp. 498–503. doi: 10.5897/err2014.1711.	Questionnaire, interview, focus group.	Archimedes Forest Schools. Parents'/children's perceptions	294 adults: 107 females and 187 males. Ages ranged from 25 and below to over 50. 22% in 36–40 age range. 31% had no formal education. Postgrads 19%. Majority of children interviewed between 5–15 years. Focus group children were under 10 yrs old.	Focus on awareness and attitudes.	Children attending Forest Schools had more positive attitudes towards environment. Majority got more upset when someone was seen throwing rubbish on the street compared to those who did not attend Forest Schools (= 0.0164, df 2, $p < 0.05$). Children's interest in reading wildlife or environment-related stories was significantly increased by attending Forest Schools.
Harper, N.J. (2018) Outdoor risky play and healthy child development in the shadow of the 'risk society': A forest and nature school perspective. Child & Youth Services, 38(1): 00-00. https://doi.org/10.1080/0145935X.2017.1412825	Positional piece.	Risk. Society.	Child & Youth Services.	Risk-adverse; healthy child development.	Proposes a reconceptualisation of risk in child development. Advocates reform of policy and practices which prevent children from exploration of their capacity and curiosity through outdoor risky play.
Harris, F. (2017) 'The nature of learning at Forest School: practitioners' perspectives', *Education 3-13*. Taylor & Francis, 45(2), pp. 272–291. doi: 10.1080/03004279.2015.1078833.	investigates Forest School practitioners' perceptions of learning to identify the topics, learning styles and philosophies underpinning its delivery. Theory is developed from analysis and coding of the data.	Forest School. Primary school. Outdoor learning. Negotiated learning. Children and nature. Introduction.	54 respondents from 5 cluster groups. Telephone semi-structured interviews.	Practitioner focus. Primary school context.	Practitioners identified focus of learning as social development, teamwork, relationships, self-knowledge and and learning to take risks. Children engaged with nature and developed an attachment to the woods. Learning styles were kinaesthetic, sensory, and experiential. Forest School leaders saw themselves as facilitators of learning rather than as teachers.
Kemp, N. (2019) 'Views from the staffroom: Forest School in English primary schools', *Journal of Adventure Education and Outdoor Learning*. Routledge, 00(00), pp. 1–12.	Interviews.	Agentic. Activist.	Interviews conducted with teaching staff from seven rural primary schools in South East England (N=7).	Discourses of teaching in Forest Schools.	This paper identifies three prevailing discourses within existing Forest School literature in relation to schools and teachers: as 'critical stakeholders', 'unenlightened' and 'consumers' and 'agentic'. Engagement with Forest School is an act of resistance against the mainstream standards agenda.

(*Continued*)

Table 2. Continued.

Article/Reference	Methodology: Qualitative	Keywords/phrases	Sample	Relevance	Findings
Kraftl, *P* (2015). Alter-Childhoods: Biopolitics and Childhoods in Alternative Education Spaces. *Annals of the Association of American Geographers* vol: 105 (1) pp: 219-237.	Analysis of viewpoints.	Alternative childhood. Biopower. Hybridity. Materialities. Love. Intimacy. Human scale. Constructed childhoods.	59 education spaces critically examined.	Forest Schools construed as manifestation of alternative childhood.	Two key themes identified of materiality and (non)human bodies; intimacy, love, and the human scale with the field of human geography.
Leather, M (2018). A critique of Forest School: Something lost in translation The growth of Forest School in the UK *Journal of Outdoor and Environmental Education* 2018 vol: 21 (1) pp: 1-11.	Positional piece.	Critique. Cultural differences. Under-theorised. Pedagogy. Commodification. Institutionalism.	Theoretical	Only paper that offers critical position on Forest Schools.	1) Forest School as a form of outdoor education is culturally, socially, and historically situated. 2. Pedagogy (i.e. play) of Forest School, is undertheorised in the outdoor education literature. 3. Expansion of Forest School in resulting in rapid institutionalisation and commodification. 4. The need to situate Forest School in well-designed research is crucial. 5. Positive contributions Forest School is making to outdoor and environmental education.
Mackinder, M. (2017) 'Footprints in the woods:"tracking" a nursery child through a Forest School session', *Education 3-13*. Routledge, 45(2), pp. 176–190. doi: 10.1080/03004279.2015.1069368.	Interviews.	Forest School. Leuven Scale. Involvement. Participation. Planning. Introduction.	Observations and comparison of two semi-structured interviews with two adult leaders 'tracking' one child over two one-hour sessions using Leuven Involvement and Participation Scale.	Measuring particpation in Forest School setting.	Indication of a link between adult participation and child involvement, alongside training. Has implications for the impact and development of Forest School pedagogy and reflective practice.
Marioara, I., Moş-Butean, A. and Holonec, L. (2016) *Forest School. A Modern Method in Educational Process*. Available at: http://journals.usamvcluj.ro/index.php/promediu.	Semi-structured questionnaire. Tries to capture the current state of knowledge about the world and its role in the evolution of society and the desire of students to know the beautiful 'sylvan' outdoors.	Sylvan outdoors. Knowledge about world. Outdoor learning. Evoution.	Grade 5–8 pupils (N=106) & teachers (N=15). Secondary School Ion Creangă.	Pupil awareness of natural environment.	Students and teachers want a diversification of the educational process, to arouse interest in knowledge and self-awareness.

McCree, M., Cutting, R. and Sherwin, D. (2018) 'The Hare and the Tortoise go to Forest School: taking the scenic route to academic attainment via emotional wellbeing outdoors', *Early Child Development and Care*. Routledge, 188(7), pp. 980–996. doi: 10.1080/03004430.2018.1446430.	Longitudinal mixed methods study. The study investigates the project's impact on the children in terms of their academic attainment, wellbeing and connection to nature.	Emotional wellbeing. Self- regulation. Attainment. Outdoor play. Outdoor learning. Forest School.	Tracking 11 children (aged 5–7 on entry), defined as disadvantaged in multiple ways, i.e. social, behavioural and economic. Attended weekly Forest School and outdoor learning sessions for 3 years.	Only article to measure impact on attainment.	Children's attendance and academic attainment improved in comparison to their non-participating peers.
McKinney, K. (2021) *Harnessing the Power of Adventure Adventure into the Woods: Pathways to Forest Schools*. Pathways: The Ontario Journal of Outdoor Education, v24 n3 pp. 24-27, Spring 2012.	Experiential.	Forest Schools. Benefits.	Mostly anecdotal.	Example of reliance on anecdotal evidence.	Benefits of Forest School: • Increased self-confidence and self-belief. Freedom, time and space to learn, grow and demonstrate independence. • Children increased awareness of the consequences of their actions on other people, peers and adults & how to work cooperatively. • More sophisticated written and spoken language, prompted by children's sensory experiences at FS. • Participation in exploratory learning and play activities & an ability to focus on specific tasks. • Improved stamina and gross motor skills through free and easy movement and by making things. • Respect for environment, interest in natural surroundings; observational improvements. • Teachers and other adults see children in different settings, which improves their understanding and helps identify learning styles.
Murphy, M. C. (2018) '"Exploring the 'Construction' strand in the Irish Primary School Visual Arts Curriculum through the Forest School approach"' *Journal of Adventure Education and Outdoor Learning*. Routledge, 18(3), pp. 257–274. doi: 10.1080/14729679.2018.1443481.	A qualitative inquiry, supported by an action research methodology.	Forest School. Primary school. Visual arts. Construction. Ireland.	One class (research by teacher). Research documents implementation of Irish Primary School Visual Arts curriculum through Forest School re. the 'Construction' strand.	Primary school and arts. Only paper to focus on art curriculum.	Recommends use of Forest School to implement curriculum.

(*Continued*)

Table 2. Continued.

Article/Reference	Methodology: Qualitative	Keywords/phrases	Sample	Relevance	Findings
Mycock, K. (2019) 'Forest Schools: moving towards an alternative pedagogical response to the Anthropocene?', *Discourse*. Taylor & Francis, 0(0), pp. 1–14. doi: 10.1080/01596306.2019.1670446.	Interviews and observations.	Anthropocene. Children. Forest School. Pedagogy. More-than-human. More-than-social.	51 children, aged four to eleven years, from 2 Forest Schools from 2014- 2015. Walking interviews and participant observations. Cultural geography method of 'things' to follow emerged as ethnography unfolded, in the co-production of space, learning and knowledge.	Only paper dealing with space, discourse agential realism, new materialism.	Some examples of social learning (with bugs, with mud).
O'Brien, L. (2009) 'Learning outdoors: The Forest School approach', *Education 3-13*, 37(1), pp. 45–60. doi: 10.1080/03004270802291798.	Case studies.	Forest School. Learning outdoors. Child development	24 children (3-11 yrs) from 7 schools in Oxfordshire, Shropshire and Worcestershire observed over an eight-month period.	Primary school focus.	Improvements in the children's confidence, motivation, concentration, language, communication and physical skills. Changes took time, highlighting the need for repeated and regular contact with the natural environment, especially for children who did not have access to nature as part of their everyday lives.
Parsons, K.J. & Traunter, J. (2019) Muddy knees and muddy needs: parents' perceptions of outdoor learning.	Qualitative Questionnaire & interviews: 16 Questionnaires 16 interviews.	Effective Learning environment.	Outdoor learning.	Natural learning environment misconceived as leisure spaces. Effectiveness not acknowledged. Effectiveness assumed. Assumption that learning environments are good per se. Children's rights; right to outdoor learning.	The results indicate a significant disconnect in parent and teacher perceptions related to the purpose and opportunities for learning outdoors.

Ridgers, N. D., Knowles, Z. R. and Sayers, J. (2012) 'Encouraging play in the natural environment: A child-focused case study of Forest School', *Children's Geographies*, 10(1), pp. 49–65. doi: 10.1080/14733285.2011.638176.	Focus groups.	Disengagement from natural environment. Positive influence/ natural play/Forest Schools.	17 children from one school (focus groups).	Link between Forest Schools and attitudes towards nature.	Authors found that Forest School had a positive influence on year 2 children's natural play and their knowledge of the natural world around them..
Savery A Cain T Garner J Jones T Kynaston E Mould K Nicholson L Proctor S Pugh R Rickard E Wilson D (2017) Does engagement in Forest School influence perceptions of risk, held by children, their parents, and their school staff? Education 3–13 2017 vol: 45 (5) pp: 519–5	A mixed methods approach involving both qualitative data and quantitative data: individual, structured interviews and questionnaires.	Perceptions of risk. Impact on Risk averse/permissive practitioners. Ambiguous perceptions (parents).	Interviews: 82. Questionnaire: 313.	Risk. Potential for Forest Schools to have a positive impact on negative perceptions of risk.	This study investigated perceptions of risk associated with the outdoors, held by children, their parents and practitioners, and whether accessing Forest School impacts on these perceptions of risk. Practitioners were generally either strongly risk-averse or strongly permissive. Forest School influenced them to be less risk-averse in some respects. Parents held ambiguous perceptions, wanting to keep their children very safe but also to help them develop strong and confident attitudes to risk.
Smith, M. A., Dunhill, A. and Scott, G. W. (2018) 'Fostering children's relationship with nature: exploring the potential of Forest School', *Education 3-13*. Routledge, 46(5), pp. 525–534. doi: 10.1080/03004279.2017.1298644.	Literature review.	Outdoor education. Relationship with nature. Forest School. Learning outdoors.	Overview of literature consistent with this review.	Examines relationship between Forest Schools and nature.	Authors identify a relationship with nature could be demonstrated under 6 themes, - little robust evidence to support this: Increased knowledge about nature. Understanding of the outdoors. Improved relationship with the outdoors. Ownership of local environment. Pride in knowledge of nature/local environment. Impact beyond Forest School.
Tiplady, L. S. E. and Menter, H. (2020) 'Forest School for wellbeing: an environment in which young people can "take what they need"' *Journal of Adventure Education and Outdoor Learning*. Routledge, 00(00), pp. 1–16. doi: 10.1080/14729679.2020.1730206.	Co-production.	Forest School. Emotional wellbeing. Theory of change.	Co-construction not necessarily transferable.	Only research to use theory of change.	4 themes: * Engagement and enjoyment. * Relationships and interactions with others. * Perception of self. * Beyond FS.

(*Continued*)

Table 2. Continued.

Article/Reference	Methodology: Qualitative	Keywords/phrases	Sample	Relevance	Findings
Trapasso E Knowles Z Boddy L Newson L Sayers J Austin C. Children Exploring Gender Differences within Forest Schools as a Physical Activity Intervention. Children (Basel). Oct 2018; 5(10), pp. 138. doi: 10.3390/children5100138	Self-reporting through variety of media.	Physical activity (school day v FS day). Gender. Accelerometer.	N=59. Accelerometry, write/draw/focus groups/self-reporting.	Linking physical health to free schools.	Children had significantly greater levels of light physical activity (PA) on a Forest School day and on a physical education (PE) school day compared to a regular school day.
Waite,S Bølling,M Bentsen,*P* (2016) Comparing apples and pears?: a conceptual framework for understanding forms of outdoor learning through comparison of English Forest Schools and Danish udeskole Environmental Education Research vol: 22 (6) pp: 868–892	Positioning paper	Pedagogical principles. Nature.	Theoretical.	Argues for convergence of practices. Importance of 'naturalistic' pedagogy.	The early years ethos that reflects Forest Schools origins may need revisiting to meet educational needs of different age groups. Alternatively, a rethinking might be required of how its outcomes, as precursors to learning, could be acknowledged at all stages of education.

operators to ensure the articles identified included the specific phrases 'Forest School' and 'Forest Schools'. We used the 'Discovery' search engine, also used by Liverpool John Moores (LJMU) Library Services (available online through the LJMU website). The tool provides comprehensive access to published educational journal articles.

The systematic approach has been criticised, however, for being too reductionist and potentially leading to limited findings (MacLure 2005). Therefore, whilst we aimed to provide general rules to achieve consistency, we also allowed for some flexibility in terms of the inductive-deductive process and theory generation. Specifically, we attempted to fit the middle-range theories generated by the research (Merton 1967) within a wider theoretical framework, predicated on the concept of space (Lefebvre 1979; Massey 2005; Agnew 2011; Nairn, Kraftl, and Skelton 2017).

Finally, we used the Narrative Empirical Synthesis approach (EPPI Centre 2019a) to synthesise mapping into a table of structured summaries. We thus developed an overview of the scope of research methods being employed in the field as well as identifying significant trends. Criteria used for mapping were: research paradigm, sample size and methods. Finally, a thematic approach was utilised to identify emerging concepts and prominent ideas that underpin this empirical work. Keywords from findings were identified and grouped in an inductive-deductive fashion based on groupings of keywords against the overarching theoretical framework (Cohen, Manion, and Morrison 2007).

Findings

The relative paucity of literature that this review yielded is noteworthy. In total, our search found 25 articles on the topic of Forest Schools. We do not believe this represents an appropriate level of scrutiny for an initiative that has had a significant impact in the UK and has international reach. The literature was heavily biased towards qualitative methods, with all papers undertaking primary research adopting this methodology, at least in part. Research also tended to be small-scale.

The empirical work on Forest Schools can be broken down into five loose categories: small-scale phenomenological studies; thematic case studies; theoretical papers; mixed methods approaches and literature reviews. It should be noted that this categorisation is very much the authors' work and, whereas some papers use similar terms (e.g. phenomenology, case study), others have been categorised by the authors based on methodological characteristics.

The phenomenological categories involve low numbers of participants but reveal lived experiences through thick, rich descriptions (Denzin 2011). For example, Bradley and Male's paper (2016) focuses on the experiences of four children with autism who attended a Forest School. Such papers are characterised by the way they attempt to recreate the world from the participants' perspective. To achieve this, they emphasise contextualised observations and open-ended interviews (e.g. Coates and Pimlott-Wilson 2019).

Similarly, literature categorised as case studies focused on participant experience but took a more externalised view i.e. they did not attempt to recreate experiences with the same level of detail. Rather, these studies tended to have larger numbers of participants and focused more on thematic analysis or a single theme. For example, Marioara et al's paper examines the effect Forest Schools can have on pupil attitudes towards the environment (Marioara, Moş-Butean, and Holonec 2016). Data was gleaned from questionnaires completed by 106 pupils and 15 teachers. As such, detail was sacrificed in favour of more generalisable insights around a single theme.

Mixed methods papers tended to generate larger samples and contained some quantitative analysis. It should be noted that these samples were still relatively small. Only three studies had more than 100 participants; one had almost 300 questionnaire responses (Haq and Sarah 2014; Turtle, Convery, and Convery 2015; Marioara, Moş-Butean, and Holonec 2016). As with the previous case study categorisation, each of these papers focuses on the potential impact Forest Schools have on student attitudes towards the environment, with each finding a positive correlation between Forest School attendance and positive environmental attitudes. All provide some qualitative

examples of responses but lack the level of detail provided by the smaller scale qualitative pieces. It is worth noting that changing environmental attitudes is the only theme covered in these larger-scale data sets. Although relevant, it represents a narrow focus, and extending the scope of this type of research is worthy of consideration.

Finally, there are a number of works that do not use self-generated research data. One of these is a literature review, which provides a narrower focus than the current paper (the review samples 11 papers about Forest Schools). There are also four pieces that we collectively describe as theoretical and take different forms. Whilst some of the papers provide theoretical arguments about aspects of Forest Schools, others offer a critique of the approach (e.g. Leather 2018). One paper can be described as anecdotal, relying heavily on the personal experiences of the author (Mckinney 2017).

Conceptual map

A number of themes were identified from a range of academic fields. Whilst all of these relate to outdoor learning, they represent three distinct contexts: early years, special education needs and disability, and formal education. In addition, a set of more abstract themes emerged from work associated with space. These themes are mapped in Fig 1 below.

The contexts and themes identified within the literature on Forest Schools are historical. For example, early years education has developed outdoor learning as a focus for practice, particularly concerning the importance of outdoor play to early child development (Davies 2018). Similarly, a body of historical work has concentrated on the importance of outdoor learning for children with special educational needs and disabilities because of the opportunities such contexts provide for children to experience risk (Perske 1972). This interaction between context and themes is important, because such relationships are not necessarily transferable. For example, what is desirable in early years settings might not be desirable in other educational settings. It is notable that broader theorisations of outdoor learning, specifically those associated with space, are more rarely utilised in the literature, with only three articles referring to these concepts in any sustained fashion (see Cumming and Nash 2015; Harris 2018; Mycock 2019). We posit that this is an area that requires more specific

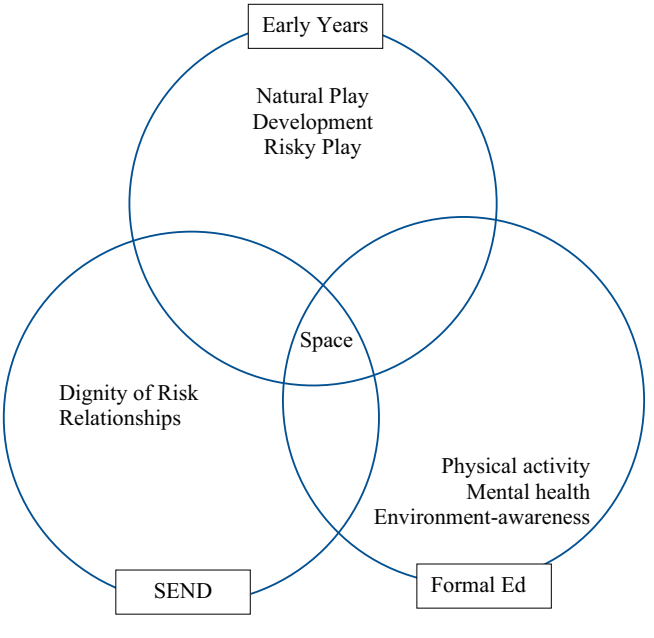


Figure 1. Garden & Downes Forest School Conceptual Space.

attention for those writing about Forest Schools because more abstract theorisations, such as spatialisation, provide opportunities for a broader, more distributed discussion that is not constrained by historical discourses associated with given contexts (Foucault 1972). The focus on certain educational contexts is particularly significant because accepted practices within a given setting affect what is perceived as possible and therefore fixes the scope of the theoretical lens through which activities are interpreted. For example, the strong focus on play in early years research is diminished in other school settings where play may be less acceptable as part of general pedagogical practice.

Risk

The relationship between Forest School environments and risk is a significant theme in the corpus. The papers that focus on the topic are spread out across the identified educational contexts. In total, six papers include the keyword 'risk'. One example focuses on the potential for Forest Schools to enhance risk-taking amongst young children with autism (Bradley and Male 2016). A second focuses on ways in which risk was managed in two mainstream primary school groups (Coates and Pimlott-Wilson 2019). A third paper examines perceptions of risk amongst parents and practitioners in an early years setting (Savery 2017). In addition, two papers focus on the Forest School setting itself. One of these papers is a positional piece, arguing for the need to provide children with more opportunities for risky play in a society that has become predominantly risk-averse (Harper 2017). The final two papers focused on the roles of Forest School practitioners and the relationship between perception of risk and practice (Connolly and Haughton 2017; Harris 2018). These papers did not specify a single group or context.

It is difficult to draw firm conclusions from the small number of articles that cover such a wide range of contexts. However, some tentative judgements can be made about these works within the wider historical context of outdoor learning. With reference to Bradley and Male's paper (2016), discourses of dignity of risk have been applied to disability and the outdoor learning context since Perske first developed the concept (1972). More recently, the term has been synonymous with contexts that involve children defined as vulnerable. For example, the concept is evident in guidance encouraging outdoor activities in residential child-care ('Go Outdoors!' 2010). The document generates an equivalence between children 'who are among the most vulnerable in society' (2010, 10) and a lack of 'access to some of the opportunities which other young people take for granted' (2010, 10). In doing so, children from vulnerable backgrounds are denied access to challenging experiences that may help them to overcome 'some of the adversities they have faced in their life' (2010, 10). 'Dignity of risk', therefore, can be seen as a term that tends to be located within contexts associated with vulnerable children, such as those with special educational needs, disability and those that suffer severe deprivation.

The concept of risk is applied in different ways within the contexts of early years and formal education. The work of Savery (2017), which emphasises the importance of risk-taking activity in Forest Schools by younger children, can be situated within the substantial history of linking child development to outdoor play in early years settings (McMillan 2019). As such, risk is presented as an inevitable outcome of outdoor play and is, therefore, a necessary part of child development. Conversely, research conducted by Coates and Pimlott-Wilson (2019) alludes to the complexity involved in talking about risk within a primary school context. Here, the concepts of 'dignity of risk' and 'risky play' cannot be applied straightforwardly. Primary schools have not historically placed such a strong emphasis on play and thus the link between classroom-based activity and risk is a more complex one.

In this sense, the more theoretical lens offered by Harper's positional paper on Forest Schools and risk is significant (2017). In this work, the concept of risk is presented as both a benefit of Forest Schools and as a barrier to them. In the first instance, risk is presented as a deficit: it is something that has been reduced for young people through lower levels of exposure to outdoor environments

compared to previous generations. Harper contrasts risky activity with a 'risk society' (2017, 318). This term refers to the historically specific conditions that have led to a society 'accustomed to ever-present and growing perceptions of risk' (2017, 319). Harper posits that this reduction in tolerance to risk is undesirable and leads to negative social outcomes. Reasons for the deficit tend to focus on a more risk-averse culture and the increase in opportunities for indoor, technology-based activities (Elliott 2015). Harper presents a society that is over-aware of risk and in which perception of risk is skewed: what is construed as risk is of minimal danger in relation to other aspects of everyday life. This milieu, Harper argues, is detrimental to healthy child development (2017). In effect, Harper addresses the issue of risk in Forest Schools in a more direct manner than more contextualised research papers on the topic. We argue that, whilst such a theoretical approach provides the freedom to provide a clear rationale for the need for risk in Forest Schools, it provides little traction for change, as practitioners attempt to accommodate various demands on their roles. Indeed, it is more likely that such papers are aimed at policymakers rather than practitioners.

We posit that, whilst each of these approaches to theorising Forest Schools can be to some extent successful, each limits further developing the Forest School concept. If such initiatives are going to create values beyond the contexts in which they currently operate, an approach is required that moves beyond connecting with pre-existing discourses in given contexts. Whilst this approach has had some traction within SEND and early years settings, the proposed value of Forest Schools is fragmented and limited. As such, it is not clear what Forest Schools do in terms of beneficial risk. Furthermore, when the discourses of 'dignity of risk' and 'risky play' are deleted from specific contexts, their value is also removed concomitantly and the opportunities to transfer Forest School activities as risk-enhancing become limited. Broader theoretical approaches have the potential to expand our understanding, but rarely have an impact at a practitioner level. For this reason, we propose that a hybridised theoretical model is preferable. This approach will be expanded in the conclusion of this paper.

Development through nature

Reduced contact with nature was a significant theme identified in the literature. This is characterised by conceptualisations that emphasise a contemporary disconnect between society and nature and is often contrasted with a previous golden age of outdoor activity. For example, Smith, Dunhill, and Scott (2018) conducted a review of literature that focused on the positive effects Forest Schools had on developing children's relationship with nature. The paper sets up a dichotomy between learning inside and learning outside the classroom. Although it is not explicitly stated, a deficit model underpins the paper's analysis. The work developed four themes on the issue: increased knowledge of nature, improved relationship with the outdoors, pride in knowledge of nature and ownership of the local environment. There is an assumption that these interactions with 'nature' are inherently good. This assumption sits within a body of work related to outdoor learning that emphasises a contemporary disconnect between society and nature and, as noted earlier, is often contrasted with a previous golden age of outdoor activity (Meier and Sisk-Hilton 2013).

Similarly, Turtle, Convery, and Convery (2015) investigated the development of environmental attitudes following participation in Forest Schools, specifically addressing the idea that, by taking part in long-term Forest School activities, children would develop pro-environmental attitudes. Data was taken from questionnaires sent out to primary schools, some of which had Forest Schools and some of which did not (n=195). The paper concluded that there was a significant difference in understanding environmental issues by pupils who had access to Forest Schools. Again, this work links with wider discourses within the field of outdoor learning that emphasise the importance of sustainability (Humberstone, Prince, and Henderson 2015). This approach has potential crossover with formal curriculum arrangements and therefore has potential traction within the primary school context. However, the paper does not allude to reasons why Forest School spaces might be more effective than indoor spaces when developing an understanding of environmental issues. As such,

it is difficult to establish whether it is the Forest School per se that is effective or whether such issues are addressed more regularly in Forest School environments.

Child development, constructivism, play and sharing

A significant number of research papers on Forest Schools make overt links with theories of cognitive development. Much of this work focuses on constructivist principles of learning and specifically references the historical works of Piaget and Vygotsky. For example, Coates and Pimlott-Wilson (2019) make links to the purported benefits of play in outdoor environments. However, there is a consistent disconnect between constructivist theoretical models and their application to empirical data across the Forest Schools literature. For example, Dillon (2005) identify potential cognitive benefits of outdoor learning theoretically but frame their findings in terms of curriculum knowledge and understandings of natural environments as well as self-esteem. In this instance, the work highlights the significance of the quality of outdoor spaces in the learning process. Again, this is linked to constructivist principles, whereby the interaction between children and outdoor environments leads to new understandings (Kahn and Press 1999). However, such claims to beneficial outcomes also tend to become conflated with curriculum-based outcomes or with outcomes relating to understandings of nature. This tends to make causal relationships ambiguous i.e. it is difficult to ascertain how outdoor play directly causes improved curriculum-based outcomes.

Given this disconnect between theory and application, we recommend a more experiential approach to theorisations of Forest Schools and outdoor learning in general. That is, rather than seeing outdoor spaces as sites where children 'develop', we see them as spaces where children 'experience'. By this, we mean that breadth of experience is desirable and easier to identify within complex environments such as outdoor spaces. We argue that, while not impossible, it is very difficult to set up valid research in outdoor environments that would reveal any form of cognitive development, whereas experience can be observed directly through the various interactions (socially and otherwise) that occur in outdoor spaces.

Increased self-esteem and wellbeing

There is a strong focus on the positive effects Forest Schools have on wellbeing within the domain of compulsory education, particularly in primary schools. For example, Cumming and Nash (2015) use a case study methodology to describe the positive effects a 'bush school' had on children in a primary school setting, through the development of a connection with place. The findings of this study are organised thematically around a theoretical model that proposes that a connection with the natural environment is essential to the formation of a sense of community and, consequently, the development of a sense of belonging (Cumming and Nash 2015, 302).

Similarly, McCree, Cutting and Sherwin's longitudinal study focused on the impact of Forest Schools on the wellbeing of 11 children who were 'struggling to thrive' (2018, 982). Although the paper is not specific about what this phrase means, they state that the participants had a variety of identified issues including economic, emotional and special educational needs (2018, 982). Using a mixed methodology, the study establishes that the Forest School project a) strengthened the participants' connection with nature; and b) that this improved connection correlated with increases in academic attainment that were above expected levels. The paper also offers insights into the possible connection between these findings through the analysis of qualitative data. Here, the researchers identified that a greater connection with nature led to 'self-regulation and resilience through emotional space' (2018, 986), which potentially led to gains in attainment.

Research by Tiplady and Menter (2020) provides a stronger focus on the link between Forest Schools and children unable to attend school due to anxiety or other emotional issues (2020, 2). It crosses over into the realm of special educational needs while maintaining a narrower focus on emotional wellbeing that is commensurate with the other studies that deal with this theme. It is

also noteworthy that the study covers two cases, one with primary aged and one with secondary aged children. This demonstrates a broader range of participants but also one that overlaps with the previous studies identified in this paper. As with the study by McCree, Cutting and Sherwin, the study links wellbeing with potential learning gains, in this case focusing on participants' 'ready to learn' skills (Tiplady and Menter 2020, 4).

Relationships

Some literature, particularly those that examined interactions between children with Autistic Spectrum Disorder (ASD), focused on the opportunities Forest Schools provided for developing new friendships. As such, this aspect of Forest Schools is presented as something of a deficit model: Forest Schools provide opportunities for interactions that do not (or cannot) occur in classroom settings. For example, Bradley and Male (2016) found that children with ASD valued the new friendships they had formed when engaging with Forest Schools. This was also observed as important by education professionals working with these children due to the complex social and emotional needs involved.

Similarly, Coates and Pimlott-Wilson (2019) identified that interactions with peers were the most frequently discussed learning opportunities for their participants, particularly for an older group of children. In this study, Forest Schools provided opportunities for collaborative working and team-building skills in ways that did not seem possible in a classroom setting. Through child interviews, the classroom setting was presented as an individual endeavour and peer collaboration was limited.

For ease of comparison and to highlight content, our literature review is presented below in tabular form, under the headings: Article, Method, Keywords, Credibility/Trustworthiness, Relevance and Findings.

Conclusion

This review has highlighted the context-specific nature of current research on Forest Schools. The process of generating theories from a given context is essential to any research (Burawoy 2009). Whilst we see this as having value within the identified domains, we feel that the oeuvre tends to be self-limiting. We argue that wider theorisation is needed to ensure insights can transcend a specific domain (Burawoy 2009). Without these more generalisable theories, the knowledge produced tends to be applicable mainly within the identified domains. In the case of Forest Schools, we argue that this is a problem; it means that such activities will remain on the periphery of the core activities of our education system. For example, the literature has established positive links between Forest Schools and wellbeing, and some studies have extended this to link Forest Schools with wellbeing and attainment. Whilst this is valid, it generates a milieu whereby Forest School activities are required to fit within prerequisite classroom-based discourses. We argue that a more effective approach would be to create a greater balance between formal learning discourses (and associated instrumentation) and discourses associated with wellbeing.

We argue that a focus on space in future research would generate new complexities around the broader concepts that allow us to explore hybrid spaces constituted by both classrooms and Forest Schools. By this, we mean an examination of the various interactions between children, adults and artefacts that come together to generate existing and new spaces. By comparing, for example, classrooms with Forest Schools as constructed places, we propose that it is possible to identify continuity and distinctiveness. Such an approach would open up the possibility of Forest School interactions existing within classroom spaces as well as vice versa. We argue that the essential quality of Forest Schools is their relatively ambiguous nature: they provide opportunities for children to negotiate their interactions using processes garnered from a range of experiences, including those encountered in formal education. As such, they can be brought back into formal learning

environments in ways that benefit those environments and thus become fundamental, rather than peripheral to shifts in formal practices.

Disclosure statement

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

ORCID

Angela Garden http://orcid.org/0000-0001-8055-6962

Bibliography

Agnew, J. 2011. "Space and Place." In *Handbook of Geographical Knowledge*, edited by J. Agnew, and D. Livingstone, Chap. 23, 316–330. London: Sage.

Bradley, K., and D. Male. 2016. ""Forest School is Muddy and I Like it": Perspectives of Young Children with Autism Spectrum Disorders, Their Parents and Educational Professionals." 34 (2): 80–96.

Burawoy, M. 2009. *The Extended Case Method: Four Countries, Four Decades, Four Great Transformations, and One Theoretical Tradition [Paperback]*. London: University of California Press.

Coates, J. K., and H. Pimlott-Wilson. 2019. "Learning While Playing: Children's Forest School Experiences in the UK." *British Educational Research Journal* 45 (1): 21–40. doi:10.1002/berj.3491.

Cohen, L., L. Manion, and K. Morrison. 2007. Research methods in education. [electronic resource].

Connolly, M., and C. Haughton. 2017. "The Perception, Management and Performance of Risk Amongst Forest School Educators." *British Journal of Sociology of Education. Routledge* 38 (2): 105–124. doi:10.1080/01425692.2015.1073098.

Cree, J., and M. McCree. 2012. A Brief History of the Roots of Forest School in the UK. pp. 32–34. www.outdoor-learning.org.

Cumming, F., and M. Nash. 2015. "An Australian Perspective of a Forest School: Shaping a Sense of Place to Support Learning." *Journal of Adventure Education and Outdoor Learning* 15 (4): 296–309. doi:10.1080/14729679.2015.1010071.

Davies, R., et al. 2018. "'Assessing Learning in the Early Years ' Outdoor Classroom : Examining Challenges in Practice Examining Challenges in Practice'." *Taylor & Francis* 4279. doi:10.1080/03004279.2016.1194448.

Denzin, N. K. L. Y. S. 2011. The Sage handbook of qualitative research. doi:10.1177/1354067(07080505.

Dillon, J., et al. 2005. 'Engaging and Learning with the Outdoors – The Final Report of the Outdoor Classroom in a Rural Context Action Research Project', (April), p. 90.

Elliott, H. 2015. "Forest School in an Inner City? Making the Impossible Possible." *Education 3-13* 43 (6): 722–730. doi:10.1080/03004279.2013.872159.

EPPI Centre. 2019a. Publications on systematic review / evidence synthesis methodology. Accessed 19 August 2020. https://eppi.ioe.ac.uk/cms/Publications/Methodsreferences/tabid/1919/Default.aspx.

EPPI Centre. 2019b. What is a Systematic Review? Accessed: 13 August 2020. http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=67.

Foucault, M. 1972. *The Archaeology of Knowledge; And, The Discourse on Language*. Leek: Colophon books.

'Go Outdoors!'. 2010. pp. 1–18. papers3://publication/uuid/163F231B-61B6-438A-B2F1-DB36BB3A9347.

Haq, N., and B. Sarah. 2014. "Perceptions About Forest Schools: Encouraging and Promoting Archimedes Forest Schools." *Educational Research and Reviews. Academic Journals* 9 (15): 498–503. doi:10.5897/err2014.1711.

Harper, N. J. 2017. "Outdoor Risky Play and Healthy Child Development in the Shadow of the "Risk Society": A Forest and Nature School Perspective." *Child and Youth Services* 38 (4): 318–334. doi:10.1080/0145935X.2017.1412825.

Harris, F. 2018. "Outdoor Learning Spaces: The Case of Forest School." *Area* 50 (2): 222–231. doi:10.1111/area.12360.

Humberstone, B., H. Prince, and K. A. Henderson. 2015. *Routledge International Handbook of Outdoor Studies*. Oxford: Taylor & Francis (Routledge Advances in Outdoor Studies). https://books.google.co.uk/books?id=oJj4CgAAQBAJ.

Kahn, P. H., and M. I. T. Press. 1999. *The Human Relationship with Nature: Development and Culture*. Cambridge, MA: MIT Press. https://books.google.co.uk/books?id=PwlCc4Qzo9EC.

Leather, M. 2018. "A Critique of Forest School: Something Lost in Translation The Growth of Forest School in the UK." *Journal of Outdoor and Environmental Education* 21 (1): 1–11.

Lefebvre, H. 1979. "Space: Social Product and use Value." In *Critical Sociology: European Perspectives*, edited by J. Freiberg, 185–195. New York: Irvington (Irvington Critical Sociology Series). https://books.google.co.uk/books?id=envpAAAAIAAJ.

MacLure, M. 2005. ""Clarity Bordering on Stupidity": Where's the Quality in Systematic Review?." *Journal of Education Policy - J EDUC POLICY* 20: 393–416. doi:10.1080/02680930500131801.

Marioara, I., A. Moş-Butean, and L. Holonec. 2016. Forest School. A Modern Method in Educational Process. http://journals.usamvcluj.ro/index.php/promediu.
Massey, D. B. 2005. *For Space*. London: SAGE.
McCree, M., R. Cutting, and D. Sherwin. 2018. "The Hare and the Tortoise go to Forest School: Taking the Scenic Route to Academic Attainment via Emotional Wellbeing Outdoors." *Early Child Development and Care. Taylor & Francis* 188 (7): 980–996. doi:10.1080/03004430.2018.1446430.
Mckinney, K. 2017. Adventure Into the Woods: Pathways to Forest Schools. Harnessing the Power of Adventure. *Pathways* 24–27.
McMillan, M. 2019. *The Nursery School*. Wyoming: Creative Media Partners, LLC.
Meier, D. R., and S. Sisk-Hilton. 2013. *Nature Education with Young Children: Integrating Inquiry and Practice*. Oxford: Taylor & Francis. https://books.google.co.uk/books?id=jEE8m-wYiE4C.
Merton, R. K. 1967. On theoretical sociology: five essays, old and new. Free Press (Free Press paperback). https://books.google.co.uk/books?id=woFqAAAAMAAJ.
Mycock, K. 2019. "Forest Schools: Moving Towards an Alternative Pedagogical Response to the Anthropocene?" *Discourse. Taylor & Francis* 0 (0): 1–14. doi:10.1080/01596306.2019.1670446.
Nairn, K., P. Kraftl, and T. Skelton. 2017. *Space, Landscape and Environment*. New York: Springer Singapore (Space, Landscape and Environment).
Perske, R. 1972. "Dignity of Risk and the Mentally Retarded." *Mental Retardation. US: American Assn on Mental Retardation* 10 (1): 24–27.
Savery, A., et al. 2017. "Does Engagement in Forest School Influence Perceptions of Risk, Held by Children, Their Parents, and Their School Staff?" *Education 3-13* 45 (5): 519–531. doi:10.1080/03004279.2016.1140799.
Smith, M. A., A. Dunhill, and G. W. Scott. 2018. "Fostering Children's Relationship with Nature: Exploring the Potential of Forest School." *Education 3-13* 46 (5): 525–534. doi:10.1080/03004279.2017.1298644.
Tiplady, L. S. E., and H. Menter. 2020. "Forest School for Wellbeing: an Environment in Which Young People Can "Take What They Need"." *Journal of Adventure Education and Outdoor Learning. Routledge* 00 (00): 1–16. doi:10.1080/14729679.2020.1730206.
Turtle, C., I. Convery, and K. Convery. 2015. "Forest Schools and Environmental Attitudes: A Case Study of Children Aged 8-11 Years." *Cogent Education. Cogent* 2 (1): 1–14. doi:10.1080/2331186X.2015.1100103.