



Learning
through
Landscapes

Climate School 180 Evaluation Report

—
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Introduction from Learning through Landscapes

Climate change is the defining challenge of our generation. As its impacts accelerate, education has a responsibility not only to respond, but to lead. Young people need more than an understanding of climate science; they need the confidence and agency to connect global challenges with local action and to see themselves as part of the solution.



Through our **Climate Ready School Grounds** partnership with Architecture and Design Scotland, Learning through Landscapes came to understand both the urgency of adaptation and the potential of nature-based solutions within school grounds. What became equally clear was the need to deepen our understanding of what high-quality climate change education looks like in practice. If we are to prepare young people for the future they will inherit, we cannot afford to get this wrong.

I was delighted when Alan and Gill Gray Philanthropies agreed to support Climate School 180. From the outset, this was intended to be more than a schools programme. It was a shared learning journey, bringing together schools, partners and our own team to explore complex questions, connect opportunities and develop meaningful responses to climate change.

This evaluation from the University of Stirling demonstrates the impact of that work. It provides evidence that climate change education is most powerful when it is place-responsive, participatory and connected to real-world action. It shows how school grounds can become catalysts for learning, helping schools turn a global challenge into something tangible, relevant and hopeful.

While I am proud of what participating schools have achieved, I am equally proud of the Learning through Landscapes team. Climate change is not a neutral subject; it challenges our assumptions, evokes strong emotional responses and demands new ways of thinking and working. Developing this programme required our colleagues to undertake a deep personal and professional journey, often at pace and in unfamiliar territory. They met that challenge with honesty, openness and determination, continually questioning, learning and adapting. The success of Climate School 180 is as much a product of that process as it is of the programme itself.

The findings in this report strengthen our belief that climate change education, adaptation and mitigation must be embedded across school life. School grounds offer a unique opportunity to connect learning with action, and to help children understand how change can happen in the places they know best. Learning through Landscapes is committed to building on these lessons and working with partners who share our ambition to ensure that every child is equipped not only to understand climate change, but to shape the response to it.



Matt Robinson
CEO Learning through Landscapes
August 2026

Executive Summary

One hundred and forty schools from across the UK took part in the Climate School 180 (CS180) project from Learning through Landscapes (LtL) between 2024 and 2026.

CS180 aimed to provide in-person support and professional learning for teachers on climate change education and mitigation through the use and improvement of school grounds. Throughout the project, LtL staff themselves also engaged in a programme of professional learning and reflective practice. CS180 was supported by the University of Stirling through a form of process evaluation, collaborative inquiry and reflection.

Evaluation and Collaborative Professional Inquiry

The university team sought to address five inquiry questions (see section 2 on evaluation methodology) around the viability of a focus on school grounds within school-wide climate change education. A range of evaluation evidence was gathered – interviews with teachers, in-person visits, surveys for schools and other measures. LtL staff participated in online and in-person professional learning events which formed part of data collection and analysis.

The inquiry focused on the challenges, impacts and benefits for professional learners, for pupils, and for wider communities. We sought to understand

if CS180 could be understood as a place-responsive approach. Throughout, an emergent approach was applied through the identification of ‘puzzles’ and the arising insights from practice. Puzzle themes (see section 1.3) included

- Professional Learning and Support
- Time
- Agency & Curriculum Making
- Global/Local
- Context & Culture
- Affect

Key findings and insights

Having high-quality expert support, advice and guidance available during a time of focussed work and planning was key to the effectiveness of CS180 in schools. The CS180 design meant that LtL staff were able to ensure that schools understood that the work being done was open-ended and involved smaller steps taken over time, helping to reduce overwhelm. We found that having head teacher involvement was more effective in enabling progression and whole-school engagement with wider impacts on the curriculum, campus, culture and community linking.

Challenges and barriers included lack of head teacher support (though this was rare), resistance from some school staff, and lack of support from the wider school leadership/ local authority/multi-academy trust. In some schools, lack of previous work in this area meant a lack of confidence and challenges with progression. Another challenge was moving schools over to understanding that LtL staff would take on the role of 'facilitators' more than 'deliverers' of change.

We found that professional learning experiences for both school staff and LtL staff were key transformative and supportive features of CS180. Professional learning outcomes meant teachers became more confident in relation to climate change education and in offering outdoor learning opportunities. LtL staff reported becoming more comfortable discussing climate change, working collaboratively as a team and within school settings.

We found that CS180 helped frame climate issues as a form of place-responsive pedagogy through: (a) identifying the issues on the ground and in their local context, (b) thinking about the school culture in relation to grounds and place contexts, and (c) through considering connections and partnerships with local community groups and agencies.

Impacts

Analysis shows that a school grounds focus on climate change catalysed: (a) greater involvement in decision-making for pupils, (b) substantive improvements to school grounds, (c) new approaches to curriculum making, involving whole-school approaches, (d) wider community engagement, and

(e) improved confidence and engagement with outdoor learning amongst school staff. Critically, we noticed that being place-responsive meant staff and pupils were more able to engage with this global problem in a way that was meaningful. Effective collaboration was often generative of new relations that were intersectoral and intergenerational and harnessed the agencies of weather and other species in changes.

Signposts for the Future

CS180 signposts a way to address stubbornly difficult issues in the wider field of climate change education including eco-anxiety, data overload, action paralysis, local irrelevancy, and a desire for intergenerational connection (Monroe et al., 2019, Rousell and Cutter-Mckenzie-Knowles 2020, Croak and Walker 2024, Rushton et al., 2025).

Place-responsive school grounds projects, as exemplified via CS180, provide a distinctively critical, experiential, participatory, hands-on approach to address these issues through relational forms of curriculum making which were collaborative, action-oriented, emotionally responsive, interdisciplinary, and experienced within wider whole-school change over time.



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1.

Introduction

Globally, climate change is impacting our lives in more tangible ways with impacts on wildlife and humans alike (WWF 2025).



Climate change education is seen as a necessary component of the international effort to shift society towards more sustainable ways of life at a time of climate and nature emergency (UNESCO 2022). Recent research has begun to focus on how outdoor spaces provide a context for addressing climate change impacts, nature restoration, and environmental education in the round (Mannion et al., 2025, Mannion et al., 2013). As climate change and habitat loss accelerate, school grounds become a key site of intervention worldwide (Cordiero et al. 2025, Bellomo 2019, Ruck and Mannion 2021, Lynch and Mannion 2021). These efforts can be purposefully educational as well as directly addressing sustainability and climate and nature emergency, but less is known about the issues schools face and the supports required to action change.

Research supports the general view that school grounds can be outdoor learning environments and solutions to climate change impacts. In warmer climate settings, tree planting for example can be critical in mitigating urban heat. Flood and run-off prevention, wind breaks/shelter areas and other climate-ready adaptations are also common in milder climates. Habitat loss can be addressed for insects, mammals and birdlife. Schools now seek to become more 'climate-ready' and to provide enriched real-world contexts for education, community wellbeing, eco-social health, and climate resilience (Dimouli et al., 2024). In response, the Climate School 180 (CS180) project was designed by Learning through Landscapes (LtL) as a way to explore and exemplify critical and place-responsive climate change education through addressing the barriers in the UK context, and supporting new and innovative school-based practice in primary and secondary schools.

This introduction provides an overview of the project and the schools engaged with. We also discuss the place-responsive approach taken and the significant engagement LtL undertook in a comprehensive professional learning programme. In this report we discuss the activities schools engaged with as part of the project, the evaluation approach undertaken and the resulting impact of participation on schools and LtL.

1.1 Engagement with schools

The **Climate School 180** (CS180) project was open to state funded primary, secondary or special schools in the UK. Over five rounds of delivery between January 2024 and May 2026, one hundred and forty schools participated. Table 1 shows the split in school settings with the majority of schools being primary. >>

Online professional learning for school staff.

School staff engaged with online modules in preparation for a visit to school from LtL and these took around 3 hours to complete. This was not a whole school training session, although in some smaller schools all staff participated. Participation was typically targeted at a key group of staff within the school who either self-selected or were in a relevant role, such as sustainability lead. These staff were then able to disseminate their experiences to other colleagues where needed. One thousand and twenty staff across one hundred and forty schools enrolled in the online modules. The modules addressed topics such as the science behind climate change, climate anxiety and climate change curriculum-making. There was reading within each topic for school staff to engage with and an accompanying set of reflective prompts. LtL staff monitored the online modules and would engage with

School Setting	n	%
Primary	127	91%
Secondary	13	9%
	140	

Table 1. Participating schools by sector

the discussions via written responses to the prompts. School staff could see the responses from their own colleagues. In some settings school staff met in person to discuss the topics arising.

In-person workshop.

An in-person workshop was led by an LtL member of staff and held in each school. The workshop usually took place at least one week after staff had begun the online learning element but would sometimes run one month or more later. The workshop lasted between 3 and 5 hours and consisted of reflective activities tailored by LtL to the needs and interests of the school. The workshop concluded with a period of planning amongst school staff and the identification of initial steps to take.



School grounds climate audit.

Typically on the same day as the workshop, a school grounds climate audit was undertaken and often preceded the workshop but this depended on the setting and the availability of staff. Where possible, this audit involved school pupils but due to the time commitment recommended for the 3 to 5 hour workshop these were often held on staff development days when no pupils were in the school. The climate audit originated as part of LtL's now completed **Climate Ready School Grounds**¹ project. The audit's digital tool required respondents to address a number of questions about school policy on outdoor learning, climate change education, and the school grounds as a site, with reference to type of surfaces (e.g. grass, tarmac, artificial), planting (e.g. trees, shrubs), evidence of biodiversity, and support for sustainable travel (e.g. cycle storage). The responses were collated providing an overview for the school to reflect upon. For CS180, LtL staff supported school staff and pupils in completing this survey and results were often discussed in the workshop. Over the course of the CS180 project, the audit tool was developed and is now available as a digital application.

Access to resources and support for planning.

Ongoing communication from LtL staff with schools took the form of follow-up e-mails and online meetings. The follow-up online meeting with each individual school was highlighted as a key part of this process, and this took place four to nine months after the workshop, depending on availability. These ongoing links provided

an excellent opportunity for LtL to provide further advice and guidance and to see how schools progressed ideas encountered in the workshop. Towards the end of 2025 and in response to schools expressing an interest in hearing more about what other schools were doing, a series of online seminars were held with over 100 school staff participating across three sessions between January and March 2026.

- Webinar 1 (January 2026) built on themes from the in-person workshop and LtL highlighted practical ideas and approaches for climate change education and engaging outdoor learning.
- Webinar 2 (February 2026) looked at nature-based solutions for climate change mitigation. LtL staff discussed the opportunities and challenges related to this topic.
- Webinar 3 (March 2026) looked at some of the ways in which schools had responded to the challenge and discussed different approaches taken. LtL staff offered observations and Laura Thomas from the University of Stirling project team discussed the climate change education puzzles (described further in the following sections) and some of the ways in which schools and LtL had been responding.

Overall, there wasn't a typical length of time it took for schools to progress across the available elements. The timing of the different aspects often depended on the time of year and school and LtL staff availability. The project took a reflective approach; LtL tailored the advice and guidance, responding to each school setting, local needs, as well as desired and viable outcomes.

¹ <https://ltl.org.uk/project/climate-ready-school-grounds/>

UK Nation	n	%
England	95	68%
Scotland	35	25%
Wales	8	6%
Northern Ireland	2	1%
Total	140	

« The project very successfully engaged with schools across the whole of the UK, including schools from all four nations. Table 2 shows the number and proportion of schools across the UK.

Table 2. Participating schools by UK nation

Postcodes of participating schools were used to identify indices of multiple deprivation. This approach was replicated for England and Scotland separately as the indices are constructed differently. Wales and Northern Ireland are not represented in this part of the reporting due to the small number of schools. Table 3 shows the number and proportion of schools in each quintile for

England and Scotland in different columns. Quintile 1 represents the 20% most deprived areas, quintile 5 the 20% least deprived. For England, we see that in terms of the proportion of schools engaged, 43% are from areas experiencing the most deprivation. In general, there was a spread of engagement with schools across the quintiles which is not always observed in projects of this scope.



	Scotland IMD Quintile		England IMD Quintile	
	n	%	n	%
1	5	15.2%	13	14.0%
2	7	21.2%	27	29.0%
3	6	18.2%	17	18.3%
4	7	21.2%	18	19.4%
5	8	24.2%	18	19.4%
	33		93	

Table 3. Indices of multiple deprivation for Scotland and England





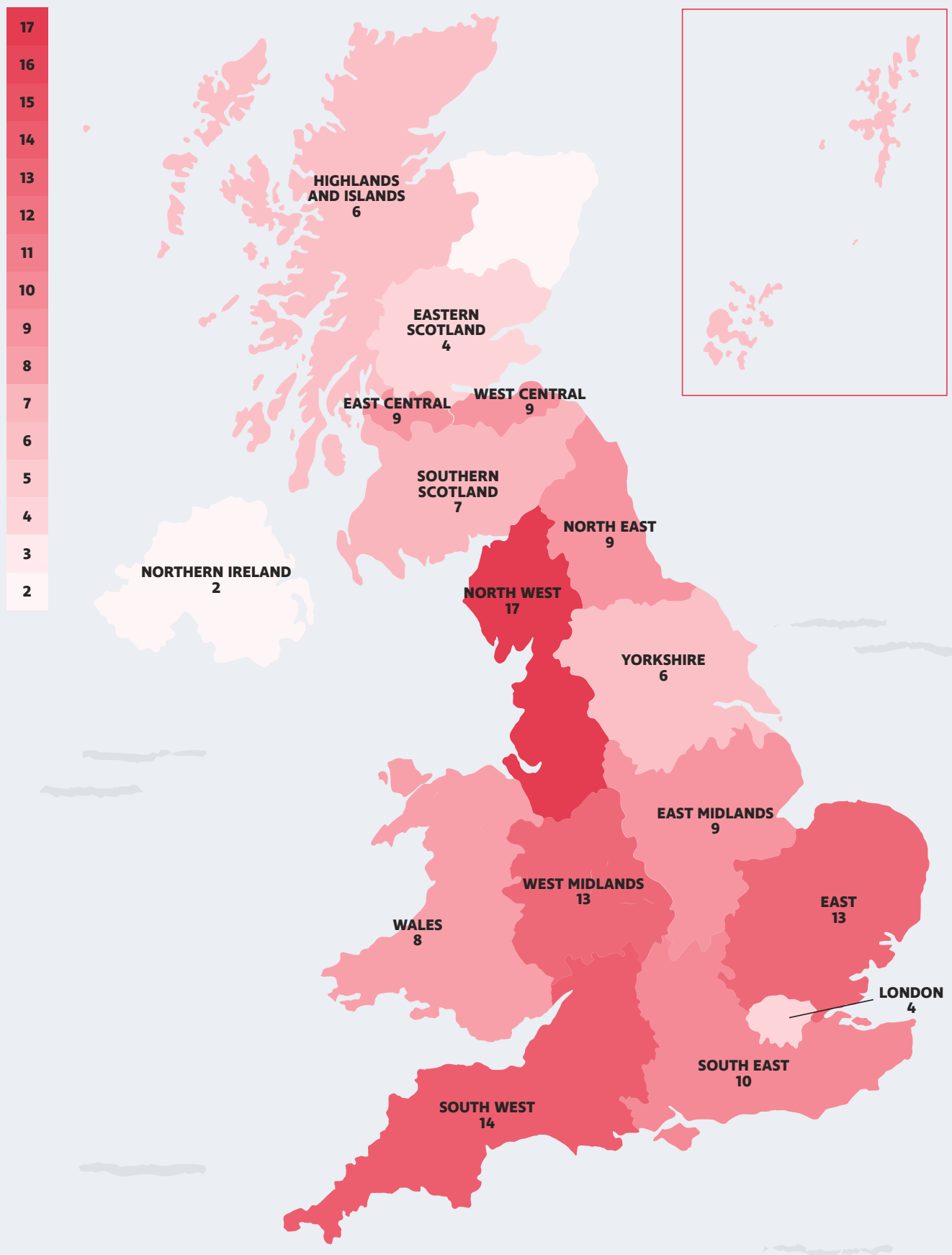
UK Nation	n	UK Nation	n
East Midlands	9	Eastern Scotland	4
East of England	13	East Central Scotland	9
London	4	Highlands and Islands	6
North East	9	Southern Scotland	7
North West	17	West Central Scotland	9
South East	10		
South West	14		
West Midlands	13		
Yorkshire and The Humber	6		

Table 4. Participating schools by English and Scottish regions



The geographical split is described in Table 4 for Scottish and English regions and shown in Figure 1 for the whole of the UK.





Source: ONS Open Geography Portal, ONS

Figure 1. Location of schools participating in CS180 across the UK nations and regions of England



1.2 Professional Learning for LtL

Having outlined the activities LtL engaged in with schools, we now describe how LtL addressed in their own professional learning. Beginning in March 2024, LtL staff engaged with the University of Stirling in a sustained programme of professional learning focused on climate change education as part of CS180. This programme of professional learning was grounded in school-based climate change education research and scholarship which considers the need for place-responsivity (Mannion et al., 2013; Lynch & Mannion, 2016) and the importance of context-sensitive approaches to the barriers and enablers for school-based practice (Rushton et al., 2025; Rushton et al., 2025a; Rushton & Walshe, 2025; Rushton et al., 2026). Furthermore, we adjusted our approach to best draw on the prior expertise and experiences of LtL staff (Rushton et al., 2025a).

The first steps involved sense-making through engaging with scaffolded academic reading and individual and discussion-based reflection activities exploring climate change education, supported by an in-person seminar led by University of Stirling project team in April 2024. This was followed by an online course continuing the engagement with current thinking and research in relation to school-based climate change education. Alongside this, LtL staff were developing the initial delivery framework for schools together in collaboration. From December 2024 until the

end of the project delivery period in May 2026 the opportunities for reflection and engaging with research continued through self-study and a series of three online seminars (December 2024, April 2025, and April 2026) and one half-day in-person seminar for almost all LtL staff held in June 2025. These seminars were facilitated by the University of Stirling project team and were opportunities for LtL staff to share their experiences delivering CS180 in schools. We centred much of the orientation to supporting LtL's collaborative learning as a form of 'exploratory puzzling' (Allwright 2003, 2015). We encouraged team-based iterative cycles of reflection on experience to generate emergent shared 'puzzles'.

Recent relevant research (including Mannion et al., 2025 and Dunlop & Rushton 2024) was regularly shared with staff. Engagement in this pre-reading prompted reflections and discussions shared later in peer-to-peer sessions. The application of research-informed concepts such as place-responsivity (Mannion et al., 2013) afforded deeper consideration of context and agency (which came to be reflected in the analysis and puzzle themes below). The knowledge exchange that ensued among University of Stirling and LtL staff led to many enjoyable, yet critically reflective sessions. The experiences of these sessions are discussed further in section 3.

1.3 Exploring climate change education and deriving puzzles

In the initial phases of delivery, LtL staff worked to support schools through the audit tools and setting objectives. As part of their professional learning, LtL staff shared written reflections with the University of Stirling team.

In December 2025, the university team analysed these reflections to derive emerging puzzle themes within CS180 (described below), identifying six original puzzles faced by LtL staff in practice. These centred on the linking of global and local concerns, the role of local context and culture, professional learning, the role of time, agency and curriculum making, and the importance of affect (emotions and attitudes) as a domain. From December 2025 onwards these puzzle themes underpinned the framing of professional learning reflections and have formed a framework for analysis resulting in the discussions in section 3.

This approach allowed for a focus on significant puzzles arising from addressing the many known barriers to effective climate change education and change in school grounds development: these included (i) disadvantage and inequality in school catchment, (ii) lack of expertise

in design and long-term maintenance, (iii) bureaucratic complexity, (iv) insufficient political and managerial support and (v) overreliance on motivated individuals (see Giezen & Pellerey 2021).

The six CS180 puzzles were as follows, each includes a reflective question for LtL staff.

Professional Learning and Support for Facilitators

Skill development, on-going learning and support and professional development across disciplines is needed - this will be life long and life wide to address issues and frustrations if experts are to guide staff in a complex area.

How can we sustain breadth and depth of learning and understanding for ourselves as we guide teachers in this urgent and important work?



Time

Time is needed for a whole-school culture to change. The problem is urgent and climate change education is needed but project timescales are short, staff are under pressure and educators are generally frustrated.

How can we provide meaningful support for schools' long term change when the system is time poor and educators are under a lot of pressure?

Agency & Curriculum Making

Change is possible when staff, pupils, (who are all role modelling), work together in a relational approach to create a shared understanding of climate change education curriculum making. But what we understand to be curriculum making (as more than delivery) is key to what staff will potentially do. Related query: is climate change education in (a subject) or across curriculum or a general purpose of education?

How will we approach curriculum making for climate change education in CS180 and how can we share and involve learners, staff, and places to make the differences required?

Global/Local

Changes to place/school grounds relates to radical change and empowerment, rights-based approaches which are needed to address big issues via local small actions. Climate change education via school grounds can be a local, grounded, place-based practice through being engaging, hands on outdoors.

How do we sustain the link to the big issues of climate change and biodiversity loss as we engage in this local school grounds work?



Context & Culture

There is a need for context to be recognised and for projects to be sensitive to culture, place-based / place-responsive and led well, in order to be meaningful and contextually relevant.

How can we sustain a responsiveness to culture and place as we endeavour to make climate change education via school grounds changes meaningful and relevant?

Affect

Approaches need to account for an affective/ (hope) dimension and address eco-anxieties. Science teaching about climate change education alone is insufficient.

How can we thread through a concern for the affective domain in CS180?

Having described the puzzle themes, we now go on to summarise the evaluation approach.



2.

Evaluation Methodology



The university team sought to address the following questions:

- 1.** What do LTL staff and school-based participants in CS180 report as important, viably useful and relevant to their work as educators and facilitators of change in their organisation?
- 2.** What do participants report as the main challenges, impacts and benefits for themselves (as professional learners), for pupils, and for wider communities?
- 3.** To what extent can CS180 be understood as a place-responsive approach to climate change education? What are the features, benefits, and challenges of place-responsive climate change education in schools?
- 4.** How do participants understand the role of school grounds as a context for place-responsive climate change education? What puzzles arise from this approach?
- 5.** How do insights and findings from CS180 inform the field of climate change education and school campus development?

In response to this, a number of opportunities for data collection were identified and these are described in Table 5. >>

Data	Date Collected	Description
Schools		
Post-participation survey for schools	May 2025 to May 2026	Sent out by LtL to schools who had completed the workshop. This was made up of set of open and closed questions about their experiences with CS180. 18 responses were received. Based on workshop delivery dates there were around 80 schools active in this period. Those participating in the earliest phases and those at the end are not included in this number. The early group due to the length of time between the workshop and the survey request. Then for those in the final phase of delivery the survey would have been too close to the workshop. Survey questions are available in the Appendix.
School visits	January to May 2026	8 school visits were completed. These visits included a tour of the school grounds and an interview with teachers. We visited 6 primary schools and 2 secondaries. The schools were located across the UK, 2 in Wales, 3 in England and 3 in Scotland. Schools were identified through a mixture of self-selection and selection by the research team. Self-selection was possible as schools were able to indicate in their survey responses that they would be happy to take part in an interview. Prior to this period a member of the project team undertook familiarisation visits to two primary schools, one in England and one in Scotland to see two different LtL staff members lead a workshop with teachers.
Learning through Landscapes		
Hillscourt in-person professional learning session	June 2025	Mixture of small and large group discussions linked to puzzle themes.
Online story session	April 2026	Final professional learning session with LtL sharing stories linked to the puzzles
Online staff focus group	May 2026	45 minute focus group discussion with 4 LtL staff in May 2026.

Table 5. Summary of evaluation data collection



This research project and its ethical approaches have been reviewed and approved by the University of Stirling General University Ethics Panel.

With regards to the survey, there were 18 respondents: 16 from primary schools and 2 from secondary schools. Those responding held a variety of roles, with 6 respondents having some form of sustainability or outdoor learning designation as part of their title alongside a teaching responsibility. There were 7 senior leaders, 4 class or principal teachers and 1 teaching assistant making up the remaining respondents.

The reflective professional learning sessions which ran over the course of the project provided opportunities for collaborative meaning-making and exploration of responses to puzzles. This meant that the data analysis was threaded throughout the project and was in collaboration with LtL staff. The CS180 puzzles formed the basis for an analytical framework for interviews in schools with staff. Puzzle themes reflected a concern for the importance of place, context and culture which was needed given the diversity of the geography of the cases, the national curricular frameworks, and the socio-economic and ecological differences in settings. In particular, there was the awareness that school grounds changes would 'play a performative role and bring certain effects (learning, identities, affects) into effect' (Mulcahy 2018). Supplemental to this is the way in which both the natural and social come together in this project and as such we drew from Karen Barad's diffractive methodology to read 'important insights and approaches through one another' to identify where there are differences and entanglements (Barad 2007). For the more quantitative data, we took a descriptive statistical approach in analysis of responses to the closed questions in the survey and the participation numbers.

In section 3 below, we discuss the key insights that were discerned in relation to the puzzle themes arising from the analysis. Thereafter, we summarise the identified successes, challenges, enablers, and barriers. ➤➤

3. Findings



Findings based on evidence here suggests CS180 provides opportunity for a place-responsive approach to climate change mitigations and formed the basis of a viable approach to climate change education.

Evidence supports the view that within CS180, taking a place-responsive approach ensured teachers were supported, whole-school initiatives emerged, and there was opportunity for alignment with curricular imperatives and response to wider cultural contexts. These features of success are resonant with literature in the field (see Dunlop and Rushton 2024, Mannion et al., 2025) and extends our understanding of the nuances of how these are experienced and sustained in practice in school settings. In this section, we show how the experiences of schools and the impacts of participation were wide-ranging and connected with many different aspects of climate change education and school grounds.

One school summarised their sense of impact:

We joined Climate School 180 to strengthen our whole-school approach to sustainability and climate education. It gave us the tools and support to embed meaningful pupil-led action, make better use of our school grounds, and link climate learning with our curriculum priorities. We wanted our pupils to feel empowered as changemakers in their community.

In CS180, university staff, schools and LtL teams shared in puzzling over key concerns such as curriculum alignment and agency (exemplified above). These collaborative discussions informed the analysis of interviews and focus groups. The six identified puzzles provide a useful window on how schools and LtL staff too responded to the CS180 challenge and we look at each of these in turn. We also thread the evidence on enabling factors as well as the challenges and barriers experienced in the project, and these are also summarised at the end of the section. We lead each puzzle-based section with a key arising insight.

3.1 Professional learning

Insight: The on-going professional development (of skills, knowledge, values and attitudes) which is research-informed and based on contextual awareness across disciplines is a core critical need in climate change education when action is to be taken on the ground. Professional learning will be life long and life-wide but helps to address issues and frustrations if expertise is shared and collaborators are on hand to guide each other in this complex area.





CS180 for Learning through Landscapes

As outlined in the introduction, LtL staff have engaged with professional learning sessions for the duration of the project. Staff said this has pushed them outside of their “comfort zone” and whilst it has been challenging at times to sit with this discomfort, staff feel they have a better understanding of climate change education but also that the process of going through the professional learning has brought them together as a team and improved their confidence. The professional learning sessions with the University of Stirling team ran regularly across the project and this was not an approach LtL had taken with any other projects to date. Staff enjoyed the opportunity to come together to reflect and share their experiences. These opportunities provided protected time and space for sharing not only the successes but the challenges and this helped to build a sense of teamwork and collegiality between colleagues.

The approach for the CS180 workshops with schools was a shift in their delivery model towards LtL staff becoming the facilitator who responded to the discussions and the needs of the school rather than leading staff through topics and activities. For example, one staff member described their approach as going into schools with a rough plan but then having the freedom to respond and change the direction depending on what emerged in the workshop. This shift in delivery style has been seen as a positive one, with one staff member commenting that the experience has improved the way they facilitate training.

The professional learning was felt to have been collaborative and evidence informed. This approach has resonated strongly with some staff as they feel it speaks to the ethos

of LtL generally. Staff are keen to continue the momentum of this project in their work with LtL and want to be able to continue to draw on the knowledge, understanding and experience gained from their engagement with current research, the development work they undertook and their experiences of delivering the CS180 project in schools and seeing how schools responded. One staff member commented,

I think if you take yourself from the point where you're at before this whole process to now, I think it really has permeated into the work that I do. And it's the way that I'll work within school grounds, with staff, with pupils and view the school grounds that will always be there now. And I think that has probably been a more significant shift than I might realise.

CS180 for schools

As outlined in the introduction there were different elements to the CS180 project with which schools engaged to varying degrees. Following the application phase, schools were invited to participate in an online training module. This online learning was based on work that LtL staff undertook themselves. The modules consisted of a mixture of research-informed reading and prompts for reflection. Teachers could engage in discussion using the comments function and LtL staff would monitor and then often follow up with these discussions once they visited schools. One LtL staff member said that they felt they had gone “on a journey” alongside the school staff as they reflected and discussed topics which LtL staff had themselves wrestled with. Whilst there was some involvement of pupils in the workshops, the overarching approach for the CS180 project was to focus in on the professional learning needed by teachers

in order to empower them to undertake curriculum making and school grounds adaptations and changes. School survey respondents consistently identified the opportunity of engaging with professional learning related to climate change and school grounds as being the reason they engaged with CS180.

School staff responding to the survey were asked to comment on how effective the project had been in improving their understanding of local impacts of climate change and 89% (n=16) responded strongly agree or agree, 6% (n=1) neither agreed nor disagreed and 6% (n=1) disagreed. There were a significant proportion of respondents who continued to indicate strongly agree or agree when asked whether the project had "supported them as a teacher" in facilitating activities with colleagues and pupils on the local effects of climate change. In response to both questions 89% (n=16) responded strongly agree or agree and 11% (n=2) neither agreed nor disagreed. This was then extended to work with community groups and 61% (n=11) said that the project had supported them in facilitating discussions, 33% (n=6) neither agreed nor disagreed and 6% (n=1) disagreed.

When assessing the online training, 56% (n=10) said that the information provided was excellent, 39% (n=7) good and 6% (n=1)

average. One respondent commented, "The initial preparatory work contained a wealth of useful information and I loved the extensive research that was made available."

100% of respondents had a positive experience with the in-person workshop, with 72% (n=13) saying it was excellent and 28% (n=5) good. The school grounds climate audit was then typically conducted as part of the in-person workshop, although in some cases this was completed at a different time depending on availability of school staff. Again, a high proportion of respondents said



this was excellent or good (94%, n=17) and 6% (n=1) responded average. 15 respondents had proceeded into a phase where they had received follow-up communications from LtL whereas the remaining 3 had only recently had their workshop at the time of completing the survey. Out of the 15 respondents, 93% (n=13) said the post-workshop communication

(including provision of additional resource and links to further information) was excellent or good, with one respondent saying average (7%, n=1). There were then 9 who had received follow-up meetings (though these are ongoing); two thirds (n=6) said these were excellent or good and one third (n=3) responding average. All respondents said that the programme met their expectations or met them to some extent.



The experiences of teachers with the CS180 project resonate with other findings from Scotland showing the strong link between increased professional learning and increased confidence (Rushton et al., 2026). Elsewhere we see evidence of teachers in England relying on self-taught professional learning (Greer et al., 2025), highlighting the importance of projects such as CS180 for enabling high-quality climate change education in schools.

In this puzzle theme – professional learning – we see a cross-over with other puzzles. For example, the professional learning provided an opportunity for staff to have **time** together to explore climate change education and to take a strategic look at how to engage the whole school rather than as individuals or small groups.

There were other factors such as school improvement plans and climate action plans (**curriculum making, context and culture**) which prompted the search for suitable professional learning and whilst some schools had a prior relationship with LtL, many were working with them for the first time. A strong area of motivation for engaging with this professional learning opportunity was that school staff and pupils are passionate about the environment and want to positively impact on climate change by developing their school and participation allowed them to explore this (**global/local, affect**).

We now move onto the puzzle of **time** and how participants responded. ➤➤

3.2 Time

Insight: Time is needed for a whole-school culture to change. Time was highlighted as essential to engage collaboratively in research-informed professional learning for climate change education. The problem is urgent and climate change education is needed but project timescales are short, staff are under pressure and educators are generally frustrated. Longer term viewpoints about school-based climate change education lead to more sustainable results.

For schools, having the opportunity to engage in professional dialogue with colleagues in a workshop focused on climate change education and tailored to their needs was invaluable. In the feedback provided through surveys, during the visits to schools by the evaluation team and through discussions with LtL staff, there were many comments about how useful and worthwhile the session was. School staff talked of the benefit of having time together to think and plan alongside LtL who could provide the advice and guidance needed to help them identify actionable first steps. LtL staff observed that the more time they had during their visit the more successful they felt the session had been.

One consequence of having this time available together was that the responsibility for taking on climate change education and sustainability-related actions was “shared out” and became less focused on one

member of staff (school survey respondent). There was also the opportunity for validation of the work already being done and it was the time and space given over to reflection which supported this. Schools were able to discuss and critically examine their work so far and through support from LtL identify “a path to improve our delivery and impact” (school survey respondent).

When asked if they had been able to dedicate enough time to their school’s participation in the project, 83% (n=15) of the school survey respondents strongly agreed or agreed with 17% (n=3) saying neither agree nor disagree.

It was frequently noted that schools would like to have more time made available to them “in order to prioritise climate and sustainability” (school survey respondent). There were different ways in which schools worked to achieve this following their



involvement. Some set up working groups who met to review the actions from the CS180 workshop and plan next steps. Others were able to build them into school priorities and plans, being allocated dedicated time for development and embedding approaches. In a small number of instances schools had dedicated outdoor learning or sustainability roles who could continue to take the lead. However, the risk with these roles is the impression from colleagues that climate change education and sustainability was being done elsewhere and that they didn't necessarily need to involve themselves. By involving a group of teachers in CS180 in each school, where there was someone in an identified role, this positioning was challenged and in our visits to schools these staff commented on feeling much less like the only one responsible now.

In Scotland there were some instances where **Learning for Sustainability** was included in the school improvement plan, providing protected time for a member of staff to work on development of the curriculum. In England and Wales there were examples where there were sustainability or outdoor leads who had time available to take on a leadership role. In some cases, the individuals themselves had developed space for the role in their setting, working with colleagues to highlight the importance of what could be achieved if there was someone who had dedicated time.

LtL staff noted that where workshops involved senior leaders there was clear strategic and operational planning taking place at the end of the workshop, identifying actions and a timeline for taking it forward and LtL staff found that very encouraging. This immediacy was an initial sign of the effectiveness of the workshop as it helped

identify initial steps by motivating and inspiring staff. However, there were a small number of instances where ideas emerging from staff were blocked or dismissed by senior leaders and this was felt to be a significant barrier to progress.

Schools commented that the involvement in a national project of this kind and the follow-up communications and meetings with LtL provided them with a sense of responsibility and accountability to progress the actions identified as part of the project. LtL staff encouraged schools to see their actions and progress as being open-ended, to prevent overwhelm.

Time also emerged strongly as a theme during the school visits. When walking around the school grounds, staff talked about their ten-year plans for developing their sites. They looked back on the years they had been teaching at their school and how they had seen the school pond blossom or how Woodpeckers and Red Kites had begun visiting. They wondered about how things would look in ten-years time, would their ancient trees still be standing or would they fall like others in the local area? These effects had been attributed to increasing wind and rain as local effects of climate change and looking back, these changes were apparent to staff and pupils.

We now examine how school and LtL staff have worked together to support curriculum making. »»

3.3 Curriculum Making

Insight: Change is possible when staff, pupils, LtL staff, and supporting bodies work together in a relational approach to create a shared understanding of climate change education. Understanding curriculum making as place-responsive and more than delivery is key to what actions are possible and their effects.

In their experiences of working with multiple schools across the UK, LtL staff observed some commonalities which put them into certain groupings. The first included schools who were at the beginning of their journey with climate change education and using school grounds to mitigate for climate effects. The next group was made up of those who “through the workshop realised they’re doing more than they thought” but that “it may not be so joined up” (LtL staff). These were typically identified as curriculum-related or outdoor learning elements. Then there were the schools where there was clear leadership either through one person or a group of colleagues, where there was a strategic approach being taken over multiple years. The strategic approach addressed whole school cross-curricular activities, outdoor learning and partnerships with the local community, “weaving” all of these elements together in a relational approach (LtL staff).

All schools were felt by LtL to have some kind of understanding of climate change education, especially in relation to the curriculum but that the introduction of

using school grounds as an element was an added complexity. Schools responded to this by often first looking at learning outdoors and then “layering” or using a topic-based approach in order to make sure what they were doing was relevant to them (LtL staff). The whole school approach has included considerations of how all subjects are taught outside.

Others used the project as an opportunity to look at their school values and vision statements and review their curriculum with a climate change lens. In one secondary school they had representatives from senior leadership, science, business, geography, art and religious education working together to look at all the different ways in which they engage with climate change education and how they might integrate and understand how they weave things more closely together. This was supported by working with pupils on actions they wanted to take as well as making plans for an outdoor learning space.

Some schools took immediate action to address some aspects of their curriculum.



For example, one school changed their approach to junk modelling when they considered how unsustainable their way of making models was by ensuring the items could still be recycled afterwards.

There are many ways in which curriculum making supported school staff and pupils to achieve agency. There were examples where teachers would make connections between curriculum and activism, “teaching them small steps make a big difference” (Teacher interview). There were other ways in which curriculum making was connected with the community and building partnerships. Whether that was through gardening and cooking workshops for parents or applying for local funding for wormeries, schools were making connections outside in the school grounds or more widely in their communities.

We now look at how changes to school grounds enabled schools to address global issues using local actions. »»



3.4 Global/local approaches

Insight: Changes to place/school grounds was experienced as a valued counter to eco-anxiety and a failure to act in relation to climate change. CS180 offered a step-change in provision and empowerment of all ages in school life. Taking a place-responsive approach to climate change education via school grounds adaptations offers a viable whole-school, justice-oriented, local-global (glocal) approach which is supported by being hands-on and at times, outdoors.

For many schools CS180 provided an opportunity to “develop the school environment whilst impacting positively on climate change” (school survey respondent) and to engage the whole school community in identifying small local actions. Prior knowledge of global issues was often linked to headlines such as the impact on polar bears and some schools examined global issues with local consequences such as fast fashion and food waste.

There was concern amongst schools of not increasing eco-anxiety and instead empowering and enabling their pupils to respond using “little steps” (Teacher interview). A common response from LtL was to encourage a nature connection between the pupils and their local environment but also between the teachers and their outdoor spaces. During all of our visits to schools participating in CS180 we took a walk around

the grounds with school staff and everyone talked in some way about how positive they felt being outdoors and how they wanted to be outside more. This included not only teaching and learning with pupils but meetings and professional learning with fellow colleagues as well. For pupils, teachers observed that some had strong connections to the nature in their local areas whilst others “don’t realise what they’ve got on their doorstep” (Teacher interview).

The school grounds audit tool (described in the introduction) enabled staff and pupils to look closely at their grounds, especially on how to use their grounds “more effectively. The report [produced from the audit tool] was clear and gave us some examples of what we could do next with little cost” (school survey respondent). For some schools it was about looking at their grounds in a new way and reconsidering how they



used areas and to consider nature-based solutions rather than just putting in new play equipment. In one school they built a mud kitchen for younger children in an area they had previously discouraged them from using due to how wet it would get. They also adopted an indoor/outdoor footwear policy. The approach shifted from a negative to a positive and added the opportunity for more play in the space.

Through taking part in the school grounds audit, pupil voice became an important element when considering the grounds. Ltl staff would use thermometers and anemometers with pupils to look at the temperature and wind levels across the playground. They asked children to show them and the school staff what areas they used and why. The results often shocked school staff. In one instance an area of astroturf was more than 20 degrees Celsius

warmer than a shaded area under trees where children thought they weren't allowed to go. The staff knew about the children's comments of the difference between the two places but before going out with them to take measurements they hadn't understood how significant the difference was. Ltl staff noted that there was "a recurring theme" amongst school feedback they received that "we've listened to the children" and schools were "really taking on board what the children are telling them as well, because they know their grounds".

Another core motivation from schools for participating was looking at "ways to use our outside space as an educational tool for discussing climate" and they took it as an opportunity for reflection on their use of outdoor learning more generally. One school noted that as a result of the project "Our practitioners are now really thinking about

how to use the outdoors for learning rather than taking the learning outdoors and that is a significant shift in mindset" (school survey respondent).

In many places the climate change effects were increased wind and rain and for outdoor learning to be possible some schools were developing sheltered areas to help encourage outdoor learning regardless of the weather. Others had class sets of wellies or encouraged parents to send in wet weather clothing. In other places the concern was heat in the summer months and planting trees and bamboo screens for shade became a priority. These actions could provide shade for buildings and help to bring temperatures down indoors but also provide shade more generally for their outdoor spaces such that physical education classes could safely be held outdoors in summer.





There are many and varied local small actions being taken in schools, which LTL staff noted was enabling schools to take action in response to climate change without being overwhelmed. As discussed this work was often informed by pupils. Some schools had existing eco or sustainability committees, others linked to wellbeing or social justice pupil groups. Some schools set pupil groups up in response to CS180. Some of the pupil responses linked to the concept of the circular economy and especially the

aspects relating to reuse seemed to be a strong motivator for pupils as they used their imaginations and creativity to consider alternative uses of materials. Examples of activities involving pupils included litter picking, setting up swap shops for books and clothing, identifying ways of repurposing unwanted clothes and undertaking air quality monitoring and a review of transport, as well as significant amounts of planting. Increasing biodiversity was a strong motivation for many schools which saw hedgerows and trees being planted. In one school we visited planting was also directed at addressing pollution outside of the school in response to car use. Lichens and moss were discussed as ways of monitoring and responding to pollution in the areas around their school.

A lot of the small actions were supported by parents and local community members and groups. Parents contributed their time to planting, community groups provided small grants or specialist expertise and men's shed groups were often mentioned as building planters and other pieces of equipment for school grounds. In many instances school grounds became places of opportunity and intergenerational empowerment as a result of CS180. One school talked of having been able to double their learning spaces due to the ways in which they had developed their grounds and staff capacity and confidence in relation to outdoor learning.

We now look at how context and culture has emerged and been addressed. »»

3.5 Contexts and Cultures

Insight: Being responsive to place, the school setting, culture and wider policy contexts is possible. CS180 has shown that there are many different routes into climate change education but the opportunities and impacts are wide ranging and can be woven through many different elements of school life for staff and for pupils.

As indicated in the professional learning puzzle response, some schools have been motivated to get involved with CS180 due to school contexts. Education policy has been a significant driver of activity in England and Scotland through the Learning for Sustainability curriculum theme in Curriculum for Excellence² and the requirement for schools in England to have a Climate Action Plan in place³. LtL has been an active advocate and support for schools in these policy-related areas and CS180 exemplifies this work and the ways in which staff were able to use the time with school staff to respond to their school priorities and needs.

As observed by LtL staff in the global/local puzzle response, schools came to the CS180 project from different starting points. Some already had a culture of collaboration and shared responsibility for climate change education and outdoor learning across the school, whilst others had pockets of activity and some were starting on their journey towards a whole school approach by first building confidence in staff and taking initial small actions along with pupils.

There have been positive shifts in culture and confidence in schools. 83% (n=15) responded to the survey that they strongly agreed or agreed that they were now more confident in their ability to integrate climate change into their teaching and across school life, with 17% (n=3) indicating neither agree nor disagree. When asked to consider the confidence they now have in their ability to know how school grounds can be used as a context for climate change education, 94% (n=17) strongly agreed or agreed whilst 6% (n=1) neither agreed nor disagreed.

This school describes the impact on their culture as a result of school participation in CS180.

Staff have become more confident in linking climate education to outdoor learning and everyday classroom practice. There's a noticeable shift in how we view our school grounds—as a space not just for play, but for purposeful climate action. Teachers have started sharing outdoor activity ideas more regularly, and pupils are now actively suggesting eco-friendly



changes around the school, showing that sustainability is becoming part of our whole-school culture. (School survey response)

Another school reflected on the culture of collegiality which CS180 encouraged meaning that the response “has become a whole school development programme and our Eco School topics do not always have this impact. This has been a huge positive.” (School survey response).

The responses to the other climate change education puzzles have woven together to produce a culture shift in schools. In response to the survey question “Can you share any examples of how the thinking and/or practices of others in your setting have changed in response to the Climate School 180 programme?”, one school described the different elements which have brought about a culture change: “Now an integrated part of our curriculum. Improved staff and pupil understanding and awareness. Improved our school grounds.”

LtL staff have talked about examples of whole school change and there were some factors which enabled successful culture change. This included encouraging schools to take small steps over the longer term. In one school they focussed on addressing staff confidence and engagement with outdoor learning and LtL staff were able to support them in doing this. There was also clear support from senior leadership and time was provided to staff for development work.

One common factor reported by LtL staff was the usefulness of the 4Cs model (Scottish Government 2023). This model has been used as part of Learning for Sustainability in Scotland to support schools in becoming sustainable settings by 2030.

For CS180 it has been used to help schools reflect and plan actions as schools considered each of the 4Cs in turn. These are:

- Curriculum – Learning, teaching, assessment, pedagogy.
- Culture – Learner voice, UNCRC, ethos, relationships.
- Community – Place, partnerships, families, local action.
- Campus – Buildings, grounds, transport, energy & water use.

(Scottish Government 2023)

The 4Cs approach has been helpful in framing discussions and actions for schools to avoid overwhelm. LtL staff found that sometimes schools will want to focus on campus or another on curriculum and it allows schools to articulate their approach based on their needs. It also helps to identify where schools are already succeeding. In the early phases of the project a 5th C of commitment had been added to a pledge form for schools to complete. However, as the exploratory approach and reflection of puzzles became threaded through the work of LtL staff and more apparent, the emphasis on the pledges fell into the background but the 4Cs as a way of framing discussions remained.

Whilst the culture change aspect has been widely successful, there have been local contexts which have meant it has been challenging to make changes, especially to school grounds. Across the UK there are different arrangements for responsibility for the maintenance of school grounds but the most common situation is that individual schools are not responsible for managing their grounds. There are some schools who have had that responsibility devolved to them. There are also some situations where the school premises are owned and managed



by a multi-academy trust or other third party organisation. The evaluation team and LtL staff saw the negative consequences of the grounds management not being in the hands of the schools: “simple things that the children are advocating and coming up with that make a difference, that actually the authority then put the big no on” (LtL staff).

A lot of the issues related to no-mow areas and planting of trees. Establishing a no-mow area was a commonly identified action amongst schools as it is a simple and effective nature-based action which supports biodiversity. In practice it was often hard to establish and for those schools who had been able to negotiate with the contact managing the grounds maintenance it could easily be forgotten or perhaps wasn't recorded appropriately. This meant that no-mow areas were often cut back after a period of growth. School staff would talk of instances where they would approach the staff undertaking the grounds maintenance

to prevent them cutting the grass but weren't always successful. This aspect could be incredibly frustrating for schools as it was something which they thought would be easily achievable but in practice was difficult to achieve. In other instances, the school grounds restrictions went beyond making changes to grass cutting. When making plans for changes, some schools were restricted in what they could put in their own school grounds with contractors informing schools that shelters and structures weren't permitted. Schools would do their best to work to overcome these issues but this is another example where the schools don't necessarily have agency over their own spaces and the concern amongst LtL staff was that being told no would stop any progress or momentum the school had been establishing as part of CS180.

We now consider the final puzzle of affect.



² <https://education.gov.scot/curriculum-for-excellence/curriculum-themes/learning-for-sustainability/>

³ <https://www.gov.uk/guidance/sustainability-leadership-and-climate-action-plans-in-education>



3.6 Affective approaches

Insight: Approaches need to account for an affective/hope dimension and address eco-anxieties. Science teaching about climate change alone is insufficient.

LtL staff were invited to adopt a more arts-based approach to summarising their experience in CS180 towards the end of the project in 2026 by writing and sharing stories. As part of the final professional learning session LtL staff reflected on these stories and others, sharing their thoughts on the project, with one staff member commenting that they felt the journey they had been on was “transformative” for them but also, they hoped it had also been transformative for the schools they worked with. They reflected that their approach had attempted to do this in a way that acknowledged the emotion and anxiety which can be involved with climate change but that also ensured they “weren’t putting the blame on them [school staff and pupils] in some way”. Underlying a lot of the approach for the project was encouraging a connection to nature, which LtL staff commented began with a sense of care and kindness towards the world. There was also an acknowledgement of the hesitancy of LtL staff to engage with climate change discussions in the past and through this experience they’ve grown in confidence and know that they can talk about it by acknowledging the hard and difficult aspects but that it’s also “important to focus on that hopeful element” to help

ensure everyone involved, including LtL staff, could feel as though responses to climate change issues were possible.



The following two CS180 personal stories were shared during the concluding reflective professional learning session for the project. >>



Sowing seeds

It was a crisp winter's day early in the New Year. The school site looked beautiful, full of potential. The snow had only just stopped falling and all the hard surfacing had been softened by a light dusting of snow. The sky was bright blue and the sun bathed everything in a golden glow.

Sadly, on leaving the school site, I didn't feel I was basking in the optimism of change. There had been an unseen barrier in the discussions around the four Cs. Suggestions met with obstacles, activities cut short because of the cold weather, sustainable features, a failed symbolism of the past.

However, I had sensed glimmers of hope. The group included a trainee teacher eager to learn more, and his mentor, the sustainability lead, had ideas bubbling under the surface. The follow-up CS 180 meeting turned out to be a huge, joyous surprise. The lead teacher was brewing with ideas and full of enthusiasm. The school recently had an external visitor teaching the children all about food waste and the kids loved it. Even the youngest children wanted to be part of the change to minimise waste. Change was happening in the grounds too. A new area for growing food and a patch of long grass was to be created. Even a small pond was part of the discussion.

It turned out sowing the seeds of hope didn't always germinate immediately. The conditions needed to change in order to allow the new shoots to come through.

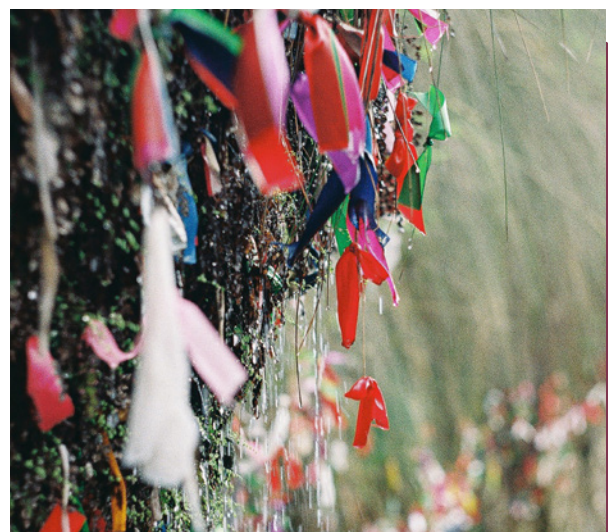
The Tree of Hope

One school got really stuck on eco anxiety, they were quite along their journey already, and how it was their role and priority to work on that [eco-anxiety] first before they got further into their climate change education [journey].

And so they set up immediately the only bit of playground that was lovely but never used. There was this tree with some sand around it. And they immediately tied ribbon around it. And so it's the Tree of Hope. And so when people like children express their eco-anxiety and worries, they can go to the Tree of Hope and leave their worry there or just have an outdoor space to kind of hold that space for their feelings.

These stories describe the different feelings and emotions which have been connected to the project, experienced by both LtL and school staff and highlight the ways in which hope emerged in their work.

Having discussed the outcomes of the project in relation to the puzzles, we now consider the successes and challenges experienced and the enablers and barriers.



3.7 Successes and challenges, enablers and barriers

In this section we summarise the different aspects in turn, drawing on the findings from the puzzle discussions.

Challenges

Whilst there have been many successes, several challenges arose as the project progressed. We first look at the challenges for LtL and then for schools.

For LtL:

- LtL changed their delivery model to one which saw them acting more as facilitators where the outcomes were varied and open-ended.
- LtL staff want to continue to build on the momentum they have through this project and want to take their understanding and experiences into other projects.
- Some schools expected LtL to 'fix it' for them, meaning that schools thought LtL would write their action plans and write curriculum for them.

For schools:

- Schools had a good understanding of climate change education but adding the use of school grounds was complex.
- There were some schools who did not even realise that in England they were expected to have a Climate Action Plan in place.
- Climate change mitigation could take on a number of different guises and this included considerations of improving shelter against wind and rain but also for improving shade in the summer months.
- In some instances there was resistance to proposed changes from colleagues or school leadership.
- For many schools they want to know what is next and are keen to maintain a relationship with LtL and to continue their work in this area.



Successes

There have been a number of successes identified and summarised below for schools. Firstly, LtL staff feel as though their own practice has improved and they have felt a shift in how they approach their work.

For all or almost all schools:

- Participation in the project offered the opportunity for all schools to take a whole school approach, allowing a strategic examination of climate change education across curriculum, campus, culture and community.
- Participation has widened the responsibility and involvement in climate change education amongst more staff in many schools and this includes across different career stages and in different leadership roles.
- CS180 has been an opportunity to take a range of climate change mitigation actions in school grounds, including increasing biodiversity through a range of different kinds of planting and changing the ways in which grounds are used at different times of the year.
- The school workshops were responsive and LtL staff worked to meet the needs of the school staff.
- School staff thought the project was of high quality. The in-person and online professional learning was highly regarded as was the ongoing support, advice and guidance from LtL.
- School staff have increased confidence in undertaking outdoor learning in their school settings.
- School staff have increased confidence in using school grounds to explore climate change. 83% (n=15) of survey respondents were more confident in their ability to integrate climate change into their

teaching and across school life. 94% (n=17) of survey respondents strongly agreed they now have confidence in their ability to know how school grounds can be used as a context for climate change education.

- School staff have an increased understanding of the local impacts of climate change.
- School staff have reported that pupils have become more empowered in responding to climate change and more confident discussing and engaging with sustainability topics.

For some schools:

- Some schools have reported a shift in culture, with staff more confident in outdoor learning and pupils more active in making changes to the school to make it more sustainable.
- Some schools have increased spaces available for outdoor learning.
- Schools took this as an opportunity to review their curriculum and consider how different subjects could be brought together.
- School staff took on board the views and opinions of pupils, taking this into account when considering actions and many of the schools worked in collaboration with pupils.
- There has been involvement of many different groups within the local community, from parent groups to a range of community groups, including support from businesses.

Enablers

In examining and reflecting on the successes, a number of enabling factors became apparent both in the way LtL approached the project and the ways in which schools engaged.

Overall school and LtL staff engaged in parallel programmes of professional learning, providing opportunities to explore climate education topics and to reflect on their own practice and this was something that school and LtL staff enjoyed engaging in.

LtL approach:

- LtL staff felt a sense of collegiality when working on the project.
- The school grounds audit supported the work of the project by helping schools to examine and explore their own environment before going on to identify actions they can take and how to use their grounds more effectively. This also provided an opportunity for pupils to contribute.
- LtL encouraged smaller steps to be taken over the longer term rather than a lot of change all at once. Having a follow-up meeting several months after the workshop was a highlight for many LtL staff as this helped schools work towards taking action and LtL staff could see what impact there was in school.
- LtL staff worked to acknowledge the complexity and difficulty of discussing climate change in schools but also aimed to encourage a sense of care and kindness as well as hope in response to the challenge.

School engagement:

- School staff and pupils are passionate about the environment and want to make positive impacts locally.
- Having protected time available in school for the workshops and planning were key to enabling plans to be made.
- Schools mentioned the importance of being involved in a high quality, trusted and research-informed national programme such as this and the sense of accountability towards LtL helped them keep momentum in schools and take action.
- Senior leader (e.g. head teacher) involvement in workshops.

One further contextual enabling factor was that in Scotland, the Learning for Sustainability curriculum theme and in England the Climate Action Plans supported action being taken.



Barriers

Across the experiences of school and LtL staff there were a number of barriers which hindered progress onwards from the workshop.

- There were instances where once teachers identified actions to take there was a barrier preventing them from progressing. This included needing permission to making school grounds changes and being denied. There were also times when headteachers declined to take forward suggestions from the workshops.
 - One potential structural barrier is if schools in England are part of a multi-academy trust (MAT) as this can mean individual schools are unable to make changes to curriculum. This can be mitigated if multiple schools within the same MAT get involved.
 - There is a lack of time available to school staff and this can make it difficult to go on and take action. Climate change education can often be low on the priority list for schools
 - For some schools there was a lack of previous work in this area which meant low confidence and lack of process and policy. This often also meant one person within the school was responsible for leading this work.
- We now go on to conclude the evaluation report with a summary of findings. >>



4.

Place-responsive climate change education



The CS180 project has successfully engaged over one thousand teachers from 140 schools from across the four nations of the UK in reflecting about climate change education in their settings and how school grounds can be adapted to mitigate for climate effects.

Through their engagement with the project, schools had the time and space to critically engage with climate change education in their setting and consider the ways in which they could respond locally. Responsibility and leadership was diversified across multiple colleagues and roles.

There is evidence that core participants have developed their confidence and understanding in relation to climate change education. School staff have improved their awareness of the local impacts of climate change and have identified actions they and their pupils can take in their school grounds to mitigate against these changes. 89% (n=16) of school staff strongly agreed or agreed that the project had been effective in improving their understanding of local impacts of climate change. Climate change education and outdoor learning are being woven into new forms of curriculum making that underpins everyday school life and which now links into the wider community in new ways.

School staff who participated in the project evidenced they are more confident in their ability to integrate climate change into their teaching and across school life and in knowing how to use school grounds as a context for climate change education. Schools have gone on to respond to their participation in the project in a range of ways, including ongoing further changes to school grounds, expanding opportunities for outdoor learning, curriculum making, building stronger community links and local partnerships. The school grounds developments have been varied, with some undertaking significant planting with a focus on encouraging biodiversity, others are developing outdoor classroom areas and updating playgrounds to provide additional shaded areas and new opportunities for play.

All of this has been underpinned by a place-responsive approach where LTL responded to the local context and supported schools in identifying actions they could purposefully take.

In conclusion there are two core findings to highlight.

1. School grounds projects can meaningfully address climate change and climate change education and empower school staff and pupils.

Experiences of changing school grounds in CS180 demonstrates that it is possible to contextualise climate change education in an active, sustained and meaningful way. School grounds climate-related adaptations and mitigations have been welcomed, offering schools a practical and empowering way to address this complex, controversial issue through greater participation in decision making, campus improvements, and whole-school learning for school staff, pupils and the wider community.

2. Climate change education requires place-responsive curriculum making.

There is evidence that the school curriculum is impacted through addressing this global problem via local changes. For these schools, it involved interorganisational, intergenerational and experiential learning. CS180 exemplifies that climate change curriculum making will encompass a whole-school, community-linked, and place-responsive approach, catalysing pupils' learning both in and out of class, professional learning for school staff, and the development of new school-community partnerships to generate local knowledge and place changes.

In conclusion, Learning through Landscapes and the Climate School 180 project have seeded ideas and changes in schools across the UK which will continue to produce a broad range of effects for years to come.

Appendix



School survey questions

1. Name
2. Role
3. School
4. School postcode
5. E-mail address
6. Which cohort were you in?
 - a. Pathfinder
 - b. 1
 - c. 2
 - d. 3
 - e. 4
 - f. I don't know
7. Why did you decide to participate in Climate School 180?
8. In what ways, if any, did the programme meet your expectations?
 - a. Yes
 - b. No
 - c. To some extent
 - d. Please comment
9. Please indicate your level of agreement with the following statements, response scale is: **Strongly disagree, Disagree, Neither agree nor disagree, Somewhat agree, Strongly agree, not applicable.**
 - I was able to dedicate enough time to manage our school's participation in the project.
 - I am now more confident in my ability to integrate climate change into my teaching and across school life.
 - I now have more confidence in my ability to know how school grounds can be used as a context for climate change education.
 - The project has been effective in improving my understanding of the local impacts of climate change.
 - The project has supported me as a teacher in facilitating discussions and activities with colleagues on the local effects of climate change.
 - The project has supported me as a teacher in facilitating discussions and activities with pupils on the local effects of climate change.
 - The project has supported me as a teacher in facilitating discussions and activities with community groups on the local effects of climate change.



10. Next we'd like you to think about your experiences with Learning through Landscapes (LtL) and the project content. How useful did you find the following?

Response scale is: Poor, Fair, Average, Good, Excellent, Not applicable

- Information provided via the online training modules
- The in-person workshop
- The school grounds climate audit (typically done as part of the workshop visit)
- Post-workshop communication with LtL and provision of additional resources and links to further information
- Follow-up online meetings with LtL
- Overall rating of the experience

11. Please comment on why you allocated these ratings.

12. Can you share any examples of how your thinking has changed during the Climate School 180 programme?

13. Can you share any examples of how your practices have changed during the Climate School 180 programme?

14. Can you share any examples of how thinking and/or practices have changed in your setting in response to the Climate School 180 programme?

15. Can you share any example of changes to place or school grounds in relation to the Climate School 180 programme? What is next?

16. Would you be interested in taking part in an interview with University of Stirling about your experiences of the programme?

- a. Yes
- b. No

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