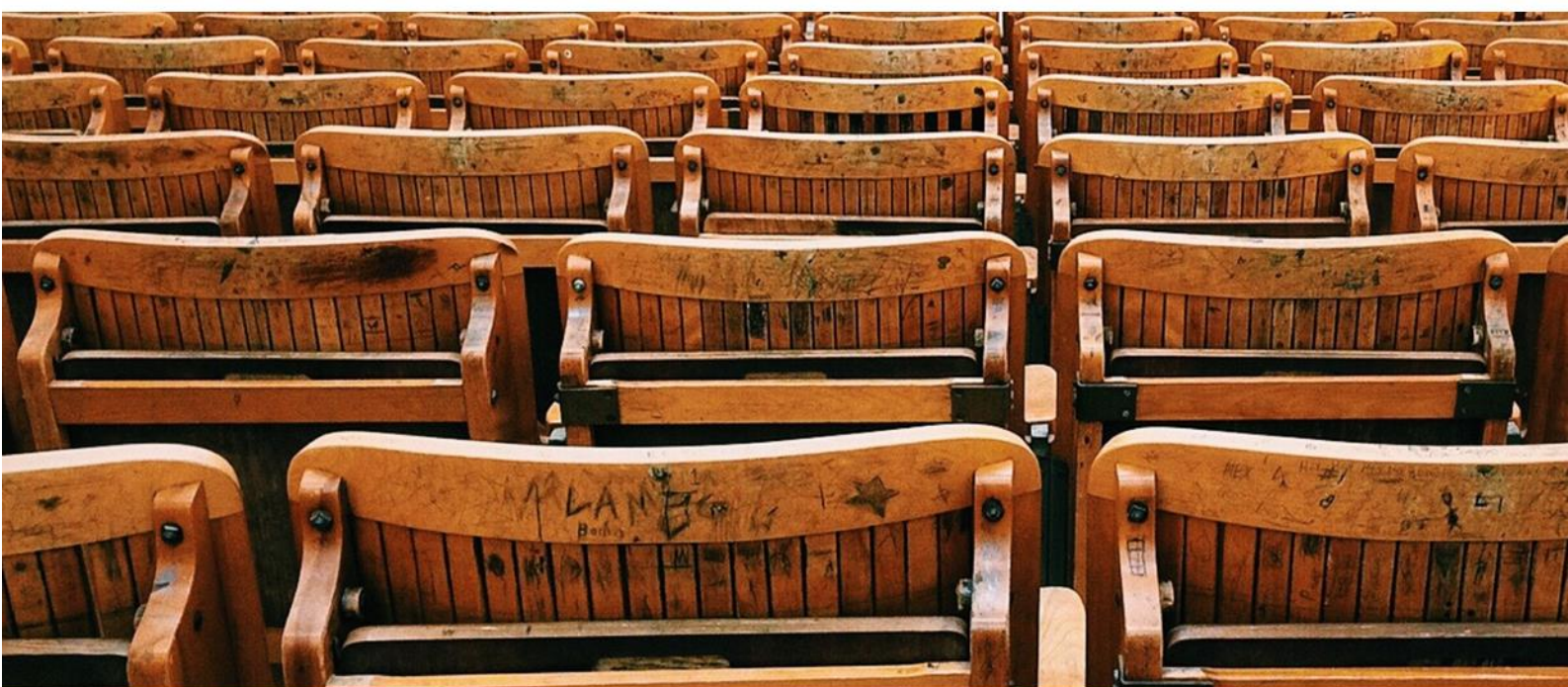**Institute of Education**

Development Education Research Centre

Connecting Classrooms through Global Learning
Practitioner Research Fund Paper 4

Developing a whole campus approach to learning for sustainability:
Challenges and opportunities for embedding and sustaining change

Tina Stones, Mary Collacott and Beth Christie
2022

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This paper is written by Tina Stones, Mary Collacott and Beth Christie and is a result of their own independent study. The authors do not speak on behalf of the British Council and its consortium partners. All secondary sources of information have been acknowledged fully in footnotes and references and a bibliography of all literature used in the work have been provided. You can reach Tina Stones on: Tina.Stones@highland.gov.uk

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Abbreviations

CCGL   Connecting Classrooms through Global Learning

CLPL   Career Long Professional Learning

GTCS   General Teaching Council for Scotland

LfS   Learning for Sustainability

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Abstract

Learning for Sustainability (LfS) is a key component of Scottish Education. However, policy interpretation and enactment is a complicated process and there can often be a difference between policy intentions and implementation.

The following research explores how one campus (for pupils aged 2-18) in Scotland undertook a year-long all staff career long professional learning programme (CLPL) to develop a whole campus approach to Learning for Sustainability. The aim of this research project was to better understand the implications (opportunities and challenges) at a whole school / campus and teacher level when developing a whole school / campus approach to Learning for Sustainability. Three semi-structured interviews were carried out, with focus groups made up of a small group of teaching staff, members of the senior management team, as well as a follow up interview with the head teacher. A theoretical thematic analysis was used to identify themes from the data and applied to further explore the emergence of these elements from the CLPL discussion forums including contributions from all participating staff members. The three main themes identified were: *collaboration and collegiality; processes of change;* and *attitudes to learning and to change*.

The study revealed a tension between the need for both teachers and management to have an identified person 'leading' the agenda, and the need for that agenda to develop in a culture of collegiately and shared responsibility. There was also an interesting contrast between deep and shallow learning for both teachers and managers. The study also provided useful learning for other organisations leading the agenda for change, which can be summarised into three key recommendations:

(1) Organisational leaders should engage with suitable learning prior to developing a leadership of change model for their organisation, which includes a distributed model of leadership.
(2) Methods of professional learning for all practitioners should include an engagement with reflective activities, which enables them to access deeper and more transformational learning.
(3) Large organisations should work with community-led groups and be sensitive to local contexts to establish a vision, which clearly articulates the imperative is the responsibility of all.

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Introduction

The research included in this report began in 2018 and ran until 2021. The following sections outline how the research began and then the report captures the policy context, the methodology, data analysis, and concludes with key recommendations for consideration by other practitioners and organisations who face the same imperative of implementing and sustaining change in Learning for Sustainability.

The report documents a research project which explores how one campus (for pupils aged 2-18) in Scotland undertook a journey of implementing a whole campus approach to Learning for Sustainability. The study was funded by the British Council's Connecting Classrooms through Global Learning Practitioner Research Fund and the research was undertaken by a Campus Head Teacher, Learning for Sustainability Scotland, University of Edinburgh, and teachers in the school.

Policy Context

Learning for Sustainability (LfS) is a key aspect of Scotland's Curriculum for Excellence and enables learners to explore the multitude of interrelated themes, including global issues of social, economic and environmental sustainability, and outdoor learning (Education Scotland 2021a).

LfS is fundamental to the Standards for Registration for all teachers in Scotland (General Teaching Council for Scotland, 2021a) and is a core theme running through *How Good is Our School? 4* (Education Scotland, 2015), the mechanism for self-evaluation and improvement for Scottish schools.

The implementation of the LfS action plan was based upon key objectives which included: a national approach to supporting LfS, a learner entitlement to LfS, a whole school approach to LfS, all educational policies supporting LfS and, in association with the GTCS professional Standards, that every individual in education should demonstrate LfS in their practice (Education Scotland, 2021a). In August 2021, the revised Standards included a focus on social justice, and a commitment to '*embracing global educational and social values of sustainability, equality, equity, and justice, and recognizing children's rights*' (GTCS, 2021a). The revised standards came at a time of increased focus on children's rights, and on March 16 2021 the UNCRC (Incorporation) (Scotland) Bill was passed which meant that the UN Convention on the Rights of the Child will become part of Scots Law (Together, 2022). The recent revision saw a further strengthening of the commitment to LfS.

The General Teaching Council for Scotland's Professional Standards are underpinned by values, sustainability, and leadership (GTCS, 2021a). Values sitting at the core of the teaching profession are complex, personal, and shape the professionals who are responsible for the professional actions (GTCS, 2021a). Values such as '*Trust and Respect are expectations of positive actions that support authentic relationship building and show care for the needs and feelings of the people involved and respect for our natural world and its limited resources*' (GTCS, 2021a). This is a vast and challenging imperative for our world, and even more demanding when

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considered in relation to an individual's personal values and their professional role and responsibility. Policy interpretation and policy enactment is a complicated process (Ball and Bowe, 1992), and as noted by Spratt (2017), policy and policy discourse influence behaviours. Ball, Maguire & Braun (2012) suggest that policy aspirations are understood in a variety of ways. This can be challenging for local authorities, school leaders and teachers to manage; LfS is a core part of the profession and requires consistently high standards across the system and is also deeply interconnected with the individual's values.

The concept of Learning for Sustainability is a vast and complex area. It is described as a '*cross-curricular approach to creating coherent, rewarding and transformative learning experiences*' (Education Scotland, 2021a), and as being about '*knowing and understanding the world as it is, and equipping educators and learners with the confidence, values, knowledge, attitudes, capabilities and skills that will enable it to contribute effectively to making a better world*' (GTCS, 2021a). Spratt (2016) highlighted that sustainability was a '*quieter theme*' in CfE Health and Wellbeing policies and specifically more evident in Outdoor Learning policies. However, following the publication of 'Vision 2030+' by the Learning for Sustainability National Implementation Group in 2016, many developments emerged which included a more coherent and holistic approach to the various ways in which LfS can be understood. Learning for Sustainability encompasses sustainable development education, outdoor learning, and global citizenship. However, despite these developments, it still remains the case that LfS is '*well understood by a few but misunderstood by many*' (Christie et al, 2019). Accepting that this confusion exists and, in an attempt to redress it in some way, this research focused on the process of policy understanding and enactment during a year-long commitment to an LfS-centred career long professional learning (CLPL) programme across a whole campus.

This is more congruent with the UNESCO definition of LfS which states:

> *Learning for Sustainability is learning to live within the environmental limits of our planet and to build a just, equitable and peaceful society. It is essential for the well-being of all and is an international priority.' (UNESCO, 2013)*

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Research Site

One Community Campus in Scotland, which is the focus and site of this study, has been taking a whole school approach to developing and embedding Learning for Sustainability since August 2019. The campus consists of three individual schools, spread across a geographical location in the north of Scotland. This is a non-denominational, co-educational comprehensive campus, made up of a smaller rurally located primary school (n=34) and nursery (n=10); a larger primary (n=158) and nursery (n=32); and a secondary school (n=192).

Campus Leadership

In August 2019 the campus started to work towards developing their whole campus and community approach to Learning for Sustainability. Through on-going self-evaluation processes, the head teacher had identified Learning for Sustainability as an area for development across the Campus. In partnership with Learning for Sustainability Scotland and the University of Edinburgh, and through the British Council / Department for International Development Connecting Classrooms through Global Learning (CCGL) programme in Scotland, a year-long whole campus professional learning programme for all staff brought the schools together, contributing to whole campus learning and sharing.

The head teacher for the 2-18 Campus had been appointed as the head for the secondary school in 2014. In the early stages of her headship, she worked in strong collaboration with a wide range of partners to oversee the merge to a 2-18 campus. It was soon after this merge that the head teacher, as part of her Professional Review and Development, identified Learning for Sustainability as an area of leadership development, and undertook this development activity through completing '*Excellence in Headship'* (Education Scotland, 2021b). This enabled the head teacher to fully explore the concept of Learning for Sustainability on a personal level, whilst reflecting on, and exploring, theories of leading learning and leading change prior to working across the campus with children, young people, colleagues and partners.

Learning Context

The Standard for Headship (GTCS, 2021b) stipulates that head teachers need to establish and model a vision and ethos for Learning for Sustainability, and so the head teacher explored Collaborative Professionalism (Hargreaves and O'Connor, 2018) in depth before introducing the online Learning for Sustainability course to the wider campus team. In particular, the head teacher engaged in reflective activities to explore the concept of Collaborative Professionalism, which is defined by Hargreaves and O'Connor (2018) as a 'prescriptive' process that focuses on '*how to collaborate more deeply, in ways that achieve greater impact*.'

The head teacher was also keen to ensure this approach was underpinned by the professional actions outlined by the GTCS (2021b), which noted the importance of authentic relationship building. The thought processes undertaken by the head teacher were therefore based on

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developing the following in both the development of the vision and the school ethos when considering school leadership:

> *As an advanced organiser, collaborative professionalism is about how teachers and other educators transform teaching and learning together to work with all students to develop fulfilling lives of meaning, purpose and success. It is evidence informed, but not data-driven, and involves deep and sometimes demanding dialogue, candid but constructive feedback, and continuous collaborative inquiry. Finally, collaborative inquiry is embedded in the culture and life of the school, where educators actively care for and have solidarity with each other as fellow professionals as they pursue their challenging work together in response to the cultures of their students, the society and themselves. (Hargreaves and O'Connor, 2018: 6).*

In particular, the head teacher developed a focus on the evidence informed approach to transform teaching and learning with and through the whole school community. This involved a high degree of stepping back and enabling others to lead the change through the school, having modelled her own learning and transformation of practice first.

Career Long Professional Learning (CLPL) Programme

This professional learning programme connected directly with Scotland's Curriculum for Excellence and linked to the United Nations Sustainable Development Goals (Education Scotland, 2021a). Learning was contextualised within Scotland's current education policy priorities, specifically LfS (as outlined above). The programme design was underpinned by the key principles of Education Scotland's National Model of Professional Learning, which states that learning should deepen knowledge and understanding, as well as being rooted in enquiry and collaboration (Education Scotland, 2021c). Laurie, Nonoyama-Tarumi, McKeown and Hopkins (2016) highlight the fundamental place of professional learning opportunities which engage with the complexity of LfS and its relationship to our own values and behaviours in order for LfS policy to be implemented effectively. During this programme, teachers examined professional values, professional knowledge and understanding, and professional skills and abilities to support practical activities in school. The objective being to better support learners to think critically, solve problems and become active citizens that can contribute to meeting 21st Century global challenges (Learning for Sustainability Scotland, 2022).

The programme consisted of an initial face to face session, followed by a series of monthly online learning modules. To complete the course, all staff participants were required to plan and implement an LfS focused activity with their learners, as well as engage in ongoing critical reflection on their practice with relation to LfS through online discussion forums. The programme was completed at Level 2 by 42 teachers over three months. 29 teachers continued to complete the professional learning at Level 3, following a further two months of online collaboration and a final face-to-face sharing session. In addition, 3 of the teaching staff embarked on an extended 6-month action research process in order to receive GTCS Professional Recognition for LfS (GTCS, 2021c).

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Research Aims

The aim of this research project was to better understand the implications (opportunities and challenges) at a whole school / campus and teacher level when developing a whole school / campus approach to Learning for Sustainability. Such research is both timely and important as Learning for Sustainability is largely under researched, and to date there is limited knowledge of the issues surrounding whole school approaches and the development of Learning for Sustainability across community campuses (Christie and Higgins, 2020). Additionally, this research is particularly important because it focused on a whole school and whole campus approach by involving all ages and stages across the 2-18 age range, deepening the relevance of the findings to teachers, policy makers, academic and education professionals both in Scotland and internationally.

Research Questions

1. What role can professional development play in supporting the development of a whole school approach to Learning for Sustainability?

2. What do teachers experience in terms of challenges and opportunities when engaging in professional development as part of a whole school approach to Learning for Sustainability?

3. How do those in leadership positions experience the process of developing and supporting a whole school approach to Learning for Sustainability? What challenges and opportunities arise?

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Methodology

Research Team

Our research team was made up of three stakeholders from within the school and CLPL delivery team. This included the head teacher of the campus; one of the course development team and one of the facilitation team who had delivered the learning programme to the campus staff. Hyslop-Margison and Naseem (2007) observe that our personal and professional experiences and values are so inseparable from our research interests, even down to our decision to conduct research in the first place, that trying to create a sense of objectivity is futile. In the field of education, Cousin (2010) suggests that rather than accepting subjectivity and trying to reduce it, it is more judicious to accept that it is impossible to remove the self from research. In this vein, we aim to embrace ourselves as integral components of this enquiry, each with something unique to add. We intentionally included our three perspectives throughout the research as we felt that working as a team who had shared experiences, but different viewpoints would offer interesting and embedded insights from within the learning and subsequent reflection and evaluation process.

The head teacher of the campus had an interest in Learning for Sustainability which had grown during her completion of an EdD with the University of Edinburgh prior to undertaking the CLPL course. When she was appointed as a head teacher in 2014, she worked with her community to explore how LfS could be fully embedded into the values and practices of all aspects of the life of the school. When the merger to a 2-18 campus took place, the head teacher saw this as an important time to develop the LfS learning for all colleagues across the campus.

The CLPL course was developed collaboratively by the University of Edinburgh and Learning for Sustainability Scotland (LfSS) and was delivered in person and online by LfSS. One of the course facilitators who had worked with the campus staff throughout the CLPL programme – both in person and online – was a second member of the research team. Her knowledge of the course, how it had been received and participated in by the staff team, as well as previous experiences of delivering the same course to teachers in different settings across Scotland, provided valuable insights which supported the research process.

The final member of the research team supported the collaborative development of the CLPL course as their work is located both within the University of Edinburgh and LfSS. They also supported the research process as they have an active interest in the policy, practice and understandings of learning for sustainability both as a specific national educational approach and as a broader philosophical endeavour.

We accept that we, the researchers, are fundamental to our research process and that this is consequently a central element of our study. As Gregory (2005) notes, it can be the very presence of the researcher in their work that makes the research worthwhile. We were aware throughout the project of the importance of being transparent and explicit about our involvement in the programme as well as cognisant of our contrasting experiences, interpretations and biases. These contrasting experiences, interpretations and biases were fully explored through regular

meetings to reflect on the research process as an on-going engagement with ethics and critical reflection, as well as the standard ethical processes explored in the following section. As noted by Mason (1996), critical self-reflexivity is a core part of qualitative research and, as researchers, we ensured we were constantly reflecting on and questioning our role in the research process. This was particularly important when exploring the researchers' responsibility to recognise any potential irresolvable tensions (BERA, 2018), such as the level of anonymity that could be assured, when the head teacher of the campus was also one of the participants and researchers.

Research Methods

Focus Group Interviews

Two focus group interviews were conducted, consisting of one group of the cluster's management team (n=3) and one group of teachers (n=3) involving both primary and secondary staff. We took this approach as we were interested in gathering personal reflections from both a teaching and management perspective.

All interviews were conducted online through the University of Edinburgh's video conference software Collaborate. The participants were selected by the head teacher, who approached those she felt would be willing to give their time and talk about their experiences. The teaching staff were chosen based on those who had engaged with the course, as they would be more likely to have comments and reflections on the impacts that it had had on them. There was a mixture across the groups of those who had prior knowledge and professional engagement with LfS and those for whom this was their first CLPL relating to LfS.

Semi structured interview questions were developed, based upon the aims of the research project, to form the basis of each focus group. Each of the focus groups lasted one hour and were conducted by one of the research team, with another present and contributing when necessary if clarification was needed at any point, and also to record any observations on the direction of the conversation or participant responses.

A subsequent interview with the head teacher (also a member of the research team) was conducted following on from the initial focus groups in order to explore some of the themes that had emerged from these conversations in more depth. This interview allowed for our co-researcher and the school leader to reflect critically on the themes that had emerged and to reflect upon the context for this in terms of her approach to leadership, intentions for initiating the whole school CLPL programme and experiences of leading for change.

Online Discussion Forum Contributions

Through the CLCP programme, participants engaged in online discussion forums in relation to the course materials. These provide an insight into the reflections of the school team on their

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learning and the evolution of their LfS practice. These discussions were used as a secondary data set and were analysed using the themes identified from the analysis of the initial interview focus groups.

Ethical Considerations

Ethical approval was sought in line with University of Edinburgh and British Council requirements and following BERA (2018) guidance. The head teacher sought and secured appropriate permissions from the Local Authority. Through their participation in the CLPL programme, all participants consented to the use of their online course contributions by the British Council for research purposes. Those teachers and managers who participated in the focus groups gave their written and recorded consent for their data to be anonymised and used for the aims of the research project.

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Data Analysis

The focus groups and interviews were transcribed and coded through Quirkos using a theoretical thematic analysis guided by the research questions. Following Braun and Clarke's (2006) coding structure, additional codes were added and modified as the data was analysed, and additional themes emerged. At this point, the research team discussed the emerging themes and referred back to the original research questions in order to refine and draw out the areas of focus that related to the aims of our study. The online discussion forum contributions were then coded using these same themes to contribute to our understanding of how these themes had emerged and developed through the process of the CLPL programme.

Focus Group Interview Analysis

Following analysis of the focus group interview data a series of codes were generated, these are presented in Table 1. The codes emerged after an initial process of familiarisation with the data using the research questions as a lens for analysis. The initial codes were further refined the more the data was considered, and further topics of interest came through. The eventual codes were finalised and at that point the research team came together to identify the key themes we wished to focus on within the scope of our study. The three main themes identified at this point were:

1. Processes of change

2. Collaboration and collegiality

3. Attitudes to learning and to change

Two further themes were identified as having a significant number of codes attached which were **Understandings of LfS** and **Examples of practice**. However, we decided not to pursue these as independent themes as they did not contribute to our research questions directly, although these might provide support in the way of tangible examples for the three key themes identified.

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Table 1. Codes – Group interviews

Theme	Code	Frequency	Frequency of Theme
Processes of change	awareness raising	36	243
	synchronicity	7	
	staffing	18	
	longevity	29	
	transformative change	23	
	lack of depth	8	
	drawing on prior knowledge	12	
	preparation of staff	13	
	changing practice	26	
	impacts	21	
	critical thinking	8	
	imbalance of prior knowledge	7	
	different ways of working and learning as a staff	5	
	reinforcing existing practice	6	
	wider impacts	24	
Collaboration and collegiality	connecting to community	24	256
	collegiality	33	
	set time	9	
	collaboration	38	
	sharing practice	33	
	personal relationships	8	
	whole school	32	
	tokenism	7	

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	interconnection	22	
	overlap/ lack of communication	1	
	communities of practice	1	
	mutually beneficial	7	
	meeting pupils where they are at	3	
	empowering students	8	
	cohesion	6	
	perspective taking	4	
	appreciation of the work/ roles of others	13	
	professional relationships	7	
Attitudes to learning and change	permission	13	288
	resistance	30	
	support	19	
	responsibilities	32	
	challenges	37	
	leadership	28	
	need for further learning	3	
	keenness	19	
	confidence	8	
	professionalism	4	
	Covid-19	11	
	need for coordination	5	
	incentivised	7	
	staff workloads	2	

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	opportunities	51	
	time	19	
What is LfS	global context	19	70
	SDGs	14	
	curriculum	14	
	Learning *as* Sustainability	23	
Examples of practice	pupil engagement	20	152
	primary	18	
	secondary	18	
	subject specific	16	
	future plans	25	
	IDL	15	
	teaching about sustainability	16	
	tangible teaching approaches/ content	7	
	real world learning	17	

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Discussion Forum Analysis

The three key themes emerging from the focus group interview analysis were used as an analytical framework for the discussion forum data. This process helped to provide a better understanding of the role that the CLPL programme had on the wider staff team and sought to establish whether there was any evidence in support of these themes within the discussion forum conversations that had taken place during the programme delivery. These themes were broken down into new codes which reflected particular aspects of these themes, shown in the table below.

Table 2. Codes - Discussion forum

Theme	Code	Frequency	Frequency of theme
Processes of Change	high level or existing knowledge	22	59
	developing knowledge	26	
	lacking or uncertain knowledge	11	
Collaboration and Collegiality	storytelling	50	70
	sharing	12	
	joint work	8	
Attitudes to Learning and Change	concurrence	5	11
	contradictions	2	
	support	4	

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Findings

We will explore each of these three themes as elements affecting our research focus on the role of CPD in the development of a whole school approach to LfS. What are the opportunities and challenges of these elements for both teachers and leaders?

Collaboration and Collegiality

The notable work of Judith Warren Little (1990) explores the scale of collaborative working: from 'storytelling' – the shallowest form of collaboration where peers learn through sharing their learning or practice with one another; through to the deepest and more impactful practice of 'joint work' where colleagues co-construct learning through shared experiences – learning with and from one another. This deepening of the level of collaboration resulting in 'joint working' was evident within the focus groups, both as something management felt they had observed, but also one of the benefits that teachers felt that they had experienced through participating in the CLPL programme. As can be seen here in the reflections of one of the teaching team:

> So, I found that really useful building up that personal relationship with colleagues and, you know, talking about my views on sustainability as well and from my perspective. And then also, collaborating, coming together on different projects, so learning about what the younger children would do, what the oldest ones in the academy were doing, and things that I would never have thought of in a million years because it's not my sector normally, but then were able to again borrow ideas or, you know, share our ideas on what we've done and get feedback on that as well, which I found really helpful. (T2, 2020[1])

This transition was also evident within the content posted to the online discussion forums throughout the programme. In the first few weeks, many of the staff team were reflecting on their professional practice; what they did in their classrooms and subject areas. However, as time went on there were increasing references to projects that people were working on together with colleagues, or suggestions and ideas for future collaborations. In the words of one teacher in the final weeks of the course.

> We certainly saw how collaboration between two departments can work when done naturally – I could never have got the pupils to produce the quality end products that [T4] did with them, but I could give them the thought processes and content to make the project meaningful. (T5, 2020)

Hargreaves and O'Conner (2018) note that imposing collaborative practices upon a staff team can have the opposite of the intended effect and even lead to a reluctance to work together, but that generating conditions of 'solidity and solidarity' through clear structures, tools for

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[1] The focus group participants are represented here as those from the management team in Focus Group 1 (M1-3), teachers who participated in Focus Group 2 (T1-3) and teacher's contributions from the online discussion forums (T4-5).

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implementation and shared expertise, as well as effective communication and trust can generate more positive collaborative professional relationships. On this occasion, participation in the CLPL programme seemed to provide an opportunity for the shared development of expertise, as well as a common goal which supported the development of collegiate approaches to working together.

> *I suppose some of the challenges in the past, people don't understand or haven't wanted to learn about these things, but because it was done across all the staff there's a common understanding... (M3, 2020)*

> *... I just feel that... the awareness and understanding has brought us working closer together... which has helped the young people have more opportunities. (M3, 2020)*

For those who had previously engaged with LfS approaches, the whole school CPD provided opportunities to share their enthusiasm and past experiences, as well as a chance to work more closely with other staff members to embed these approaches more broadly across the campus as can be seen in this comment from Teacher 3:

> *… What was good was that because everybody had to engage in it, I was then able to go to people and be like, 'I'm doing this and it'd be really great if we could join together and do this together… so from that perspective it was really helpful because some of the stuff I wanted to take up off the ground the year before, I was then able to implement because everybody was going through the same glass. (T3, 2020)*

> *...And that was good, like it did cement my practice, and it was good because it opened up conversations that I don't think that we would've had otherwise. (T3, 2020)*

A further observation, which links to what Kools and Stoll (2016) list as one of the fundamental dimensions of a school as a successful 'learning organisation', was the school's commitment to learning with and from the wider community. Indeed, seeing the learning community as beyond just the teaching staff and school students, but including local businesses and partnership organisations. Laurie et al. (2016) also observe that LfS particularly can act as a catalyst for strengthening school-community partnerships. Both management and teachers reflected upon the two-way learning that had occurred as a result of their focus on LfS as a school and the sustainability practices that were being initiated by businesses in the local area. As Teacher 2 observes, the inclusion of wider partners within the learning community can contribute to a broader and richer understanding of LfS for the students:

> *I think the more partnerships we can make as well, the easier it is for us, because then we're not selling it to the children to say this is what businesses should do. You know, if they see this happening in their community, they will believe it. You know, it's better than us telling them it's, you know, they can actually see for themselves. So, I think, yeah, the more people we have on board with us, the better as well, so it's a wider, wider project, not just school based. (T2, 2020)*

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Processes of Change

The theme 'processes of change' included the concepts of transformative and shallow learning. As noted by Siebenhuner & Arnold (2007), the implementation of sustainable development in organisations is dependent upon organisational learning, and the degree to which colleagues engage in learning, which can be variable. In the following section, the definition of transformative learning is understood through the theoretical foundation of transformative learning theory (TLT) (Wilhelmson et al., 2015) developed by Mezirow from 1978 (2009). Mezirow's (2009) theory of transformative learning includes the recognition, reassessment and reorganisation of the structure of assumptions and expectations which informs an individual's thinking, feeling and acting, or their '*frame of reference*' (Mezirow, 2009: 90). The frame of reference '*encompasses cognitive, conative and affective components, may operate within or outside awareness and is composed of two dimensions: a habit of mind and resulting points of view*' (Mezirow, 2009: 92).

Transformative learning could be seen in the interview responses of teachers who had *less* previous exposure to the concept of learning for sustainability, in contrast to teachers who already viewed the concept as part of their teaching role.

> *It was, like, more of like a learning for myself... learning for sustainability... well, for myself, I would think of just like the environment and what that means and how, and how the teacher feels about the environment, but learning, like doing this CPD [CLPL], it's kind of, it opened my eyes kind of to, like, sustainable development goals and what, and how it's not just the environment but how those things connect each of those goals, and for myself, learning what those goals were and then sharing that with my pupils and showing them how to kind of see beyond just caring for the environment but, like, how does each of those things interact on one another, I think that was something that I found really meaningful. (T1, 2020)*

In the response from one teacher who had less exposure (T1), the depth of learning and richness of understanding was evident, as there were references to wider elements of learning for sustainability, and how themes are interconnected. For others, who had a stronger understanding of the wider connections, such as the significance of the voice of children and young people leading change, there was a clear commitment to securing a better depth of knowledge and improved practice.

> *I enjoyed it and because there was a connection with what I already did with the young people, especially through giving them a voice... we've always encouraged young people to have a voice, but to find... somewhere that I could learn about and expand my knowledge but pass it onto them as well. So, I think having that time, having that focus on the learn... I enjoyed it and it really, a lot of the goals fitted in with my work and what I do with young people, and the expansion of my knowledge around these. (M3, 2020)*

The quotes from these teachers showed an authentic engagement with progressive movements in contrast to the more superficial understanding of passing knowledge on to others, which could be viewed as shallow learning. The understandings of learning for sustainability as a transformative agenda is clearly articulated by Steele and Rickards (2009) who explain that the approach needs to be community-led, sensitive to the local context and culture, and foster a way of living that enables individuals to imagine and possibly create alternative futures. This is a way

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of being alive to possibilities, rather than assuming the knowledge is secured and is to be transmitted to others.

Transformations in behaviour and practice require shifts in thinking and behaviours from large and influential organisations (Bryant & Thomson, 2020). The success of authentically embedding the concept of sustainability into organisations is dependent upon both the quality of the educational learning, but also the theoretical approach and practical implementation of the culture change programme. In this case study, the programme of educational learning was the online course delivered by Learning for Sustainability Scotland and the University of Edinburgh, and the culture change programme was led by the campus head teacher, through an Education Scotland programme '*Excellence in Headship'* (Education Scotland, 2021b) and previous completion of the online course with Learning for Sustainability Scotland and the University of Edinburgh.

The aims of the *Excellence in Headship programme* were to strengthen and develop the head teacher's leadership skills, which includes six themes: Leadership and critical self-awareness; Leadership of learning; Personal effectiveness and values-based leadership; People and partners; Leading Systems Change; Organisational effectiveness (Education Scotland, 2021b). Despite all of the themes being relevant, the most pertinent to the leadership development journey of the head teacher as identified by her were: Leadership of learning; Personal effectiveness and values-based leadership; and Leading Systems change.

The level of engagement with research-based learning from the head teacher was an important aspect of the culture of transformation. As highlighted by Drew and Weatherspoon (2019), the model of professional learning in Scotland, and the framework for educational leadership is a research-based model, with a strong focus on collaboration which includes being *'interactive, reflective and involves learning with and from others'* (Drew and Weatherspoon, 2019: 9). This framework is also underpinned by the GTCS Standard for Headship, whereby it is stipulated that the role of head teachers in leading change in the area of Learning for Sustainability includes:

> *Learning for Sustainability has been embedded within the suite of Professional Standards to support headteachers in actively embracing a robust, demonstrable 'whole-school' approach to Learning for Sustainability. This is enabled by headteachers establishing and modelling a coherent, progressive and holistic Learning for Sustainability vision and ethos that supports planning across the curriculum, professional learning and collegial practice. In Scotland, Learning for Sustainability is an entitlement for learners. As such, it is a professional requirement for all teachers to demonstrate in their practice the professional values, skills, knowledge and understanding and actions that are compatible with a sustainable and equitable world, as part of an effective whole-school and community commitment. (GTCS, 2021b: 6).*

The significance of the terms 'establishing' and 'modelling' in this context should not be underestimated; this is explored further in the section on 'Attitudes to Learning and Change'.

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Attitudes to Learning and Change

In our discussions with teachers and leaders, there emerged some contrasting ideas about course impacts and the best ways to ensure that LfS was taken forwards and embedded across the campus with a long-term focus. For some, there was a feeling that there needed to be a person in charge, in order to oversee and establish a cohesive whole school approach. On the surface, this would appear incongruent with the policy context of LfS as a 'responsibility of all' (Education Scotland, 2019) and align with Ball, Maguire and Braun's (2012) observations on policy enactment. However, Kadji-Beltan et al. (2017) highlight the value of implementing support structures such as mentor systems in order to support teachers in changing their practice to include LfS, if this is not an area in which they feel confident. What we observed may reflect a lack of confidence and a need for more established communication channels in order for staff to share their successes and learn from the practice of others to create a cohesive whole school approach. This perhaps reinforces the findings of Mogren and Gericke (2017) that leadership styles which focus on collective learning and shared objectives are imperative to the successful whole school approaches to LfS.

The head teacher was aware of the complexities of imposing change onto staff members, as well as the challenges of 'changing mindsets' towards LfS:

> *So I think being a lifelong learner and having authenticity are two principles, and then developing that shared commitment to change, which is complex, and I think that comes down to your leadership, because it wasn't necessarily easy to get everybody to understand that learning for sustainability is everybody's responsibility and I think when you've got that complexity with a concept, it is really important that you make it your responsibility first, because I wouldn't have authenticity if I went and stood up in assembly and said, 'Right everyone', you know, 'We need to get some shared values on this', but then I didn't have the depth of knowledge or understanding to back that up. Because, you know, then I'm saying my maths teacher needs to make it their responsibility, but I haven't made it mine, you know.*

This highlights a real challenge of embedding a leadership approach such as this and aligns with the concerns identified by Christie and Higgins (2020), that leadership for LfS has to strike a delicate balance between either imposing change too strongly – leading to greater resistance – or establishing an ethos of shared leadership which could lack the drive to overcome hesitancy or disinterest from team members who do not recognise LfS as a priority. This complexity and tension was a reoccurring theme throughout the research study and is reflected in the following conclusion and recommendations.

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Conclusion

To summarise, the findings from this study have presented and provided:

- Opportunities and challenges for leaders and teachers.

- Implications arising from these opportunities and challenges and the learning and recommendations that can be determined from this study.

To move towards a conclusion, we now wish to explore these two points in more detail.

Opportunities and challenges

The study revealed a tension between the need for both teachers and management to have an identified person 'leading' the agenda, and the need for that agenda to develop in a culture of collegiately and shared responsibility. This finding presents both challenges and opportunities. It is an opportunity for teachers, children, and young people to lead change, but it is also a challenge to ensure that all practitioners view LfS as their responsibility and are fully committed to embedding and sustaining change.

There was also an interesting contrast between deep and shallow learning for both teachers and managers. There was evidence that, where there was an assumption of a solid base of prior learning, less depth and transformation occurred in practice. This was in contrast to practitioners who approached the learning with fewer expectations about prior learning and embraced the wider agenda. The challenge of this is the need to embed a method of professional learning that includes deep reflection to ensure that knowledge and transformation occurs at a deeper level, and there is the opportunity to explore a variety of evidence-based approaches to realise this aim.

Implications and recommendations

Since embarking on the study, there have been significant global and national traumas, such as the impact of COVID-19, and significant political unrest. These issues will impact generations to come, and it is a crucial time for the enactment of the UNCRC across all areas of practice. Practitioners' knowledge, understanding, and skills in facilitating and leading change will be a key factor to success. As noted earlier, the concept of LfS is multifaceted and complex, which includes an approach to life and learning which aims to develop a better world (GTCS, 2021a). The study also provides useful learning for other organisations leading the agenda for change, which can be summarised into three key recommendations:

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Recommendation 1: Organisational leaders should engage with suitable learning prior to developing a leadership of change model for their organisation, which includes a distributed model of leadership.

Recommendation 2: Methods of professional learning for all practitioners should include an engagement with reflective activities, which enable practitioners to access deeper and more transformational learning.

Recommendation 3: Large organisations should work with community-led groups and be sensitive to local contexts to establish a vision which authentically exemplifies and ensures that articulation of the vision is a shared responsibility.

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