

# Strategic leadership for sustainable innovation in primary education: a case study of forest school integration

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## Abstract

**Purpose** – This study explores how a primary school in southern England strategically integrated Forest School and smallholding principles into its core educational model. It examines leadership practices, stakeholder engagement, and planning processes underpinning the transformation, offering insights into sustainable innovation in primary education.

**Design/methodology/approach** – A single-site qualitative case study was conducted. Drawing on strategic management and leadership frameworks—including transformational leadership, Hoshin Planning, the I.A.M model, and Ansoff’s Matrix—data were triangulated across strategic documents, stakeholder surveys ( $n = 112$ ), and semi-structured staff interviews ( $n = 8$ ). Thematic analysis identified key patterns.

**Findings** – Integration was facilitated by distributed leadership, strategic value alignment, and stakeholder co-production. Educational outcomes included enhanced pupil engagement, behavioural regulation, and strengthened community partnerships. Challenges such as financial constraints and cultural resistance were addressed through phased planning and responsive leadership.

**Research limitations/implications** – This is a single-site study in a specific socio-economic context. While not generalisable, findings offer transferable insights for leaders in similar settings.

**Practical implications** – The study provides guidance for embedding sustainability and innovation via participatory leadership and strategic planning tools. It highlights the value of aligning pedagogy with institutional strategy and stakeholder voice, even in resource-limited environments.

**Originality/value** – This paper contributes to educational leadership literature by offering a theoretically grounded, practice-led account of school transformation. It shows how structured planning and leadership frameworks support meaningful, sustainable innovation at the primary level.

**Keywords** Forest school, Educational leadership, Sustainability, School transformation, Primary education, Strategic planning

**Paper type** Case report

## Introduction

In recent years, primary education in the UK has experienced increasing pressure to address not only academic outcomes but also the holistic development of pupils (Ciucă and Zăvoianu, 2024; Barrett *et al.*, 2016). Ciucă and Zăvoianu (2024), for example, highlight the importance of fostering resilience and personal growth as integral to preparing pupils for complex social realities, while Barrett *et al.* (2016) explore how physical classroom environments shape holistic learning outcomes across subject areas. Simultaneously, broader social and policy discourses have foregrounded pupil wellbeing, ecological awareness, and experiential learning. Ofsted’s current inspection framework places personal development alongside academic performance, reflecting this broader educational remit. Dunlop and Rushton (2022) critique England’s climate education strategy as superficial, arguing that more authentic and embedded approaches—such as Forest School—are required to meaningfully engage children with sustainability. Similarly, Bradshaw *et al.* (2021) propose that comprehensive approaches



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to school climate, including outdoor and socio-emotional learning, are necessary to foster safe, inclusive, and effective learning environments.

Forest School, an educational approach grounded in sustained, child-led engagement with nature, has emerged as one such response to these imperatives. Originally developed in Scandinavia, Forest School is gaining traction in the UK for its capacity to support resilience, creativity, emotional regulation, and physical health. Coates and Pimlott-Wilson (2018) emphasise the cognitive and social value of nature-based play, arguing that children's engagement in Forest School settings supports learning through imagination, collaboration, and physical activity. Harris (2021) adds that Forest School can foster a strong sense of place and environmental responsibility, helping children form meaningful, lasting connections with nature. Sella *et al.* (2023), through a systematic review of international literature, provide further evidence of psychological benefits for preschool-aged children, including enhanced emotional stability and peer relationships. Collectively, this body of research underscores the transformative potential of Forest School as a pedagogical and ethical response to the evolving demands placed on primary education.

Simultaneously, schools face increasing financial and operational constraints, with limited budgets, staffing pressures, and expectations to innovate (Crompton *et al.*, 2019; Madzinga *et al.*, 2024). Many school leaders are therefore exploring initiatives that combine educational enrichment with long-term sustainability—both pedagogically and economically. One such response has been the development of Forest Schools that also function as smallholdings, producing food, engaging the wider community, and generating supplementary income (Harris, 2021).

This article presents a practice-led case study from a state primary school in southern England that has integrated a Forest School and smallholding into its core educational offer. The leadership team embarked on this project not only to enhance the curriculum but to embed sustainability into the school's ethos, operations, and long-term planning. The initiative draws on strategic management tools—such as Hoshin Planning and Ansoff's Matrix—and leadership frameworks—including transformational leadership and the I.AM (Identity, Aspiration, Method) model. These tools facilitated a structured, participatory change process that aligned stakeholder values, teaching practice, and organisational objectives.

The paper situates this case within the broader literature on educational leadership, sustainability education, and change management. By detailing the conceptual framing, implementation process, challenges, and outcomes, it contributes to the academic understanding of how schools can lead meaningful transformation grounded in environmental and social responsibility. Importantly, it offers practical insights for headteachers, governors, and educational strategists looking to undertake similar initiatives.

This study makes a distinctive contribution by explicitly linking Forest School pedagogy with strategic management frameworks. While previous research has emphasised practice-based accounts of outdoor learning in the UK, relatively little attention has been paid to how such approaches can be systemically embedded using tools such as Hoshin planning, Ansoff's Matrix, and the I.AM framework. By theorising the interplay between sustainability-oriented pedagogy and strategic leadership models, this case extends debates in educational management and highlights an underexplored avenue for innovation at the intersection of education for sustainable development (ESD) and school leadership.

## Literature review

### *Forest school pedagogy and primary education*

The Forest School model has its origins in early childhood education, rooted in Scandinavian pedagogical traditions that emphasise nature-based, child-led exploration. Early research has focused on its impact in the formative years, with Coates and Pimlott-Wilson (2018) offering one of the most detailed accounts of how Forest School supports children's social and cognitive development. In their UK-based study, they found that children's learning was enhanced by the freedom to engage in imaginative and physical

play in natural settings, often leading to increased collaboration, communication, and problem-solving. This reinforces Forest School's capacity to support foundational skills that underpin later academic success.

Building on this foundation, there has been a noticeable shift towards integrating Forest School principles into primary and even secondary education. [Whincup et al. \(2021\)](#) explore this transition in detail, identifying both the pedagogical potential and the challenges it brings. Their research uncovers tensions between Forest School philosophy and the structured expectations of the UK primary curriculum. Teachers who double as Forest School leaders report difficulty balancing curriculum delivery with the open-ended, child-led ethos of Forest School. Despite these tensions, the study affirms that Forest School fosters deeper engagement, improved behaviour, and enhanced emotional resilience—qualities increasingly valued within the modern educational landscape.

[Knight \(2013\)](#) positions Forest School not merely as a methodology but as a philosophy of education, one that redefines the teacher's role from instructor to facilitator and positions the learner as an active agent in their environment. Her work emphasises that long-term, repeated outdoor experiences offer benefits far beyond those of occasional field trips. Children gain not only environmental awareness but also persistence, self-confidence, and the ability to assess and manage risk—skills that are increasingly relevant in a world marked by uncertainty and change.

Together, these studies provide a strong evidence base for expanding Forest School beyond early years provision. They collectively argue that outdoor, experiential learning supports not just academic attainment but also the broader developmental goals of education: emotional regulation, social competence, and environmental stewardship.

Studies have shown that Forest School participation improves confidence, self-esteem, and interpersonal skills ([Maynard et al., 2013](#)). [Waite \(2011\)](#) further argues that outdoor learning provides meaningful contexts for curriculum subjects, particularly in science, geography, and literacy, fostering intrinsic motivation and deeper understanding. These benefits are amplified when the approach is embedded in the school's long-term vision rather than treated as a one-off or extra-curricular offering.

However, integrating Forest School into mainstream education is not without challenges. Barriers include resistance from staff wedded to traditional classroom-based teaching, concerns about health and safety, and a lack of time or resources ([Harris, 2021](#)). There is also a risk that Forest School is seen as a 'bolt-on' rather than a catalyst for systemic change. To overcome these obstacles, effective leadership and strategic alignment are essential.

### *Educational leadership and transformational change*

This is where educational leadership theory becomes particularly relevant. Transformational leadership, in particular, has been widely recognised for its effectiveness in guiding schools through complex change. [Leithwood and Sun \(2012\)](#) identify four core components of transformational leadership—setting direction, developing people, redesigning the organisation, and managing the instructional programme—all of which are essential when reimagining educational provision. Transformational leaders articulate a compelling vision, inspire colleagues, and foster a culture of innovation and trust. They are adept at navigating resistance, building coalitions, and sustaining morale during periods of uncertainty.

[Fahyed et al. \(2024\)](#) further emphasise that transformational leadership acts as a catalyst for educational innovation, enabling schools to adapt more readily to shifting pedagogical and societal expectations. Their study highlights the role of such leadership in fostering environments where new ideas, such as nature-based learning, are not only welcomed but actively developed into strategic practices. Similarly, [Chkheidze \(2025\)](#) argues that transformational leaders are uniquely positioned to lead change management efforts in educational organisations, particularly where shifts in values, identity, and operational culture are required.

This leadership approach is especially important when initiatives like Forest School necessitate significant transitions in both organisational ethos and pedagogical practice.

Establishing an outdoor learning culture demands more than logistical adjustments—it requires a redefinition of teacher roles, a reallocation of resources, and a willingness to experiment with less conventional approaches to learning. Transformational leadership provides the vision, coherence, and emotional intelligence necessary to shepherd such change.

Evidence from outdoor education literature supports this view. [Ewert and Overholt \(2017\)](#) found that leadership capacity can be significantly enhanced through immersive outdoor experiences, suggesting that Forest School models not only develop leadership in pupils but require it in educators. [Yıldız \(2021\)](#) reinforces this by exploring how outdoor education leaders engage in experiential learning themselves, adapting and refining their practice through reflection and feedback. This continuous learning process is essential for sustaining pedagogical innovation. Similarly, [Vigane and Dyrstad \(2022\)](#) demonstrate that feedback-rich outdoor learning environments foster leadership development by challenging participants to think critically, take initiative, and adapt to dynamic situations—skills equally vital for teachers and school leaders implementing Forest School programmes.

Together, these studies affirm that leadership in the context of Forest School is both a prerequisite and a developmental outcome. It is not only about directing change, but about modelling and facilitating the kind of adaptive, values-driven learning that the Forest School philosophy seeks to instil.

#### *Strategic planning tools in schools*

Leadership must also be supported by tools that facilitate coherent strategy and implementation. Hoshin Planning, for example, offers a method for aligning long-term vision with operational goals through cascading objectives and measurable indicators ([Balzer and Sinha, 2023](#)). Ansoff's Matrix helps leaders consider growth strategies, such as diversification or market development, when exploring sustainability options for school funding. The I.A.M framework ([Mohammed, 2013](#)) provides a structure for aligning identity (values), aspirations (vision), and methodology (action), which is particularly valuable when a school is undergoing transformation.

#### *Sustainability and whole institution approaches*

A further important strand of literature relates to sustainability in education. [Sterling \(2014\)](#) advocates for a 'whole systems' approach to ESD, where environmental values are embedded not only in curriculum content but also in school culture, leadership, governance, and community partnerships. This perspective pushes schools to move beyond superficial or tokenistic green initiatives and towards deep, systemic change that reflects ecological thinking in all aspects of institutional life.

This aligns with the growing literature on Whole Institution Approaches (WIAs), which offer practical frameworks for embedding sustainability holistically across educational settings. [Holst \(2022\)](#), in a systematic review of WIAs in education, underscores their capacity to bring coherence to sustainability efforts by aligning vision, practice, and pedagogy. Further empirical evidence by [Holst et al. \(2024\)](#) shows that when WIAs are implemented with measurable strategies and educator empowerment, they are particularly effective in fostering meaningful learner engagement and sustained institutional change.

Similarly, [Mogren et al. \(2019\)](#) demonstrate that whole school approaches not only support the goals of ESD but also drive school improvement more broadly. Their model shows that schools integrating sustainability into everyday practices—from classroom learning to leadership decision-making—tend to exhibit greater organisational cohesion, stronger stakeholder commitment, and improved student outcomes. These findings reinforce the view that sustainability must be a lived value within school systems, not simply an instructional theme.

While WIAs offer coherence and alignment, critics warn of the risks of superficial or tokenistic adoption. [Sterling \(2014\)](#) and [Evans \(2019\)](#) caution that institutionalisation can sometimes prioritise compliance and symbolic gestures rather than deep cultural change.

Jickling and Wals (2008) similarly argue that the mainstreaming of ESD risks diluting its critical and transformative edge if not grounded in authentic pedagogical practice. These critiques underline the importance of maintaining reflexivity, ensuring that sustainability initiatives remain values-led and participatory rather than bureaucratic exercises.

Additional scholarship reinforces these concerns. Tilbury (2011) argues that while ESD has been widely adopted in international policy frameworks, the speed of its institutionalisation often leads to performative practices that meet accountability requirements without transforming pedagogy. Barth *et al.* (2015) similarly caution that the proliferation of sustainability indicators and audits can narrow educational focus to measurable outputs, diverting attention from deeper cultural and curricular change. In practice, this means that schools may showcase environmental projects or tokenistic curriculum units while leaving leadership structures and teaching cultures largely untouched.

In the context of the present study, these critiques are particularly salient. The case school sought to avoid the pitfalls of superficial adoption by embedding sustainability through leadership development, whole-staff engagement, and strategic planning tools that linked values to measurable action. By aligning Forest School pedagogy with Hoshin Planning, Ansoff's Matrix, and the IAM framework, the school operationalised sustainability not as a symbolic add-on, but as a structural element of strategy and culture. This suggests a possible pathway for schools seeking to guard against the risks identified in the wider literature, demonstrating that institutionalisation can support authentic change if grounded in participatory processes.

#### *Stakeholder engagement and community co-production*

Community engagement and stakeholder voice are also central to successful change. Griffin and Hauser's (1993) concept of Voice of the Customer, originally from business marketing, has been adapted in education to represent parent, pupil, and community feedback mechanisms. When change is co-constructed with stakeholders, rather than imposed from the top, it is more likely to be accepted, sustained, and effective.

#### *Critical debates and international perspectives*

A central debate in the literature concerns the tension between Forest School's child-led ethos and the accountability-driven demands of mainstream schooling. Whincup *et al.* (2021) highlight how Forest School leaders in England face the challenges of embedding outdoor pedagogies within risk-averse and performativity-driven systems. Garden (2024) and Garden and Downes (2024) similarly shows that institutional norms around control and behaviour continue to shape Forests within risk-averse and performativity-driven s School practice, sometimes creating friction between teachers and specialist leaders. These studies illustrate that outdoor learning initiatives are not immune from the pressures of neoliberal schooling cultures, raising important questions about sustainability and institutional fit.

At the same time, scholars note that Forest School as a concept remains loosely defined, varying considerably across settings and countries. Dabaja's (2022) review of two decades of international research finds consistent evidence of benefits for children's confidence, wellbeing, and social skills, yet also emphasises wide variation in definition, design, and methodological rigour. Knight (2016) and the Forest School Association similarly argue that Forest School is best understood as a socially constructed and evolving practice. Recent efforts to create interdisciplinary theoretical frameworks (Knight *et al.*, 2024) indicate a growing recognition that greater conceptual clarity is needed.

International perspectives highlight both adaptation and tension. In Denmark, Forest Schools are supported by national frameworks that normalise outdoor education as part of early years provision (Sella *et al.*, 2023). By contrast, in East Asian contexts such as South Korea and Japan, the dominance of examination-oriented systems often constrains the uptake of child-led outdoor pedagogies (Bautista *et al.*, 2023). German Waldkindergärten illustrates

how outdoor learning can coexist with statutory curriculum demands (Ferraro, 2024; Marchant *et al.*, 2019). In Canada, the movement draws on Indigenous knowledge and community-based approaches (MacEachren, 2013), while Molyneux *et al.* (2022) report benefits for social and emotional development in Canadian settings. Related models, such as “bush schools” in Australia, further demonstrate how cultural and ecological contexts shape practice (Beresford and Phillips, 2021).

Taken together, these perspectives underline both the adaptability and fragility of the Forest School model. They highlight the importance of context, theory, and leadership in sustaining outdoor learning, and demonstrate that the UK case examined here has broader resonance in global debates on sustainability and education.

### Methodology and context

This study adopted a single-case qualitative design (Yin, 2014), appropriate for exploring complex and context-specific processes of organisational change in education. The case is situated in a one-form entry state primary school in southern England that serves a socially and economically diverse intake of children aged 4 to 11. The school’s location on the edge of a rural area presented unique opportunities for outdoor learning, including access to underutilised grounds that could be developed into a Forest School and smallholding. The intervention aimed not only to enhance educational outcomes and personal development but also to establish long-term financial sustainability through external club offerings and community partnerships.

The impetus for the initiative arose from school self-evaluation, pupil and parent feedback, and the leadership team’s vision. Internal assessments and behaviour logs revealed that a significant proportion of children struggled with regulation, attention, and motivation—issues exacerbated by the COVID-19 pandemic and reduced access to green space. Recognising the limitations of traditional teaching models, the senior leadership team (SLT), led by a forward-thinking headteacher, launched the Forest School provision as a universal offer for all pupils, with the potential to scale for external users.

The methodological approach combined planning and evaluation. Data sources included strategic documents, minutes of leadership meetings, staff interviews ( $n = 8$ ), and stakeholder surveys ( $n = 112$ ). Triangulation across these sources enhanced validity. Thematic analysis, guided by Bradshaw *et al.* (2021) six-phase framework, identified patterns relating to leadership, engagement, implementation, and culture.

Several tools structured the planning phase. Hoshin Planning set long-term objectives such as embedding sustainability across the curriculum, with milestones reviewed each term. A RACI matrix clarified responsibilities between staff and volunteers, while the IAM framework linked personal values to school-wide goals. Ansoff’s Matrix informed financial planning, identifying new offerings such as weekend clubs and summer camps. Finally, Voice of the Customer surveys and consultations ensured stakeholder feedback shaped provision.

Ethical considerations were integral. Parental consent was secured, staff participation was voluntary, and governors oversaw risk management and compliance. The leadership team used a Plan–Do–Check–Act cycle, adjusting sessions and resources in response to feedback.

This case study does not aim to offer a prescriptive model but rather to illustrate a strategic, context-sensitive approach to educational innovation. The following section explores the key findings, implementation challenges, and reflections from this evolving transformation.

### Participant demographics and sampling strategy

The eight staff interviewees included five class teachers, one special educational needs coordinator (SENCO), one teaching assistant, and one member of the senior leadership team. Participants had between 3 and 24 years of experience in education, and five were female and three male. The 112 survey respondents comprised parents ( $n = 76$ ), pupils ( $n = 28$ ), via

supervised completion), and community stakeholders ( $n = 8$ ). Staff participants were purposively sampled to reflect a cross-section of roles, while survey participation was open to all parents and carers.

### Coding and thematic analysis

Bradshaw *et al.* (2021) six-phase framework guided the analysis. Table A1 (Appendix) presents the coding structure, linking major themes to sub-themes with illustrative quotations. For example, under “Transformational leadership and culture,” a code such as “modelling values” was supported by the quote: “She lived it—out there in the mud with the pupils.”

### Ensuring trustworthiness

Several strategies strengthened analytic credibility. Triangulation was achieved by drawing on interviews, surveys, and documentary evidence. Member checking was undertaken by sharing preliminary thematic summaries with staff, who confirmed resonance and accuracy. Reflexivity was maintained through a researcher journal that tracked assumptions and decisions. Finally, an audit trail of coding and theme development was retained, ensuring transparency in analytic progression. To enhance reliability, a second researcher independently coded a 20% sample of the interview transcripts. Inter-coder agreement exceeded 85%, with discrepancies resolved through discussion, thereby strengthening the credibility of the thematic framework.

### Findings and discussion

The outcomes of the Forest School initiative are examined across five interrelated dimensions, reflecting both the theoretical frameworks underpinning the study and the lived experience of those involved. These dimensions—transformational leadership and organisational culture, strategic planning and institutional alignment, stakeholder co-production and community engagement, operationalisation and resource allocation, pedagogical outcomes and whole-school cultural transformation—offer a structured yet interconnected view of the initiative’s development and effects. Each theme is analysed in relation to the school’s strategic aims and is interpreted through the lens of transformational leadership, strategic planning models, and whole-school sustainability literature. The findings are brought to life with illustrative quotes drawn from staff interviews and parent and pupil surveys, providing grounded insight into the initiative’s practical and cultural resonance.

To aid accessibility and synthesis, Figure 1 illustrates the conceptual model underpinning this case study. It shows how transformational leadership practices interacted with strategic planning tools—Hoshin Planning, Ansoff’s Matrix, and the I.AM framework—to generate pedagogical, cultural, operational, and organisational outcomes.

#### *Transformational leadership and organisational culture*

A central finding of the study was the pivotal role played by transformational leadership in initiating and sustaining the Forest School initiative. The headteacher exemplified the characteristics outlined by Leithwood and Jantzi (2006), including the articulation of a clear, compelling vision, the modelling of shared values, and the empowerment of others to lead. Rather than imposing change, the leadership team fostered a culture of shared ownership from the outset. Visioning workshops, targeted CPD sessions, and ongoing informal dialogues provided staff with opportunities to contribute, reflect, and shape the direction of the project collaboratively.

This inclusive leadership style was well aligned with the ethos of Forest School, which challenges conventional pedagogical hierarchies and encourages both staff and pupils to embrace experiential and continuous learning. Literature in the field supports this alignment:



**Figure 1.** Conceptual model of the interplay between transformational leadership, strategic planning tools, and observed outcomes. Source: Authors own work

[Ewert and Overholt \(2017\)](#) argue that participation in outdoor leadership settings strengthens resilience, communication, and the capacity to navigate uncertainty—qualities that are critical for educational innovation. Similarly, [Yıldız \(2021\)](#) highlights how outdoor education leaders grow through reflective practice and lived experience, reinforcing the idea that effective leadership in these contexts is grounded not only in planning but in presence, feedback, and adaptability.

Initial cultural resistance was encountered from a small group of staff, particularly those with long service or a preference for structured classroom routines. The leadership team responded with sensitivity, creating safe spaces for open dialogue and acknowledging concerns without judgement. Small pilot sessions were introduced incrementally, allowing staff to engage at a comfortable pace. This strategy echoed what [Ghorbani et al. \(2023\)](#) describe as ‘trust-based transformational leadership,’ which proved effective in building confidence and shifting mindsets over time.

To further embed the initiative, a cross-functional Forest School working group was established, involving teaching, support, and administrative staff. This structure reinforced the notion of co-ownership and created a feedback-rich environment that encouraged pedagogical risk-taking. Teachers began to express greater comfort with experimentation, not only within the Forest School sessions but across other areas of practice. As [Vigane and Dyrstad \(2022\)](#) suggest, such collaborative cultures enhance professional confidence and foster a shared sense of responsibility for change.

Over time, staff described a growing openness to innovation and deeper alignment between their professional values and the school’s strategy. The headteacher’s visible participation in outdoor activities reinforced trust and inspired wider involvement: “She didn’t just announce it—she lived it. You saw her in the mud with the kids,” noted one assistant.

The initiative aligned closely with [Leithwood and Sun’s \(2012\)](#) four pillars of transformational leadership. Teachers felt empowered to experiment with outdoor pedagogies and shared experiences through reflective CPD. One remarked: “This wasn’t something done to us. We were part of shaping it. I’ve never felt more like a professional.” Through the I.AM framework, staff articulated how the project resonated with their own values, reinforcing a culture of experimentation and agency that extended beyond Forest School into wider school practice.

#### *Strategic planning and institutional alignment*

Strategic coherence emerged as a critical factor in the successful integration of the Forest School initiative. Rather than positioning the programme as a peripheral or short-term project, the leadership team embedded it within the school development plan as a structural component of long-term transformation. Hoshin Planning translated broad goals into annual targets, such

as embedding Forest School in four curriculum areas and achieving 85% parental satisfaction. The SLT used dashboards for termly reviews, enabling timely adjustments and reinforcing data-informed decisions.

This approach echoes research on Whole Institution Approaches (Holst, 2022; Holst *et al.*, 2024), which emphasise the value of embedding sustainability across mission, pedagogy, and governance. At the case study school, strategic tools mitigated common risks such as initiative fatigue by integrating Forest School into the core development plan. Success was redefined not only in terms of attainment but also wellbeing, stewardship, and community engagement (Ajjawi and Boud, 2023).

The I.AM framework supported staff reflection on how personal values aligned with institutional aims. “I hadn’t realised how strongly I felt about environmental learning until we talked about it as a shared value,” observed a Year 4 teacher. Strategic tools also underpinned financial viability, with Ansoff’s Matrix guiding diversification into fee-based clubs. Cascaded goals ensured accountability, while termly reviews sustained momentum. As the deputy head explained: “Our targets were clear. We knew what we were aiming for—not just ‘let’s do Forest School’ but actual milestones.” By aligning vision, pedagogy, and resources, the school avoided fragmentation and embedded Forest School as a structural element of long-term strategy.

#### *Stakeholder co-production and community engagement*

Active and responsive stakeholder engagement proved to be both a strategic strength and an operational necessity throughout the Forest School initiative. The leadership team employed Voice of the Customer methodologies—including surveys, interviews, and reflective tools—to gather detailed insights from parents, carers, and pupils. Over 90% of parent respondents expressed support for the programme, noting improvements in their children’s wellbeing, behaviour, and self-confidence. One parent commented, “He comes home excited, covered in mud, talking about what he built. He’s never talked about school like that before.”

Pupil voice was similarly central. Regular feedback circles, informal class discussions, and reflective journals gave children meaningful channels to express their views. This input translated into real influence on decisions, from choosing crops for the smallholding to naming animals and designing quiet spaces for reflection. As one Year 5 pupil recalled, “We had a vote on what to plant. I chose pumpkins . . . and we actually got to eat them in cooking club!” These acts of co-construction contributed to a sense of ownership, which in turn enhanced engagement and reduced behavioural incidents during outdoor sessions.

Stakeholder feedback also informed more strategic decisions. Parental concerns about equitable access led to the creation of a bursary scheme, funded through income generated by weekend Forest School clubs. This ensured that families eligible for pupil premium could participate without financial barriers. Such responsiveness built trust and reinforced the school’s values-led approach.

Beyond the immediate school community, the initiative fostered partnerships with local farms, environmental educators, and secondary schools. These relationships enriched the educational offer—introducing pupils to composting workshops, bee-keeping demonstrations, and sustainable agriculture practices—while also enhancing the school’s visibility and reputation in the wider community.

Crucially, communication with stakeholders was ongoing and iterative. Parents were kept informed through regular newsletters, open days, and social media updates, creating a transparent dialogue that encouraged continued involvement. This sustained and inclusive model of engagement aligns with best practice in participatory leadership and proved critical in maintaining long-term support. Rather than viewing stakeholders as passive recipients of change, the school cultivated them as active contributors, shaping a shared vision for the Forest School’s development and ensuring its integration into the broader fabric of school life.

### *Operationalisation and resource allocation*

Resource management emerged as one of the most pressing challenges in the implementation of the Forest School initiative. With an initial budget of just £6,000—raised through PTA events, small grants, and local business donations—the leadership team had to adopt a strategic and highly pragmatic approach to financial and logistical planning. Rather than attempting a large-scale launch, the initiative was developed incrementally, allowing the school to build capacity without compromising quality or staff wellbeing. As the site manager reflected, “We had to be creative. We didn’t have capital for a big launch, so we built slowly—one fire pit, one chicken coop at a time.”

Ansoff’s Matrix informed growth opportunities, leading to weekend sessions and a holiday club for external families. Revenue was reinvested into equipment, staffing, and site improvements, ensuring long-term sustainability. This approach not only aligned with the school’s educational ethos but also contributed to financial resilience.

Effective operational management was underpinned by the structured use of the RACI matrix, which clearly delineated roles and responsibilities across the team. For instance, one teaching assistant was designated as responsible (R) for conducting daily site checks, while the site manager held accountability (A) for completing and updating risk assessments. The headteacher was consulted (C) on scheduling and oversight, and parents were informed (I) of weather-related cancellations and schedule changes. This level of clarity reduced ambiguity, ensured compliance with safety protocols, and contributed to the smooth running of daily operations.

The phased model allowed the school to scale gradually. Clear planning tools and shared leadership ensured staff felt supported rather than overwhelmed. This structured yet flexible approach enabled the Forest School to evolve from a grassroots idea into a core part of the school’s provision—built not on abundant resources, but on thoughtful design, strategic foresight, and collective commitment.

### *Pedagogical outcomes and whole-school cultural transformation*

Among the most compelling findings of the Forest School initiative were the tangible improvements in pupil outcomes and the broader cultural shifts within the school. Teachers consistently reported enhanced engagement, particularly among children previously identified as disaffected, anxious, or requiring additional support. One SENCO reflected, “One child with high anxiety used to refuse to come in on Mondays. Now he’s first through the door because it’s Forest School day.” Attendance patterns echoed this sentiment, with several pupils showing improved punctuality and presence on days when outdoor learning was scheduled.

Lesson observations and pupil work revealed rich cross-curricular links that deepened formal learning. In Year 5, for instance, pupils applied their understanding of plant life cycles while tending vegetable beds, while younger children used their experiences in the woodland to inspire storytelling, descriptive writing, and imaginative play. Outdoor activities naturally supported differentiated learning and often allowed quieter or less confident pupils to take the lead, promoting equity and voice.

Teachers observed that the less formal outdoor environment reduced fear of failure and encouraged risk-taking in learning. Pupils appeared more willing to experiment, collaborate, and persevere through challenges, traits that were sometimes less visible in classroom settings. These findings align with [Mogren et al.’s \(2019\)](#) view that whole-school sustainability approaches not only foster ecological literacy but also promote school improvement by boosting engagement and embedding shared values across the institution.

The smallholding, in particular, became a powerful context for ESD ([Sterling, 2014](#)). Pupils learned about biodiversity, composting, food systems, and responsible stewardship through hands-on activities. Older students were given leadership roles, such as managing crop rotations or caring for animals, which fostered responsibility and deepened their environmental understanding. The authenticity of these experiences gave environmental concepts immediacy and relevance, reinforcing classroom learning in meaningful ways.

Culturally, the initiative reshaped how staff approached curriculum planning and collaboration. Teachers grew more confident in using outdoor spaces creatively and began working across year groups to co-design thematic projects—such as autumn woodland exploration or spring planting cycles—that encouraged innovation and shared professional development. As one teacher noted, “We’ve started doing joint planning between classes around seasonal themes—Autumn in the woods, Spring planting—it’s sparked a new kind of creativity.”

The inclusive ethos of the Forest School further enhanced its educational value. Adaptations were made to ensure access for children with mobility or sensory needs, and calming reflective spaces were introduced for pupils requiring emotional regulation. This inclusive design supported the school’s broader equalities agenda and reinforced the legitimacy of the initiative as a vehicle not just for environmental education, but for holistic, equitable learning.

Together, these impacts—academic, behavioural, cultural, and emotional—illustrate how the Forest School became far more than an extracurricular activity. It evolved into a transformative part of the school’s pedagogy, fostering not only knowledge and skills, but confidence, creativity, and connection.

Beyond its practical outcomes, this study contributes theoretically by showing how transformational leadership is strengthened when coupled with structured planning tools. The case challenges accounts that treat pedagogy and strategy separately, instead suggesting a hybrid model: values-driven in ethos, managerial in execution. This approach provides a framework for coherence between cultural change and operational delivery and raises questions about its scalability in other contexts.

### *Summary*

The findings reveal that the integration of a Forest School and smallholding into a primary school’s strategic development plan generated positive and multi-dimensional outcomes. The initiative succeeded due to a combination of transformational leadership, coherent strategic planning, inclusive stakeholder engagement, careful resource management, and demonstrable educational impact.

Leadership that modelled shared values and empowered staff created a culture of innovation and professional agency. Strategic tools such as Hoshin Planning, Ansoff’s Matrix, the RACI model, and the IAM Framework ensured that the initiative was embedded structurally, financially viable, and culturally aligned. Stakeholders—particularly parents and pupils—were not only consulted but co-constructed aspects of the initiative, reinforcing trust and legitimacy. Despite limited initial resources, the school leveraged strategic thinking and phased implementation to deliver a sustainable and scalable programme. Educationally, pupils exhibited improvements in confidence, behaviour, and cross-curricular engagement, while teachers reported increased creativity and collaboration.

Together, these findings highlight that deeply embedding sustainability into school culture and pedagogy is both achievable and beneficial—if driven by clear vision, structured implementation, and inclusive leadership.

### **Implications for school leadership and organisational practice**

At the school level, the case reinforces the importance of aligning innovation with organisational values and structures. Rather than treating the Forest School as an add-on or extracurricular provision, the leadership team embedded it into the school’s strategic development plan, culture, and daily operations. This integration enabled a coherent, school-wide transformation, underpinned by staff ownership and sustained stakeholder trust. It reflects broader conceptions of educational transformation as a shift in both mindset and professional practice (Kleiman, 2008).

The use of formal planning tools—Hoshin Planning, RACI charts, Ansoff’s Matrix, and the I.A.M Framework—demonstrates the value of applying structured strategic management techniques within an educational context. These tools enhanced clarity, accountability, and adaptability, ensuring objectives were pursued systematically rather than left to ad hoc efforts. School leaders seeking to replicate similar initiatives should consider adopting such frameworks to support informed decision-making and manage complexity.

The project also highlights the importance of distributed and transformational leadership. While the headteacher’s vision provided direction, the engagement of middle leaders, teaching assistants, and administrative staff was equally critical. Structures such as cross-functional working groups and targeted CPD opportunities enabled leadership to be shared, strengthening the school’s collective capacity and resilience. This approach echoes wider calls to reframe teachers as active co-creators of educational innovation (Kunnari and Ilomäki, 2014). For other schools, investing in leadership development at all levels may be key to sustaining similar transformations.

The findings raise important questions for future inquiry. How can hybrid leadership approaches be scaled across contexts with fewer resources or different cultural orientations to outdoor learning? What professional development pathways best equip school leaders to integrate ESD with strategic planning frameworks? Longitudinal and comparative research across international contexts would help to test the transferability of the model advanced here, offering valuable insights into the global evolution of sustainability in education.

Staff confidence in outdoor learning evolved through incremental exposure, modelling, and peer support. A phased implementation proved essential in facilitating cultural change. Rather than expecting immediate shifts, the leadership team built momentum by highlighting early successes, offering hands-on training, and modelling the values they wished to embed.

#### *Curriculum and pedagogical design implications*

This case affirms that Forest School and sustainability education can not only coexist with statutory curriculum requirements but also enrich and extend them. Thematic units grounded in real-world experiences—such as seasonal planting, biodiversity observation, or weather monitoring—provided authentic contexts for developing literacy, numeracy, and scientific understanding. Teachers reported greater pupil engagement and improved quality of work when curriculum tasks were connected to outdoor experiences.

SLTs and curriculum designers should therefore view experiential outdoor learning as a method for delivering national curriculum objectives, not as a deviation from them. Embedding outdoor pedagogies within long-term planning—rather than treating them as enrichment or novelty—can improve curricular coherence and deepen learning. Providing teachers with dedicated time for co-designing cross-curricular outdoor experiences may help scale such practices across key stages.

#### *Policy recommendations for systemic integration*

At the policy level, this case supports the growing argument that ESD should be more centrally embedded within accountability frameworks and funding mechanisms. While sustainability is referenced in UK education policy, it remains peripheral to the dominant performance metrics centred on attainment and compliance. This study illustrates that sustainability-led innovation can serve not only as a pedagogical strategy but also as a lever for institutional transformation.

To support wider adoption, policymakers and educational authorities should consider the following recommendations.

- Provide ring-fenced funding for schools to develop outdoor and sustainability-based learning, including capital investment and ongoing staffing support.
- Embed ESD into inspection frameworks such as Ofsted, recognising schools that demonstrate holistic, community-oriented, and environmentally responsible education.

- Develop accredited professional learning pathways to equip teachers with the confidence and capacity to lead outdoor learning and sustainability education, including Forest School training.
- Foster local partnerships by incentivising collaboration with environmental groups, farms, and community organisations to enrich learning and extend social capital.

By adopting these measures, governments and local authorities can help shift the education system towards a more inclusive, resilient, and future-focused model—one that reflects the evolving needs of both learners and the planet.

### Limitations and future research

This study is limited by its focus on a single primary school, which may constrain the generalisability of the findings. Future research should explore comparative case studies across different socio-economic and geographic contexts to assess scalability. Longitudinal studies could also examine the lasting impact of sustainability-led initiatives on pupil outcomes, staff development, and community engagement. Further investigation into leadership development for implementing ESD in under-resourced schools is also recommended.

### Conclusion

This study has illustrated how a strategic and values-led integration of Forest School and smallholding provision within a UK primary school can generate meaningful cultural, educational, and organisational transformation.

It contributes to the field of educational management by extending the application of transformational leadership and strategic planning frameworks—such as Hoshin Kanri and Ansoff's Matrix—into the underexplored context of sustainability innovation in primary education. It bridges a gap between educational leadership theory and practical implementation of ESD under resource constraints.

Underpinned by transformational leadership, structured planning frameworks, and stakeholder co-construction, the initiative extended beyond curriculum enrichment to reshape institutional identity and resource strategy.

Embedding innovation requires more than enthusiasm; it depends on aligning leadership, culture, and accountability. Planning tools such as Hoshin Planning and Ansoff's Matrix provided a scaffold for managing complexity, while the I.A.M Framework enabled staff to connect personal values with institutional goals, enhancing engagement and internal coherence.

Practically, this case demonstrates how school leaders can leverage distributed leadership and phased implementation to navigate resource limitations and cultural resistance. The school's strategic use of internal and external partnerships, alongside iterative stakeholder engagement, ensured the sustainability and legitimacy of the initiative over time.

Pupils showed improved behaviour, engagement, and curriculum links, while staff reported growth and collaboration. This reinforces the value of embedding sustainability and experiential learning within the school's core. At a policy level, the study highlights the importance of aligning sustainability education with accountability and funding frameworks, suggesting that such innovations should be supported not as optional add-ons but as integral to school improvement and leadership development.

This case makes a novel theoretical contribution by demonstrating how Forest School pedagogy can be strategically integrated through formal planning tools, thus bridging an existing gap between practice-focused research on outdoor learning and theoretical debates in educational leadership. By combining transformational leadership with frameworks such as Hoshin Kanri, Ansoff's Matrix, and the I.A.M model, the study highlights a unique leadership

configuration that extends existing models. While rooted in a single UK context, the analysis has international significance, offering conceptual resources for school leaders seeking to embed ESD in culturally and structurally diverse systems.

**About the authors**

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**Ethical statement**

Ethical approval for this study was obtained through the standard institutional procedures of the researcher's university. The research involved minimal risk, focused on educational practice, and did not collect any sensitive personal data. Informed consent was obtained from all staff participants, and parental consent was secured for pupil contributions.

**Data availability statement**

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data are not available.

**Table A1.** Coding Structure with Illustrative Quotes

| Theme                                                  | Sub-theme/Code                                 | Illustrative quote                                                                                                                                                                          |
|--------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transformational leadership and organisational culture | Modelling values                               | “She didn’t just announce it at a staff meeting—she lived it. You could see her out there in the mud with the kids, helping dig beds.” (Teaching Assistant)                                 |
|                                                        | Empowering staff agency                        | “This wasn’t something ‘done to us’. We were part of shaping it. I’ve never felt more like a professional.” (Classroom Teacher)                                                             |
|                                                        | Managing cultural resistance                   | “At first I wasn’t sure. But starting small and talking it through helped me feel confident to try.” (Experienced Staff Member)                                                             |
| Strategic planning and institutional alignment         | Embedding in school development plan           | “Our targets were clear. We knew what we were aiming for—not just ‘let’s do Forest School’ but actual milestones like integrating it into science and PSHE by Term 3.” (Deputy Headteacher) |
|                                                        | Using structured tools (Hoshin, Ansoff, I.A.M) | “It gave me a way to connect my personal beliefs to my professional role.” (Year 4 Teacher)                                                                                                 |
| Stakeholder co-production and community engagement     | Parent involvement                             | “He comes home excited, covered in mud, talking about what he built. He’s never talked about school like that before.” (Parent)                                                             |
|                                                        | Pupil ownership                                | “We had a vote on what to plant. I chose pumpkins . . . and we actually got to eat them in cooking club!” (Year 5 Pupil)                                                                    |
|                                                        | Community partnerships                         | “Local farmers showed the children composting and bee-keeping — things we could never have offered on our own.” (Headteacher)                                                               |
| Operationalisation and resource allocation             | Incremental development                        | “We had to be creative. We didn’t have capital for a big launch, so we built slowly—one fire pit, one chicken coop at a time.” (Site Manager)                                               |
|                                                        | Clear roles and responsibilities               | “Everyone knew who was responsible for what — daily checks, risk assessments, teaching. That made it feel safe and manageable.” (Teaching Assistant)                                        |
| Pedagogical outcomes and cultural transformation       | Engagement and attendance                      | “One child with high anxiety used to refuse to come in on Mondays. Now he’s first through the door because it’s Forest School day.” (SENCO)                                                 |
|                                                        | Cross-curricular links                         | “The vegetable beds made life cycles real — pupils could see the science happening in front of them.” (Year 5 Teacher)                                                                      |
|                                                        | Inclusive practice                             | “The quiet spaces meant my child, who struggles with noise, could still take part and feel included.” (Parent)                                                                              |

**Source:** Authors’ own work

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## **Strategic leadership for sustainable innovation in primary education: a case study of forest school integration**

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