



University of Dundee

Learning for Sustainability

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Learning for Sustainability: young people and practitioner perspectives



CHILDREN, EDUCATION AND SKILLS

This paper was authored by a research team from the University of Dundee's School of Education and Social Work:

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Terms used in the report:

Practitioner – used for all participants as an inclusive term for both education staff and CLD staff across all settings

Participant – used for participants in the World Café and focus groups

Respondent – used for respondents to the scoping survey

Abbreviations used in alphabetical order	
CfE	Curriculum for Excellence
CLD	Community Learning and Development
COP	Conference of the Parties
CPD	Continuing Professional Development
DoE	Duke of Edinburgh Award
IDL	Interdisciplinary Learning
ITE	Initial Teacher Education
LfS	Learning for Sustainability
Nat 4	National 4 Higher Qualifications
Nat 5	National 5 Higher Qualifications
PSE	Personal and Social Education
SDG	Social Development Goals
SIMD	Scottish Index of Multiple Deprivation
SQA	Scottish Qualifications Authority
UN	United Nations

Executive Summary

Introduction

This research was commissioned by the Scottish Government as part of the refresh of the Learning for Sustainability (LfS) 2030 Action Plan. The researchers were asked to investigate the following questions.

- how LfS is understood and implemented by the school and Community Learning and Development (CLD) workforce
- to learn from LfS 'best practice' taking place around the system
- the voices of young people and practitioners to feed directly into LfS policy and the refresh of the Action Plan
- the successes and challenges LfS has faced since 2019
- the impact of the United Nations (UN) Climate Change Conference of the Parties (COP26) on LfS

Background and context

In 2019, the Scottish Government published its Action Plan for Learning for Sustainability, stating that children and young people in Scotland have an entitlement to learn about sustainability. This was set against a backdrop of sustainability-related activities. In 2014, at the end of the UN's Decade of Education for Sustainable Development 2005-2014, it was reported that the Scottish Government's commitment to develop the concept of 'One Planet Schools' (Higgins, 2014) took on added significance. LfS was developed and informed by the work of the 'One Planet Schools' working group and the 'Learning for Sustainability National Implementation Group'. This work culminated in the 2016 Vision 2030+ report which recommended five priorities for LfS. These priorities are used to outline the key findings and recommendations for action.

Methodology

A mixed methods approach was undertaken for this snapshot small-sample research, incorporating a quantitative scoping survey and in-person focus groups with eight local authorities using World Café and 3 Horizons methods. Data collection methods included audio recordings, sheet notes, still images and post-it notes. In total 80 individual transcripts were shared across the research team for analysis.

Summary of findings

The five strategic priorities from the 'One Planet Schools' (2012) and the 'Vision 2030+ National Implementation Group' (2016) have been used to give short executive summaries of the main findings alongside proposals for the LfS Action Plan refresh. The findings and analysis provide a snapshot of what is currently happening in Scotland and a clear picture of what stakeholders would like to see happening to support LfS in schools, CLD settings and communities. Calls to action

from the [Children's Parliament research with children from nursery to S3](#) have also been included as a synthesis of the overall research project.

Learners should have an entitlement for Learning for Sustainability

The findings make it clear that young people believe they have an entitlement to LfS but their options are currently very limited.

- young people do not recognise the term LfS but can talk to many elements of sustainability related issues when prompted with resources that create explicit links
- young people have a general awareness of sustainability issues, gained through a variety of settings
- young people engage with LfS in schools through specific subjects such as the sciences and geography related lessons
- there are some examples of project learning both in schools and CLD settings but these opportunities are short lived and engage relatively few young people – for example, the 2021 United Nations Climate Change Conference (COP26) provided LfS opportunities for young people but not across all sites
- young people believe they should have far greater opportunities for outdoor learning and that this will support the synergy of practice and theory allowing them to relate LfS to the outdoors in their school and community settings
- young people want to be consulted on, and influence, how LfS is integrated into the curriculum within schools/CLD settings and in the community

Recommendations:

1. standardise terminology and ensure it is used throughout the curriculum to reduce confusion and make content about sustainability more explicitly recognisable and accessible
2. integrate LfS throughout the school curriculum and CLD programmes to promote a dynamic and engaging awareness of sustainability issues in all contexts and make it a meaningful part of the lives of young people
3. enhance opportunities for outdoor learning so they are more frequent and broader in scope
4. provide meaningful and genuine opportunities for young people to exercise agency in contributing to LfS in their communities and include LfS in national discussions of educational transformation

Children's Parliament Call to Action link:

- children and adults should have opportunities to work together on children's rights, climate change and sustainability
- children should be able to regularly learn about climate change and sustainability outside in nature
- children are passionate about climate change; their views, ideas and opinions should be included in how and what they learn about this subject

In line with the new GTCS Professional Standards, every practitioner, school and education leader should demonstrate Learning for Sustainability in their practice.

- most respondents in the scoping survey (Section 3) believed they demonstrated LfS in their practice
- focus group participants also believed they demonstrated LfS in their practice but within the constraints of their subject area
- both acknowledged that young people may not recognise the content of their engagement as LfS and many of the practitioners did not state whether or not they were engaged in LfS
- practitioners feel they do not have time to integrate LfS into their subject programmes or the required knowledge to do so
- practitioners said they need in-house guidance with a dedicated LfS lead in each school and local authority

Recommendations:

5. integrate LfS into policy at school, CLD and local authority level to guide practice and support stakeholders to identify good practice and related outcomes
6. provide time and training for practitioners to integrate LfS content into their respective areas of teaching and engagement
7. appoint LfS leads in every school to ensure policy is disseminated, practitioners are aware of and enact good practice locally and regionally and that LfS activities are mapped across school and CLD settings

Children's Parliament Call to Action link:

- adults in school and adults who decide what we learn, need to learn about the climate emergency too
- all adults, especially Scottish Government, should take urgent action to provide a healthy, happy, and safe environment and planet for children now and in the future

Every school should have a whole-school approach to Learning for Sustainability that is robust, demonstrable, evaluated and supported by leadership at all levels

- the whole-school approach, as reflected through integration of LfS in curriculum, policy, school grounds layout and features, energy generation/use and recycling practice, has not yet been fully achieved in the local authorities included in this research

Recommendations:

8. appoint LfS leads in local authorities and at school/CLD level
9. create steering groups with LfS leads and rotating membership for family, community, school practitioners and young people for ongoing planning, monitoring and evaluation of LfS initiatives

Children's Parliament Call to Action link:

- all adults, especially Scottish Government, should take urgent action to provide a healthy, happy, and safe environment and planet for children now and in the future
 - children are passionate about climate change; their views, ideas and opinions should be included in how and what they learn about this subject
 - children and adults should have opportunities to work together on children's rights, climate change and sustainability
-

All school buildings, grounds and policies should support LfS

- practitioners believe policy needs to clearly articulate the following expectations:
 - integration of LfS as a core curriculum principle
 - the stakeholders involved in implementing LfS
 - the scope for schools and CLD settings to localise the policy implementation
 - opportunities for support and funding
 - processes for evaluation
 - LfS needs to be a core school value to support their future and that of the community
 - school grounds and buildings need to be upgraded to incorporate technology related to LfS and human engagement with the natural world

Recommendations:

10. develop policy to support LfS at all levels and ensure it includes LfS as a core value for schools and CLD settings
11. consider ways that school and CLD grounds and buildings can be developed to incorporate renewable energy generation where possible, including the development of school/community gardens

Children's Parliament Call to Action link:

- all adults, especially Scottish Government, should take urgent action to provide a healthy, happy, and safe environment and planet for children now and in the future
- children should be able to regularly learn about climate change and sustainability outside in nature

A strategic national approach to supporting Learning for Sustainability should be established

- few participants in this study were familiar with the existing LfS Action Plan

Recommendations:

- 12.** redevelop the existing strategic national plan to overcome the barriers identified in this study and to support the refresh of the Action Plan for LfS
- 13.** provide additional opportunities in developing the refreshed plan, for representative stakeholder groups, and in particular young people, to participate in their respective communities
- 14.** task local authorities with implementation of the national plan and evaluation of its regional implementation and include regional stakeholder groups in evaluation of the plan against pre-established performance indicators
- 15.** highlight LfS as a core principle in education for young people and communities and identify the pathways required to implement regionally adaptable LfS through curriculum options, funding, infrastructure, training and support for practitioners

Children's Parliament Call to Action link:

- children and adults should have opportunities to work together on children's rights, climate change and sustainability
- all adults, especially Scottish Government, should take urgent action to provide a healthy, happy, and safe environment and planet for children now and in the future

1. Background and context

In 2019, the Scottish Government published its Action Plan for LfS, stating that children and young people in Scotland have an entitlement to learn about sustainability. This was set against a backdrop of sustainability-related activities. In 2014, at the end of the United Nations' Decade of Education for Sustainable Development 2005-2014, it was reported that the Scottish Government's commitment to develop the concept of 'One Planet Schools' (Higgins, 2014) took on added significance. Maintaining momentum and building on work undertaken in the previous decade became ever more important as evidence mounted that our impact on the Earth's systems was such that we are not 'living within our means'. This is the essence of the 'One Planet Schools' initiative, ensuring that as humans, we only use resources at a replenishable rate and in a manner equitable within and between nations and generations.

LfS was developed and informed by the work of the 'One Planet Schools' working group and the 'Learning for Sustainability National Implementation Group'. This work culminated in the publication of the 'Vision 2030+' (2016) report which developed five priorities for LfS, which recommended the following.

- all learners should have an entitlement to LfS
- in line with the GTCS Professional Standards, every practitioner, school and education leader should demonstrate LfS in their practice
- every school should have a 'whole-school' approach to LfS that is robust, demonstrable, evaluated and supported by leadership at all levels
- all school buildings, grounds and policies should support LfS
- a strategic national approach to support LfS should be established.

The 'Learning for Sustainability: Young People and Practitioner's Perspectives' report has been commissioned to provide a snapshot of how LfS is understood and implemented across CLD and school settings with young people aged 14+ and practitioners working in these settings to inform the next Scottish Government LfS refresh. The findings from this work will complement the [Children's Parliament research with nursery to S3 age groups](#). The findings from both these exercises will be explored further in a series of interactive workshops with the LfS Policy and Stakeholder Network and will feed into the refreshed LfS Action Plan.

2. Methodology

2.1 Research aims and objectives

The research aims to inform the Scottish Government about current LfS understanding and implementation within CLD and school settings for young people aged 14+ and practitioners working with this age group. The research objectives are as follows.

1. further the understanding of how LfS is understood and implemented by schools and CLD workforce
2. learn from LfS 'best practice' taking place around the system
3. allow the voices of young people and practitioners to feed directly into LfS policy and the 'refresh' of the Action Plan
4. understand the successes and challenges LfS has faced since 2019
5. consider the impact of the UN Climate Change Conference (COP26) on LfS

2.2 Research ethics

The research required informed consent from all participants, with active consent from parents/carers for young people. This was sought through an introductory letter explaining the research aims, process and outputs, alongside consent forms for parent/carers, young people, and staff to sign. Verbal consent and 'opt-out' was sought at the start of each fieldwork site visit, and all participants were notified of the process and deadline for requesting withdrawal from the research. Informed consent follows all duty of care 'do no harm' expectations and ethical guidelines as stated in the 'Social Research Ethics Guidance', Scottish Educational Research Association (2005) and British Education Research Association (2018) ethical guidelines. All research assistants and team members held a Protecting Vulnerable Groups disclosure to meet safeguarding requirements.

Confidentiality and anonymity were assured through all audio recordings and images being securely saved and password protected on University of Dundee systems. Audio recordings and images will be deleted after six months and saved transcripts omit any personal names or identifying comments about participants. The transcripts will be securely held for the required timeframe of 10 years and lodged with Scottish Government. Ethical approval was agreed through the University of Dundee ethics committee therefore meeting UK, Scottish and University policies and guidance. Ethical permission was additionally sought by the Scottish Government's Education Analytical Services Division through an 'opt-out' process for each Education Director of the eight participating local authorities.

2.3 Research design and sampling

Mixed methodology was employed through an online quantitative scoping survey and fieldwork visits to eight local authorities sampled to ensure a representative demographic snapshot of young people and practitioners' perspectives from across Scotland.

The scoping survey had five sections: using Likert scale responses from practitioners it sought practitioner perspectives on LfS being a way of life and ethos within Scottish society, their setting as well as individual implementation of LfS.

The World Café and 3 Horizons focus group was designed to offer a range of options: Young People's World Café (one-hour session); Practitioner World Café (one-hour session); Practitioner World Café & 3 Horizons (1.5 hour session). This was to accommodate the potential constraints of timetabling and participant availability and the challenges of setting up sessions with young people and practitioners at short notice. Questions for the World Café were designed with reference to the Scottish Government tender objectives and scoping guidance.

The World Café (Brown & Isaacs, 2005) method increases participation whilst benefiting participants as it 'facilitates dialogue and mutual learning, thus motivating their participation and responses' (Löhr, Weinhardt & Saber 2020, p.1). Originally conceived and implemented in 1995, World Café methodology has become a globally adopted practice for group table conversations initiating generative feedback and creative thinking. In addition, 3 Horizons is a simple and intuitive framework for thinking about the future. Employed in a focus group, it offers a way to engage multiple stakeholders in constructive conversations about transformational change (Sharpe, 2013).

The scoping survey had been piloted for research at the University of Dundee and was adapted for the LfS study. The World Café and 3 Horizons approach was piloted at the University of Dundee with students aged 19 to 25 from within the education studies and teacher education courses.

To achieve a geographical spread of participants across Scotland, a sample of six schools and two CLD settings was constructed in eight local authorities across the six Regional Improvement Collaboratives. Purposive sampling – drawing on SIMD (Scottish Index of Multiple Deprivation) data – was used to ensure representative demographics of schools/CLD settings, including one Gaelic-medium setting.

2.4 Recruitment process

The Scottish Government Education Analytical Services Division made introductory contact with the eight local authority Education Directors offering an 'opt-out' should they not wish to participate in the research. With consent from all eight Education Directors the University of Dundee embarked upon recruitment for fieldwork visits and dissemination of the scoping survey through local authorities. This included engagement with LfS leads; Secondary School leads; Quality Improvement leads; CLD leads; Headteachers; and Learning for Sustainability leads in schools.

The scoping survey was disseminated through the local authorities. Reminder emails were sent where participation was absent or low and a second reminder was sent prior to the survey end date. Fieldwork settings were contacted individually and checked against other Scottish Government research projects. Where first option settings were unable to participate, second and third options were approached. The intention was to ensure all settings remained as close as possible to the original purposive SIMD-based sampling criteria, and varied only where

chosen schools were unable to participate and alternative local authority suggestions were considered.

2.5 Conducting the research

Fieldwork was predominantly undertaken by two research assistants accompanied by an academic member of the research team. A range of complexities (venue arrangements, catering, participant numbers, and timing of participant availability) had to be adapted to whilst maintaining consistency through the World Café format and question structure. Data collection methods included audio recordings, sheet notes, still images and post-it notes. Audio recordings and images were captured and securely uploaded after each site visit, alongside notes typed up from sheets and post-its. In total 80 individual transcripts were generated and shared across the research team for analysis.

2.6 Analysis

The data were analysed in NVivo, using Braun and Clarke's (2012; 2019) six-phase reflexive thematic analysis approach, which adopts a context-aware, thoughtful approach to systemic coding and critical researcher engagement with the codes to generate nodes and themes. Multiple sources of data from the focus group conversations and participant notes were analysed for relevant deductive and inductive nodes/topics.

Themes were then developed to collate findings and data visualisations of young people and practitioners' experiences and perspectives of LfS within their educational and community settings. World Café questions were then synthesised, extrapolating the main themes and findings into the five strategic priorities framework of the 2012 LfS Report to make recommendations.

2.7 Participant demographics

The research design facilitated participation by a sample reflecting the demographics of the whole of Scotland, encompassing participation from: across the north/south/east/west of the country; the Islands; rural and urban areas; and Gaelic-medium settings. The purposive sample identified using the SIMD, enhanced representation of findings across the eight participating local authority areas.

Local authority	Geography demographics	SIMD 2020v2 vigintile	SIMD 2020v2 decile	SIMD 2020v2 quintile
Local authority 1	Islands	13	7	4
Local authority 2	Rural/ East	4	2	1
Local authority 3	Urban/ Central	7	4	2
Local authority 4	Rural / South / West	17	9	5
Local authority 5	Rural/ North / West	14	7	4
Local authority 6	Urban / Central / East	12	6	3
Local authority 7	Rural / Central	20	10	5
Local authority 8	Urban / Central / West	8	4	2

Table 1: Participant demographic overview

2.8 Strengths and limitations of the research

A snapshot, mixed methods research (MMR) approach with small purposive sample presents strengths and limitations. MMR has benefits of greater reliability through the triangulation between methods that can evidence theme and pattern regularity across quantitative and qualitative data findings. There is capacity for replication through the methods adopted and credibility provided through experienced researchers analysing the data following a rigorous and tested analysis process. The validity of any conclusions may be weaker due to the small sample sizes for the scoping survey, yet the triangulation across all data sources does strengthen inferences and the World Café design helps provide defensible and credible findings across the synthesised data. Rigorous sampling was undertaken to ensure representative demographics was achieved from across Scotland even with a small sample size (Cohen et al., 2018). While findings are not generalisable for all LfS experiences of young people or practitioners across school and CLD settings, they do represent a range of views and have qualitative trustworthiness (Tracy, 2010).

The fieldwork recruitment process was successful in the majority of the eight local authority areas where predominantly first option schools agreed to participate in the fieldwork. Purposive sampling was achieved in all but one local authority area. Some flexibility was required due to time constraints on completing the fieldwork, and the lead-in time schools require for research visits. The smaller than expected samples of participants is a limitation of the research but demographic representation from across Scotland was achieved.

Local authority	CLD or School	Scoping survey	Young People	Practitioners
Local authority 1	CLD	0	8	9
Local authority 2	School	2	11	8
Local authority 3	CLD	5	8	4
Local authority 4	School	15	6	10
Local authority 5	School	0	24	5
Local authority 6	School	1	11	6
Local authority 7	School	13	8	7
Local authority 8	School	10	11	6
		46	87	55

Table 2: Participant numbers for scoping survey and fieldwork

Participant numbers were lower than expected, meaning the scoping survey, fieldwork analysis and findings will not be as representative of practitioners' perspectives on LfS as originally designed. This is especially true for the practitioner scoping survey (46 respondents from 6 local authorities). This may indicate a biased cohort as the small number of respondents may be those who have a particular interest in LfS. Overall reliability and validity is upheld through the use of complimentary methodologies and the cross-referencing of findings to limit potential bias and representativeness from the small sample sizes.

3. Scoping survey findings

3.1 Overview

A survey was administered to eight local authorities to be disseminated to all secondary school and CLD settings. A total of 52 responses were received, of which the majority (n=46; 90%) were from those in secondary schools. Due to the low response rate from other education settings, the analysis below is based on these 46 respondents. Responses below report the percentage who ‘agree’ or ‘disagree’ and combine responses from agree and agree strongly or disagree and disagree strongly unless otherwise stated.

3.1.1 Familiarity with LfS

The majority of participants Agree (37%) or Agree Strongly (59%) that LfS is an approach to life and learning which enables learners, practitioners, schools and their wider communities to build a socially-just, sustainable and equitable society. Respondents Agree (85%) that sustainability can be described as ‘everyone doing their own little bit and fitting into their lifestyles’. Opinions on whether LfS is infused into the whole of Scottish society and helps build our capacity to contribute to sustainability locally, nationally and globally, are more divided: 57% Disagree and 43% Agree.

The majority of participants are familiar with LfS as part of the Curriculum for Excellence (CfE) and can explain what it means (80% Agree). They are generally aware of how LfS aligns with GTCS standards (70% Agree) although less familiar with the Sustainable Development Goals (SDGs) and how they link to LfS (57% Agree) or other national strategies (e.g. NPF, Scottish Attainment Challenge, GIRFEC) (44% Agree) (Figure 1).

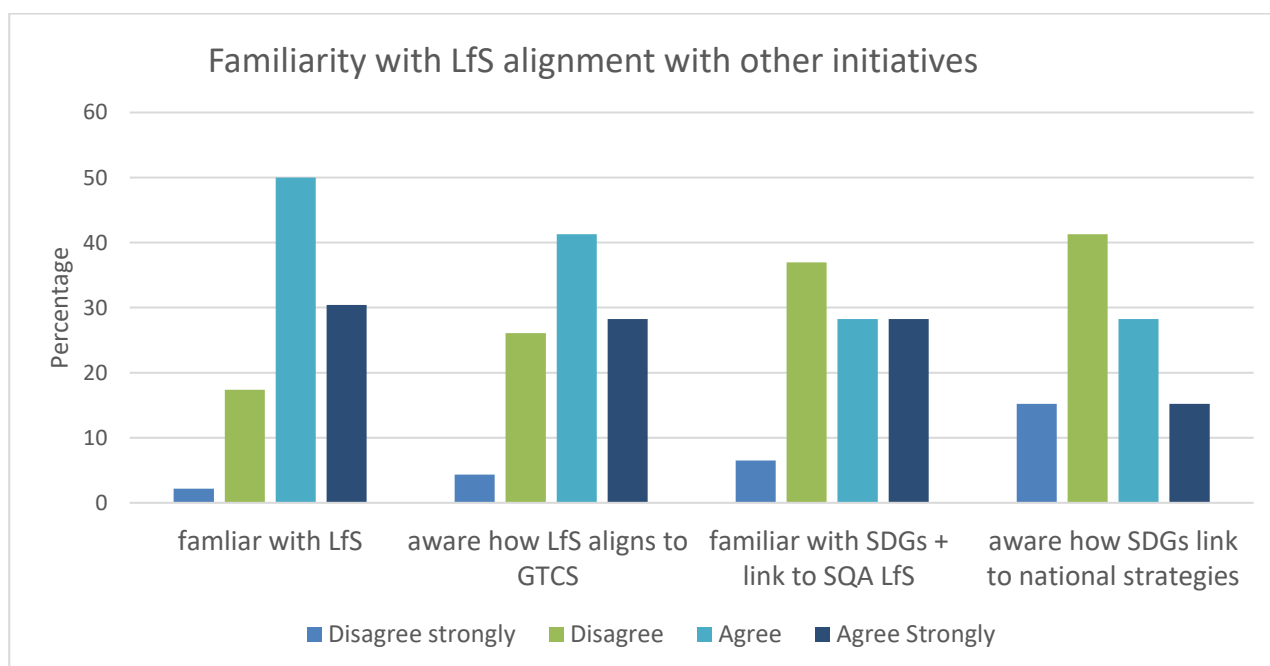


Figure 1: Familiarity with LfS alignment with other initiatives

3.1.2 LfS in teaching and practice

Around two-thirds of participants felt confident that they demonstrate LfS in their practice (64%) and that they know where to find LfS information and resources (60%). Just over half felt empowered to teach about sustainability (56%) or were confident with the types of pedagogies that can be used to teach LfS (56%) (Figure 2). Nevertheless 63% did adapt their teaching during COP26.

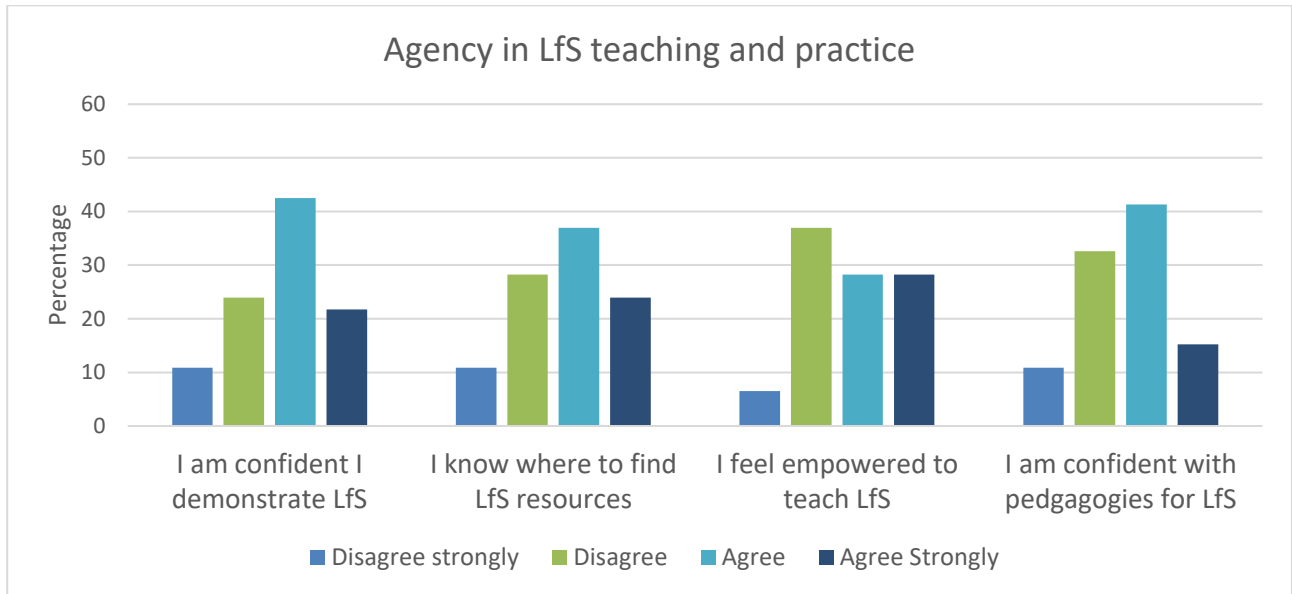


Figure 2: Agency in LfS teaching and practice

3.1.3 Perceived learner engagement in LfS

The majority of participants agree the learners they work with are encouraged by them personally (85%) or the education setting (76%) to learn and engage in sustainable practices, and that their learners talk about sustainable actions (60%). Around half (53%) agree learners are aware of sustainable practices across their education community, although less than half agree (46%) learners are empowered and involved in the development of their educational setting's approach to LfS.

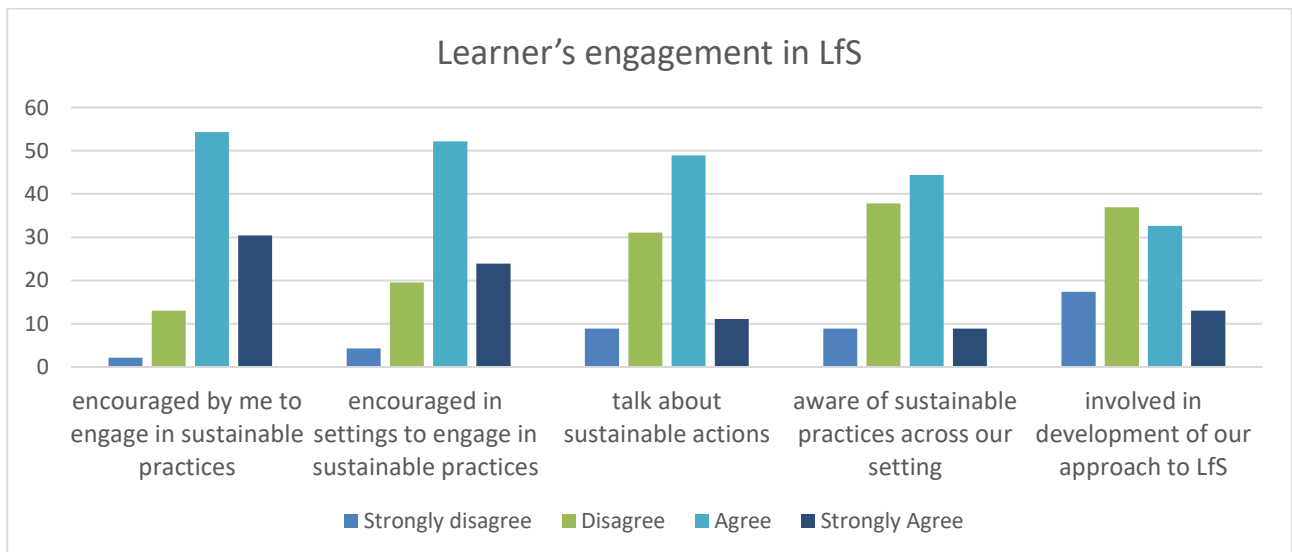


Figure 3: Learner's engagement in LfS

3.1.4 Stakeholder engagement in developing whole-school approach

In developing a whole-school approach to LfS, participants feel it is unlikely that young people (56% Disagree), parents (80% Disagree) or community members (65% Disagree) have been involved (Figure 4).

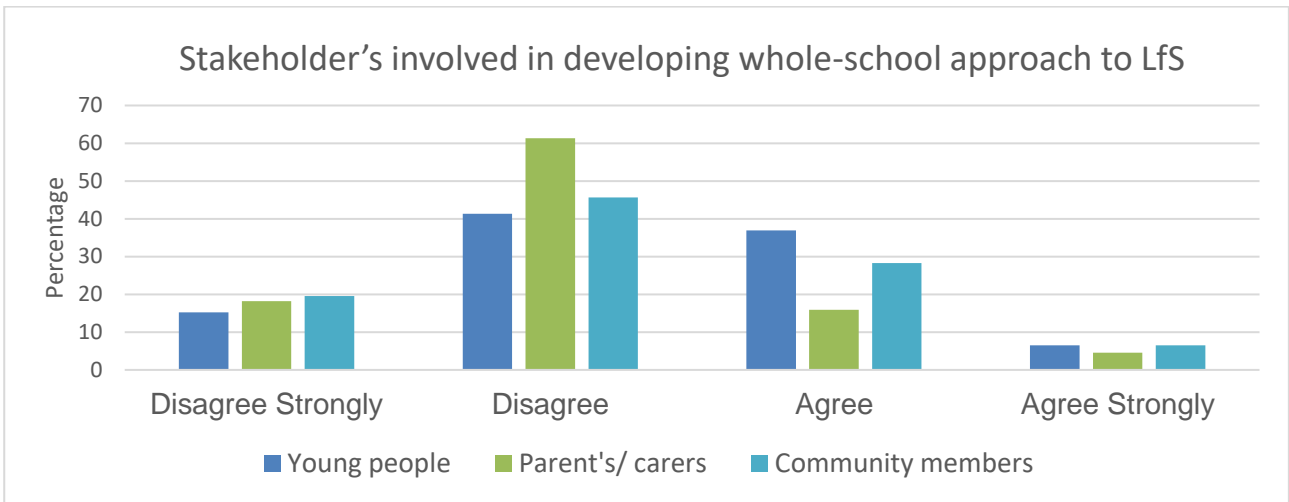


Figure 4: Stakeholder's involved in developing whole-school approach to LfS

3.1.5 Whole-school engagement with LfS

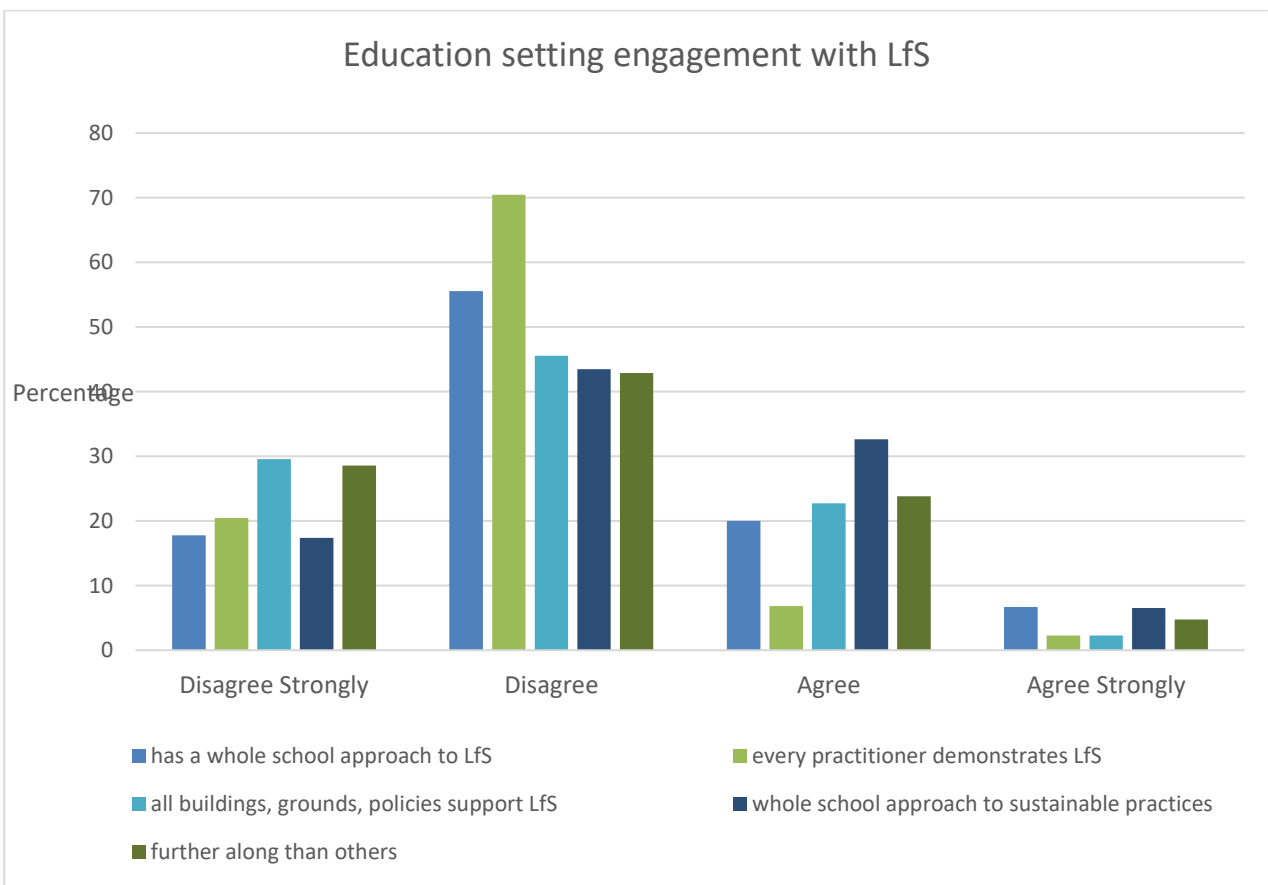


Figure 5: Education setting engagement with LfS

A majority of respondents said that their education settings do not have a whole-school approach to LfS that is robust, demonstrable, evaluated and supported by leadership at all levels (73%) (Figure 5). Developing (86%) and implementing (88%) a whole-school approach has not been easy, and most disagree that embedding a whole-school approach has worked well (71%). Only 29% agree they and their colleagues share a deep understanding of LfS and know what it means in their education context. As shown in Figure 5 the majority disagree that every practitioner demonstrates LfS in their practice (90%), all buildings grounds and policies support LfS (75%), there is a whole-school approach to sustainability (61%) and that they are further along than other school/education settings in implementing LfS (71%). Whilst the majority Agree that their education setting supports them to engage in LfS (60%), more disagree when it comes to support for training (62%) and providing time and resources (74%) (Figure 6).

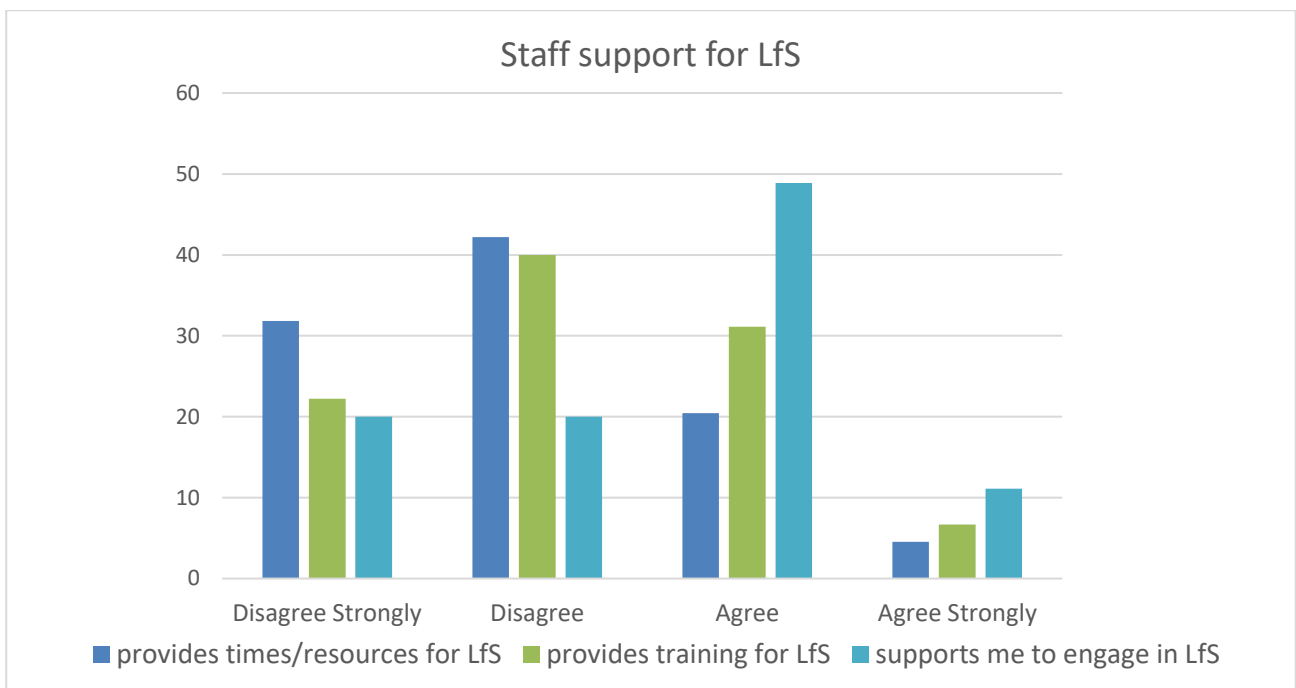


Figure 6: Staff support for LfS

3.1.6 Conclusions

In summary, most practitioners agree that LfS and sustainable practices are approaches towards achieving socially just and sustainable societies. They are generally able to engage with LfS and feel learners are encouraged to engage with sustainable practices. Whilst education settings are likely to support staff to engage in LfS, participants feel that they are less likely to provide the resources and time needed. Participants have less knowledge on the extent to which LfS links to other national strategies or is embedded across Scottish society. Participants believe that young people, parents and community members are not as involved with the development of LfS strategies and approaches as they could be. The findings suggest that education settings do not find the process of developing a whole-school approach to LfS easy and most do not have one in place.

4. World Café and focus group findings

4.1 Understanding of Learning for Sustainability

Question one of the World Café sessions with young people has been used to identify and analyse topics/nodes from discussions about how they might explain LfS to someone else. The findings below exemplify the topics related to their understandings and highlight gaps in their knowledge, and use of the term LfS.

Language and understanding

The most prominent responses related to terminology where some stated that they had never heard of the term and had difficulties understanding the subject without having been taught LfS under this heading. Some participants recognised sustainability as 'climate change' and/or 'Environmental Science'.

Climate Change

Climate change was the most common LfS related concept. Many participants found climate change easier to understand although they do not see the impact as much in the UK. Others commented on global flooding, ice caps melting, animals dying, and threat to life.

Curriculum subjects

The most common subject areas where LfS took place were biology, geography, and modern studies.

Use of materials

Reusing, reducing, and recycling of materials were mentioned repeatedly. Several comments highlighted the schools' initiatives, particularly the 'big blue bags' for paper recycling, as well as making paper, buying second-hand clothing, reducing fast fashion, reusable water bottles, and removing plastic wrappings in canteens.

Linking additional learning to LfS

Some respondents related their comments to human and children's rights as well as environmental aspects. Others commented on self-learning because of their interest through different youth groups and following prominent people such as Greta Thunberg.

"When you think about sustainability, you think about the environment ... We do little things like sustainability, but that's about environment stuff here at school, like the school environment, and like the...I don't know. The global one." (Site 6, Young Person)

Practitioners shared the following feedback on what and how they have learned about LfS in their settings:

Curriculum and subject areas

Curriculum and subject areas formed the highest number of comments in relation to delivering LfS and the whole-school approaches. Geography was highlighted where environmental problems and exploring possible solutions were a focus. Examples in the sciences included a focus on fossil fuels, and in home economics a focus on raw ingredients. National 4 and 5 were also signposted.

Poverty equity and history were noted, particularly in light of the war in Ukraine (peace, conflict, and migrants). Within one discussion, there was a consensus that Personal and Social Education (PSE) covered LfS, with an example of regional disparities in food security in African countries and the impact of climate change. Modern studies included LfS-related topics such as peace and justice. Some mentioned the outcomes and experiences of CfE more broadly in terms of global citizenship and human rights.

Community groups highlighted the need for collaboration and ‘buy-in’ from schools, particularly for pupils who were disengaged from their subjects. One CLD group reminded us that they do not have a curriculum and that learning was broader than this.

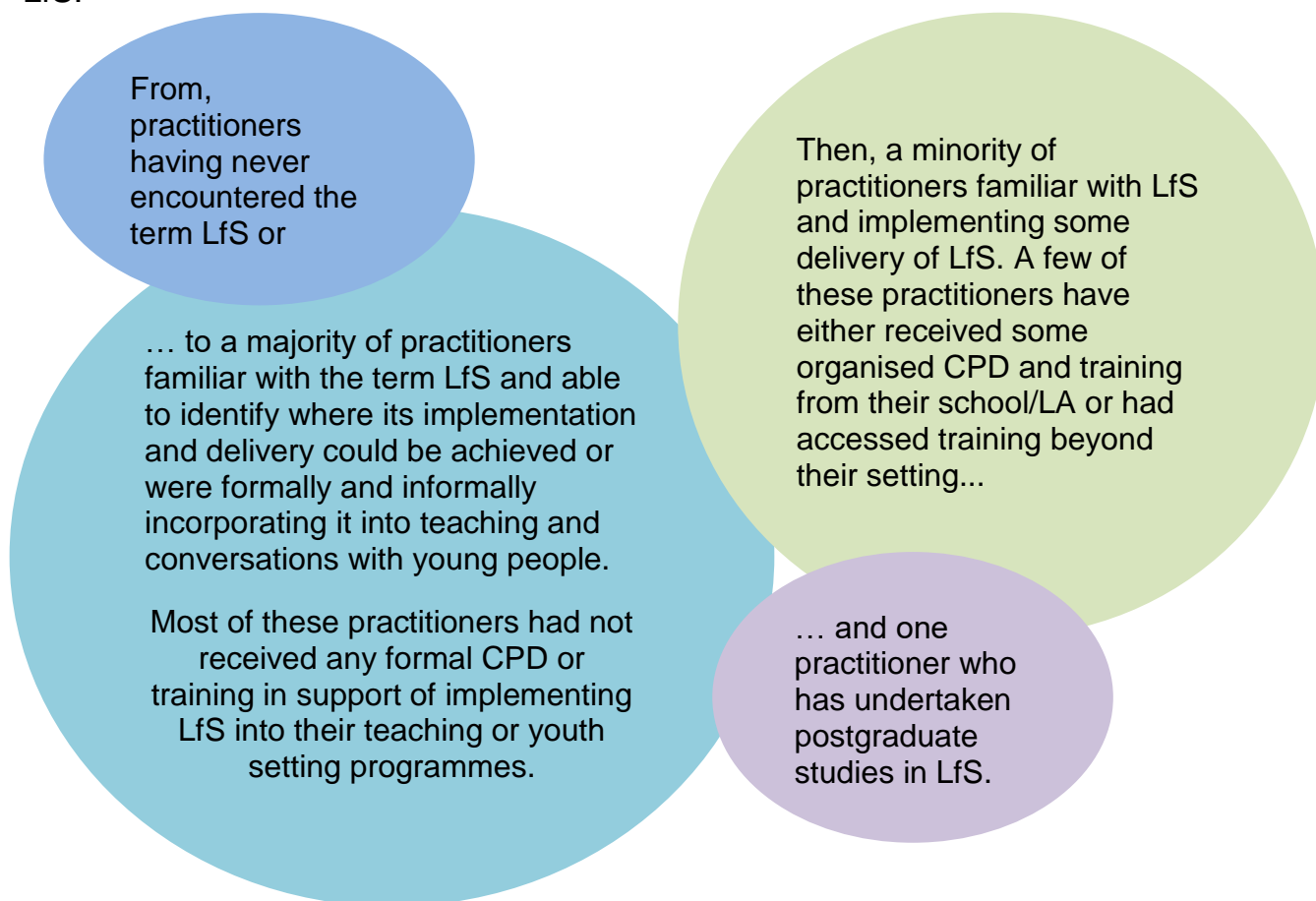
Continuing Professional Development (CPD) and training

The second most common topic was CPD and training with several comments stating the need for additional CPD, particularly for staff who did not have any formal qualifications in sustainability. Many of the comments raised the importance of training; for some, high importance was placed on CPD if LfS is to be a priority of Scottish education. Some participants identified previous training they had whilst undertaking recent ITE programmes, another had successfully achieved an MSc in the subject, and others recognised the local authority in providing short CPD sessions.

Sharing insights and experiences across schools were viewed as valuable. CLD colleagues signposted the usefulness of external partners in learning techniques to engage learners in LfS, e.g. film-making through Keep Scotland Beautiful and Climate Emergency Training for youth workers through Youth Link Scotland and Keep Scotland Beautiful. Accessing training was highlighted as challenging where practitioners would have to attend courses or CPD in their own time.

“So there’s something happening whether it’s in the home, whether it’s within their peers. But there’s a base learning coming from somewhere. And whether Learning for Sustainability’s been undersold in school, you know, or it’s just fitted in to other curriculum subjects and topics.” (Site 3, Practitioner)

The graphic below shows the spectrum of practitioners learning and training with LfS:



Practitioners mentioned the following CPD, training and courses they have received or attended beyond their setting provision:

Training or CPD coordinated by schools and CLD settings:

- Keep Scotland Beautiful – Community Climate Champions Training
- Global Learning Centre – Regional Global Education/LfS CPD Providers

Training or CPD undertaken beyond school or CLD settings:

- Edinburgh University - Learning for Sustainability Post-graduate research
- Global Learning Centre – Regional Global Education/LfS CPD Providers
- St Andrew’s Botanic Garden – training courses

The issue of language and terminology also featured prominently in the discussions, where practitioners agreed there was some discrepancy as to the meaning of sustainability. They suggested it goes beyond climate change and environmental issues and can mean different things in different subject areas. Several comments illuminated the lack of shared language and the terms used were different across different practitioners. It was noted that this could negatively

impact the pupils' understanding, as well as practitioners' own confidence in teaching LfS. Some participants explicitly reported that their understanding of sustainability was poor, while others stated their dislike of the term LfS because it was viewed as vague, generic, jargon, and was used as a buzzword.

4.2 Experience and implementation of Learning for Sustainability

Questions three and four in the World Café for young people related to involvement in school and community projects for LfS and practical examples of LfS they see in their schools and communities.

Young people's experience and learning of LfS in communities.

- community projects – Upcycling/reuse collections and community gardens and/or forest school activities
- litter picking in local areas, beach cleans or school campus
- online Conferences provided through local authority or national organisations
- personal and lived experiences – Community renewables/growing hubs
- Beat the Street activities across local community areas
- Climate Ambassador Groups/Youth Forums/Clubs
- DoE Award/John Muir Award

Young people's experience and learning LfS in secondary schools.

- DoE Awards
- Biology/geography curriculum Nat 4-5; Modern studies
- Home economics – locally sourced food, composting and Fairtrade
- Personal and Social Education
- national campaigns – Fairtrade Fortnight, Fridays for Future Strikes
- themed days – Earth Day / Eco Day / Eco Fest
- community projects – Upcycling/reuse collections and community gardens
- Pupil Councils – Youth projects initiated by youth leadership
- Eco/Sustainability Club; Rights Respecting Schools Committees
- litter picking in local areas, beach cleans or school campus
- online Conferences provided through local authority or national organisations
- attending COP26 online and schools engaging through resources

The young people's experiences listed above indicate the mode of experience or learning only. There were many qualifications of their comments with regard to frequency of experience, intensity and quality of the experience/s. The following findings represent responses to question three about places in which young people had been involved in school or community project for LfS.

Outdoor Learning

The most prominent site of LfS activities indicated by the young people was outdoors. For example, field trips, farming skills outings, community and school gardens, biology on the beach, litter picks, maths in the garden and creating

outdoor planters. The only disadvantage mentioned was there were too few opportunities to engage in outdoor learning.

Eco-clubs and pupil councils

Students expressed satisfaction with the advocacy and/or the projects they had been involved with in their eco/sustainability clubs and in pupil councils. Pride in achievements was evident when describing their involvement in the community in areas such as food banks, garden development or maintenance, in partnering with other schools for community projects and in participation in LfS advocacy activities such as film making to highlight endangered environments or species. Their comments also indicated these clubs presented limited opportunities for a small number of students and were limited in scope with their main activities including organising litter picks or advocating for recycling bins. The difficulty in prioritising attendance due to other commitments was highlighted.

LfS in regular school classes

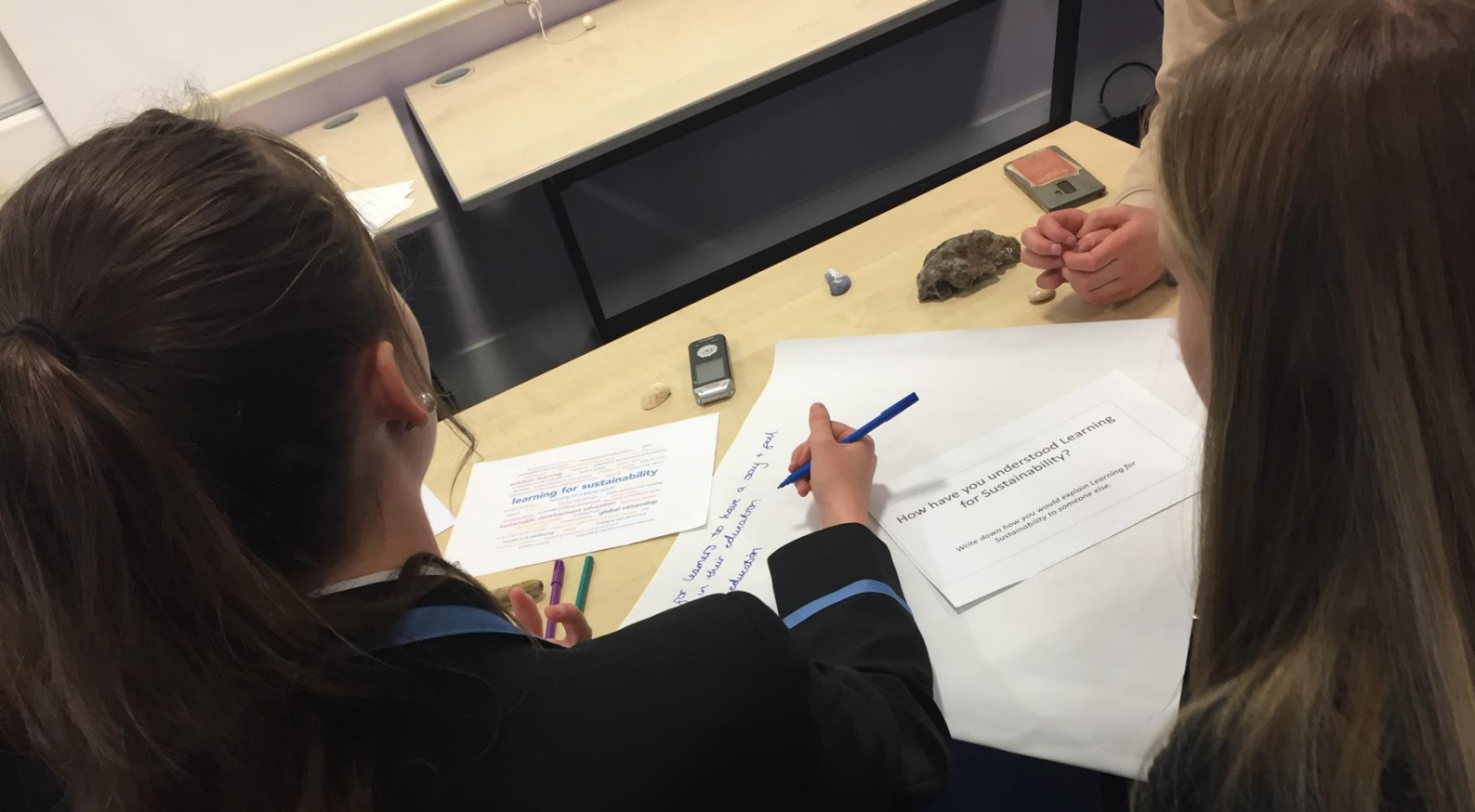
The next most prominent place for LfS indicated by young people was school classes. A range of curriculum areas with elements of LfS were highlighted: geography; advanced higher geography, where countries and their relative sustainability was discussed; religious education, where there was a focus on ethics and social justice; craft classes; engaging in recycling and outdoor education for a range of purposes. Limitations mentioned were insufficient classes timetabled on specific topics, surface learning or not understanding the purpose of the learning.

Partnerships and linking with community projects

Many of the comments relating to community involvement in LfS centred on specific activities such as beach clean-up campaigns, planting and maintenance of community parks, participation in community 'eco days', Prince's Trust activities, food banks, fundraising for UNICEF, supporting community activities like horse riding, Scouts and Guides. These activities were all organised through school clubs or with support of practitioners. Notably, there were no negative qualifications to these comments. These activities were seen as worthwhile although they were infrequent.

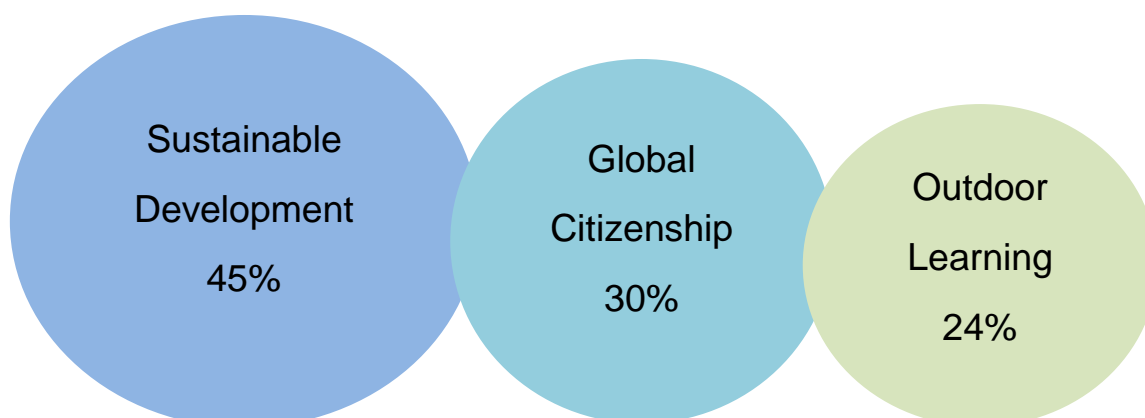
Memories of LfS in primary school

The most frequent mention of LfS across all groups related to memories of learning in primary school. There were many fond memories of tree planting, working towards green eco flag awards, Fairtrade assemblies, litter picking in the community and designing recycling bins for use in school. The mention of incentivised LfS was almost exclusively related to primary school indicating that LfS was much stronger in earlier school years.



“So, around school, there are little posters about not using plastic. I’ve noticed there’s one right next to the HE [Home Economic] classroom. That’s about the only examples there are in the school, but we also have a recycling bin in the corridor, which has always been there, so. At home, I don’t really learn much about sustainability. My parents are very, like, anti, like they use a lot of plastic, a lot of single-use plastic.” (Site 5, Young Person)

During the analysis of question four, young people’s discussion data was also mapped to look at the distribution of the three core LfS areas. Below is the distribution of topics from 146 references :



4.3 Successes and best practice of Learning for Sustainability

Young people were asked to identify how and where they had learned about LfS and identify which experiences were most effective. The four main contexts for LfS are outlined below:

School lessons and talks

School lessons and guest speakers were the most effective in promoting their understanding of LfS. Memories of learning themes and specific experiences reported were: rewilding, erosion, fertilisers, yoghurt making, reusing materials and upcycling, cooking in food technology, writing pledges on how to be more sustainable, and using real-life events.

Outdoor learning and fieldtrips

The second context for LfS was outdoor learning and field trips. Respondents valued this approach to learning, highlighting visits to an animal farm, wind farm, safari park, woodland, science centres (e.g. Dynamic Earth), battlefield, and beach trips. Some also identified the school gardens and greenhouses. For some the impact of these experiences was particularly evident when they included interactive and hands-on activities. For example, building a shed, working with animals, collecting seaweed, cooking with foraged ingredients, and reusing plastic bottles as tree guards, although one respondent did not appreciate getting muddy. Doing Duke of Edinburgh (DoE) award was also mentioned. Some made comments about Coronavirus (COVID-19) eliminating the opportunity for this kind of learning.

Use of materials

Similar to question one, initiatives in relation to recycling, reusing, and reducing materials were listed as effective methods for LfS. Further responses included recycling water (the water cycle), reusing the Earth's natural materials, reducing wastage, selling second-hand clothes through Vinted, Depop, and marketplaces, making crafts out of recyclable materials (e.g. elephants out of milk bottles, bags out of old jumpers), using technology rather than paper, food scrap bins and composting. A need for increased recycling within schools was highlighted.

Clubs and groups

Clubs and groups were mainly discussed in relation to whole-school initiatives. Eco clubs (or eco-groups) were the main feature of this component. For some, activities were based on choosing SDGs to focus on for the year; others identified environmental projects, such as litter picking, increasing the number of recycling bins, looking after the local orchard, tree guards, and visiting exhibitions. Some comments noted these clubs are student-driven.

“The successes, although it’s slow progress, are that I think staff are becoming more confident in terms of delivering this cause they’re learning more about it as we go.” (Site 4, Practitioner)

The third question of the World Café for practitioners explores successes. The top five successes using the frequency of comments from across all sites are detailed below in descending order.

‘Real-world’ responsiveness

Across all settings activities, projects and actions were undertaken in response to international, national and local issues, campaigns and place-based initiatives: e.g. COP26; Community Fridges; Community gardens; tree planting; food hubs; elections; local farm visits; renewable energy projects; and establishing improved systems for waste and recycling.

Embedded in curriculum lessons (Nat 4 and Nat 5)

Biology and Geography National 4 Higher Qualifications (Nat 4) and National 5 Higher Qualifications (Nat 5) exam specifications enabled mapping LfS across lesson planning and schemes of work because it was already included. As these subjects are not provided to all young people it was further suggested that it would be useful to make LfS content explicit across S1-S3 CfE.

Partnerships and linking with community projects

In relation to ‘real-world’ responsiveness, community projects were cited as a way for schools and CLD settings to offer life-wide learning opportunities unique to their setting and the young people’s interests, with a chance to develop more organic partnership working specific to the area and LfS.

Young People leading action and asking for change

The majority of practitioners highlighted the eagerness of young people to put LfS into action across their campus and community areas. They noted that many initiatives in schools were started through pupil councils and eco clubs often due to the interests and activism of young people seeking infrastructure improvements and opportunities to understand and support national or international current issues.

Joined up systems

Where schools or CLD settings had buildings/campuses with joined-up systems for recycling, reducing plastics, managing energy supported by the LA and Senior Leadership Teams, practitioners noted that these provided inspiration and extremely useful tools for teaching about LfS in practice.

A short selection of case studies exemplifying good practice:

Case Study 1: Strategic LfS leadership between the local authority and schools

One local authority has created a LfS lead to establish a network of staff keen to take leadership roles in their individual schools. Through the network, news, training opportunities, curriculum teaching links and activities have been cascaded and then further disseminated to teaching staff across each school setting. This was a new initiative for the local authority but it had already proven extremely useful as it raised the profile of LfS considerably and staff felt they had a contact to engage with, as well as a way to feedback their ideas, needs and suggestion to the local authority.

Case Study 2: Training and CPD for CLD practitioners

Keep Scotland Beautiful: Climate Conscious Communities training was offered to all CLD youth practitioners, building confidence in delivering projects connected to climate change with young people. This training also supported developing knowledge and expertise in LfS. This initiative occurred because of a broader commitment across the local authority to join-up initiatives and offer workforce development in climate education and LfS.

Case Study 3: COP26 and Youth Link Scotland

“The climate ambassador group did get money through, it was the COP26 youth climate champion fund with Youth Link Scotland again..., I thought everyone got the same but each local authority got a pot. We got £10,000 cause we’re quite a big authority. So they did, that was up tae the young people tae decide what we’re spending that on. So it was like a mini version of that, I suppose. Well, we’ve done wee things like that wi’ the summer projects where it’s maybe a couple a’ thousand, right how are we gonnae spend that.... And there’s, nothing’s went, nothing’s went pear shaped.”

Case Study 4: Eco Club

One school has a well-established eco club that is proactive with a range of initiatives, including an eco-notice board, and conservation activities that include bird boxes, planters and weeding of garden areas across the campus. It is important to note however, that the eco club is led by one member of staff and other participants from across the research have mentioned that projects like this do often falter if individual members of staff retire or move. It was also noted by young people that they were unaware of the eco club at the school until participating in the World Café, and they mentioned their frustration at news and information not being disseminated across the school causing them to miss out on activities and events.



The most successful programmes and frameworks that practitioners discussed in helping with the delivery of LfS across schools and communities were the following.

- DoE
- John Muir
- Dynamic Youth Award
- Rights Respecting Schools
- Outward Bound/Fire Skills Awards
- Sustainable Development Goals

4.4 Challenges in delivering LfS for practitioners

Throughout the dialogue with practitioners, crucial challenges and barriers were repeatedly identified across all, or the majority of the fieldwork sites.

Time – 8 sites: The most prominent limitation that practitioners noted is 'lack of time'. Feeling overwhelmed by the number of 'initiatives that the Government is pushing', staff find it difficult to link everything together. There is a lack of coordination with practitioners 'picking up bits and pieces' with 'no resources behind us'. Although CLD is an area that works well, participants do not feel their professional status is recognised or valued stating 'people don't know what we do'. Secondly, timetabling and the school calendar was also mentioned as restrictive to the scope of LfS initiatives that could be established.

Funding – 8 sites: Practitioners across all settings stated that constraints of budgets and no access to small-scale funding meant that establishing projects was difficult to impossible.

Staffing – 7 sites: Connected to time and budget, practitioners mentioned that managing a school garden, eco club or running calendared events was a significant pressure on their workload. Delivering LfS projects alongside Nat 4 and 5 curriculum content is rarely achieved even though the desire of practitioners to offer more was high and the benefits of such projects were known and acknowledged.

Strategy and Mapping – 6 sites: In relation to whole-school and local authority strategic approaches for CLD teams the necessity of establishing a coherent strategy was raised. Infrastructure strategy for school wide LfS needs to be joined-up with curriculum content mapped across subjects, then cascaded to raise the profile of achievements, what's working and where the gaps are.

Services – 5 sites: Connected to strategy and mapping, concerns were raised about the disconnect between sustainable practices of schools and communities not aligning with LfS as a whole-school approach or wider local authority commitment to changing systems and processes.

Other challenges and barriers include:

- lack of joined-up strategic approach from the local authority
- too many other initiatives with more comprehensive objectives and resources being given to schools (i.e. Interdisciplinary Learning (IDL), LGBT Inclusive Education)
- finding and sharing best practices within the specific context of secondary schools and CLD settings
- language and terminology
- lack of access to training and CPD through schools, local authority or other providers

“Yeah like even implement basic things and if we can’t implement these basic things and then we’re going on about this tae young people then they’re, they’re looking at them and going, ‘well why are you not practising what you’re preaching here?’” (Site 7, Practitioner)

4.5 Approaches to strengthening Learning for Sustainability

Young Peoples’ Suggestions

Young people’s responses about what should happen to promote LfS in the school or community and who should be involved in this focused on direct teaching about LfS, more information dissemination about social and sustainability issues, outdoor and creative learning. Areas most prevalent in the findings are highlighted below.

More direct teaching and learning about LfS

In addition to incorporating LfS into the school/CLD values and raising awareness during assemblies/meetings, young people at all sites said that LfS needs to be better integrated in all areas of the curriculum or programme. Participants said that current content where LfS was incorporated was not specific enough and where there was LfS learning it was not varied enough. Student cafes were highlighted as useful learning sites. The need for collaboration in designing LfS sessions was seen as a way of engaging more young people and learning about what they wanted to know.

Information dissemination on social and sustainability issues

The need for additional information and its dissemination to schools and communities was deemed important by participants. Improved dissemination about existing policies (for young people) and improved setting communication methods were also highlighted. Suggestions for knowledge exchange included guest speakers on LfS topics, community to school/CLD settings, and school visits to the community. This extended to conducting community information fairs and fundraising events or selling Fairtrade chocolate. Better notice boards were proposed with contents including ‘eco-tip of the week’, updates on actions taken within the specific setting, calendar of LfS related events and activities (e.g. ‘Eco-Christmas), and mascots.

Outdoor learning/creative learning

Outdoor learning was seen as a central to promoting LfS by many participants. Community gardening, growing food for home economics and school cafes were mentioned often. Geography that is taught outdoors through identifying and engaging with unused local land and integrating all areas of the curriculum into outdoor learning were prominent suggestions. Young people highlighted the disconnect between LfS being taught while sitting indoors looking at slides and sitting on plastic chairs. More community engagement through beach cleans and

litter picks were also prominent suggestions. Memories of primary school activities promoted enthusiastic discussion of Forest School as a good learning environment for LfS.

Raising the profile of targeted LfS clubs

Eco clubs and sustainability groups were considered to be very useful but somewhat exclusive with room for only a small committee. Where there was scope for larger groups, there was too little information about their existence to engage potentially interested members. Moving beyond discussion and ensuring these groups were advocating for and enacting change with the support of their practitioners was also important. The support and advocacy was evident in two of the eight sites but these comments came from young people over five sites. Partnering with other secondary schools, CLD groups or with primary schools where the secondary students played a leadership role was also a strategy for raising the profile of eco/LfS groups and their activities.

Social justice issues, buildings and environment and recycling

Social justice and fair access to material resources was a feature of the young people's comments. Learning about eco-justice and about other areas of social sustainability were important. They highlighted a need for a focus on ethics and awareness of discrimination. Participants believe that buildings and environments need to be improved, particularly where resources are seen to be wasted such as leaky taps and poor lighting. It was suggested that renewable energy needs to be part of school/CLD buildings for everyday use to set a good example, and recycling needs to be improved. Young people contrasted the idea of learning about and acting on sustainability as hypocrisy when they could not even recycle plastic drink bottles or compost food waste. They made it clear that these issues need to be addressed.

Practitioner suggestions for strengthening LfS include the following.

Developing greater national strategic direction through the following actions.

- cascading guidance through local authorities to schools and CLD settings
- supporting joined-up systems of sustainable practices across local authorities for schools and community settings, this included waste reduction, recycling, energy use reduction and socially just locally traded products
- providing practical support for schools in the form of off-the-shelf resources around LfS topics for practitioners to incorporate into lessons
- further embedding and making LfS explicit in national frameworks such as adding LfS into S1-3 CfE, Scottish Qualifications Authority (SQA), CLD competencies, Developing the Young Workforce, Headship Standards, and Education Scotland inspections criteria

Embed LfS into school/community culture through the following actions.

- supporting the development of an LfS ethos over time with strategic direction and resourcing

- supporting flexibility for school and CLD settings to continue to be place-responsive and contextualise LfS for young people in their localities, taking into account broader social and economic challenges being faced by communities
- sharing models for coordination and leadership of LfS within schools/CLD settings to reduce reliance on individuals volunteering their time to lead LfS
- cross-sector collaborations and buy-in from schools, communities and business sectors for delivery of LfS but also for successful implementation

Time

Time is a high priority for all practitioners, specifically with regards to accessing CPD, incorporating content and coordinating LfS across schools or youth projects to establish programmes with young people as it takes time to invest in engagement.

Need for a more equitable and inclusive approach to LfS with young people

- participation needs to be more widespread across schools and community settings to ensure that LfS is building on more young people's interests
- extend LfS beyond eco clubs and earth days and look at the whole-school approach as more inclusive
- make LfS explicit across S1-3 CfE and embed it in more subjects for Nat 4 and Nat 5, as it is predominantly taught through (often over-stretched) biology and geography departments, with some content in PSE, home economics and modern studies
- encourage more collaboration between schools and youth projects to provide additional routes for young people to engage with LfS across a broader delivery of projects, programmes, and community partnerships

Funding

Allocating discrete budget for LfS in schools would enable schools to prioritise projects, coordinate time and resourcing, which can link to partnership working or working with external providers. CLD practitioners stated that funding to deliver youth projects needed to be long-term to develop relationships over time with more certainty for outcomes.

Activities and Outdoor Learning

- both CLD and school practitioners stated that access to and use of spaces to run projects and deliver outdoor learning would enable more coordination and joined-up delivery of LfS
- gardens are consistently suggested as focal points from which to develop a range of outdoor learning projects for both schools and CLD settings but require development and land

Accreditation and Qualifications

- flexible formats for accredited routes were suggested by CLD settings to encourage young people's engagement and offer them qualifications in support of employability alongside personal and social development- some are already offering DoE, John Muir Awards and Saltire

- some schools suggested that in addition to embedding LfS in that a sustainability module or course should be developed
-

It's really hard, I think tae get parents on board ... you need to be really clear in articulating what your priorities are. And it's like, do we get the parents on board wi' what we think are the priorities? Do we let parents drive our priorities? How much a' that dae you meet in the middle?" (Site 7, Practitioner)

Ways to involve parents

- schools suggested engaging with Parent Teacher Associations and disseminating LfS updates through school newsletters, which may also link parents who are actively involved in the LfS sector
- CLD practitioners noted the compartmentalising of youth and adult programmes which has reduced their ability to deliver inter-generational projects
- CLD practitioners also stated that parents could access further knowledge and understanding if LfS were more embedded into adult learning

4.6 Future vision and aspirations

The graphic on the following page visually displays data from young people's post-it notes and practitioner focus groups on their collective vision of LfS. The key themes from young people's post-it notes are represented with yellow flags and practitioner focus group quotes are displayed within clouds. The images represent topics discussed throughout the sessions relating to the vision of quality LfS.

"We are in a transition time where we really need to be sort of upping our game..." (Site 6 Practitioner)

"We need to be role models..." (Site 7 Practitioner)

"What is the measurement of that piece of wood? What size are the birds that are going to be going into the hole?" (Site 1 Practitioner)

1. Desire to turn all school & community settings into examples of sustainable practices and systems so that learning and action is joined-up (16 young people)

2. Desire for outdoor learning through food growing, creative arts & for health and well-being (10 young people)

Schools

- LfS in every school:
- Prioritized
 - Embedded
 - Supported
 - Part of a coherent vision
 - Urgently implemented

Development and effective use of school/CLD and community grounds

Create in + with Nature

3. Make LfS available to ALL age groups (8 young people)

Support all young people groups to engage in LfS. Encourage intergenerational learning.

"So one a' the 'hings is keep tae the, keep tae the promises." (Site 3 Practitioner)

OUR ECO SCHOOL

What we've been doing... Feedback- Your voice matters!

Volunteering opportunities

What's on?

Beach Clean March 22

4. Desire to take action and 'do' sustainability through initiatives and projects connected to schools and communities (6 young people)

Practitioners

- Professional development on LfS
- Dedicated LfS Lead per school/CLD
- Part of LfS strategy and planning
- Share best practices internally & externally
- Enable young people engagement and leadership

5. Centre sustainability as a priority for schools, communities, and LAS- not just an add-on or extra thing to do (5 young people)

Progression Pathway with LfS

"Give schools a specific budget for outdoor education staff. That's what's required. Let schools have their own budget so you can build it into your curriculum." (Site 2 Practitioner)

"Wider achievement tracker, so I track: number of kids who are involved in volunteering opportunities, leadership opportunities and things like that." (Site 2 Practitioner)

- Measuring and valuing all learning pathways at all levels including councils e.g.:
- National Progression Awards
 - John Muir Award
 - Prince's Trust
 - SCQF

Making practitioner and young people voices heard and actions seen

- Quality LfS
- TIME
- BUDGET
- STAFF
- STRATEGY
- SERVICES

6. Independence Referendum to enable Scotland to manage its own sustainability infrastructure (5 young people)



5. Discussion of findings

5.1 Understanding of LfS is language based, contextual, and varied

Many young people and practitioners reported they had never heard of the term sustainability and/or had not been taught about it. 'Climate change' and 'Environmental Science' were easier to understand, often used synonymously with sustainability. Practitioners, during the field visits, articulated their understandings of delivering LfS in a variety of ways, highlighting the lack of shared language or understandings. These responses differ to those in the scoping survey where a majority of practitioners said they were familiar with LfS in CfE. It is possible that this is due to the practitioners who completed the scoping survey were those who were familiar with and felt strongly about LfS.

The issues surrounding language and sustainability education were recognised over a decade ago (McFarlane and Ogazon, 2011), and are commonly raised in literature (Scoones, 2016). For example, within their systematic literature review on LfS in the secondary sector, Taylor et al (2019) report on the continuing discord surrounding the terminology and the signalling towards the environment. Given these debates the use of labels such as Education for Sustainability, Education for Sustainable Development and so on, there is a cause to question the relevance of the term 'sustainability'. As one young person said "what do we want to sustain anyway? We want it to get better – not stay as it is." (Site 5)

Kopnina (2018), indicates the most common terms in the SDGs are 'economic growth, resilience and inclusion' (p.1269), followed by more nuanced aspects of sustainability such as health and wellbeing, global citizenship, social inequalities, and rights. The young people reflected some of these issues by discussing the importance of sustainability, the impact of climate change on their communities and concerns for their future. This reflects the work of Francis and Davis (2015) who signpost studies revealing adolescent environmental concerns, regardless of cultural or economic background. We also note that some young people remarked on their own additional learning about sustainability and related terminology through the World Café events which supported sharing insights with peers and facilitators.

Even though young people identified very limited understandings, the main vehicle they did have for LfS was through lessons and school-initiated talks and events, with eco-clubs and field trips mentioned often. Many young people commented on the general learning around sustainability in their primary education with reducing, reusing and recycling as key discussion points. However, this decreased in secondary unless specific subjects were opted for, such as geography, science, and modern studies. According to Taylor et al (2019), such limited experience curtails young peoples' opportunities for becoming confident individuals and capacities to promote change for the common good. It is necessary to enable engagement across the whole education sector and this may necessitate more integrated and explicit learning. In the community sector there was no specific remit to implement LfS although they did engage in community recycling or

environmental projects. Perhaps the greatest challenge was the language used concerning sustainability.

Practitioners recognised the need to articulate LfS through their curriculum areas but reported a lack of expertise and guidance enabling them to fulfil this role. Curriculum areas in which they addressed LfS mirrored the young people's responses, mainly geography and science but also through interdisciplinary learning. Workload was an issue, with concerns about another concept being added into what they perceived as a crowded curriculum. Very few had engaged with or knew about the Education Scotland Sustainability Hub.

5.2 Experiences in LfS are effective in collaboration with others

Young people discussed a range of ways in which they had been involved in, or encountered practical examples of LfS, across school and community project and settings. They ranged from outdoor learning, eco-clubs, regular school classes, partnerships in the community and memories of LfS learning in primary school. These experiences were identified as forming part of their learning experiences, as well as being important to their awareness of LfS being applied, or not, across buildings, campuses and community spaces. Through them young people gained a sense of unity and had experiences of collaborative approaches, which are necessary for sustainable futures (UNICEF, 2017). They also noted that due to challenges for practitioners in schools and CLD settings, many of these practice examples were unsustainable and would often fall into disrepair or disuse.

Young people shared narratives and identified practical examples of effective LfS being incorporated and embedded into their school/community infrastructure, but it was limited. This is consistent with the scoping survey results where two thirds of practitioners said they demonstrated LfS in their practice but only half felt empowered to teach LfS, although many felt it was important to adapt their teaching during COP26. Young people reported positive experiences in primary school where they used less plastic, recycled paper and plastic, composted food waste and engaged in outdoor learning lessons or extra-curricular projects. They were critical of secondary schools with limited sustainability aspirations, citing lack of support from staff as a barrier to their initiatives in this area. However, in order to feel a sense of hope regarding climate change, young people need to engage collaboratively and creatively in climate change or sustainability actions (Rousell & Cutter-Mackenzie-Knowles, 2020). Birch (2020) also identified the need for young people to share narratives of practical experiences of place-based environmental activism, to understand their potential to make a difference, contribute to their communities and have hope for the future. Such activity also serves to mitigate the fear and helplessness that many young people feel about their future with regard to LfS and climate change (Hickman et.al, 2021).

Outdoor Learning featured in both practitioners' and young peoples' responses about LfS, ranging from opportunities to engage with nature to experiencing first-hand human impact. However, it was clear again that examples were subject-related and often limited in highlighting sustainability issues. One extra curricula

area related to LfS that was seen as successful across social justice as well as the environment, was the DoE Award.

National and international collaborations were identified by practitioners as examples of successful LfS-related projects such as a pre COP26 online event for secondary and primary schools in Scotland. Useful and targeted resources were drawn from Youth Scotland and the Eco-School's initiative. Community examples were provided in the form of litter picking and community gardening. Some examples of collaboration also highlighted links to the geographical location of the school, such as visits to moorland estates to understand wildlife in these areas. The successes of these partnerships are essential for genuine sustainability education (Green and Somerville, 2015). However, many of the examples given by the participants focus on environmental features only and omit consideration of social justice and other aspects of sustainability.

5.3 Successes in LfS are integrated, creative, place-based and often outdoors

When exploring young people's understandings of LfS-related areas within the curriculum, it was evident that these were subject-specific with a focus on children's rights and social justice in social sciences aspects, and energy and climate change in the sciences. Learning about rewilding, erosion, agricultural practices, food production, reusing and recycling material (fashion clothing) were also indicated. However, the effectiveness of this learning depended on the approach, with many commenting negatively on the use of PowerPoint resources but contrasting the positive impact of guest speakers, field trips and outdoor learning. This need for creative education echoes Malone and Truong (2017) who propose that "the question is not whether sustainability education has a role to play in a sustainable future for the planet –it is, can we re-imagine new ways of 'doing' education and not repeat the same old practices" (p.8).

There was a consensus that outdoor learning was relevant in terms of a connection with nature and the natural environment, but LfS was seldom mentioned. School and/or community gardens, where possible, yielded positive LfS outcomes. Other outdoor learning activities highlighted Forest School and local outdoor field trips. It was evident that many of these trips took place in primary years, others occurred in secondary school, although these were much less frequent. The evidence suggested that COVID-19 had negatively impacted the opportunity for field trips. Even though the participants did not automatically associate the field trips with sustainability, the experience and learning from these events was memorable for the young people.

Examples of extended school initiatives include eco-clubs, eco-fest, climate ambassador groups, and fund-raising. Much of this placed an emphasis on the climate and the eco-component of sustainability through activities such as litter picking, recycling, reducing energy use, and reusing materials. However, it was through these groups that the use of the term 'sustainability' came to the fore.

Within the World Café discussions, limited attention was given directly to COP26 and 27 but when prompted three examples were highlighted in relation to school, and another related to attendance outside of school. The SDGs were briefly

highlighted through eco-club work, one in relation to COP27 and their geography higher award. One fundraising focused on areas beyond the environment with references made to UNICEF and Children in Need. The topic of fundraising was minimally discussed.

In summary, practitioners indicated successes in specific projects such as the COP26 events, DoE programmes, and LfS oriented field trips although these were irregular. The majority of responses in this area indicated challenges to implementing LfS and these are addressed in the next section.

5.4 LfS challenges are exacerbated by lack of resources & joined up systems

Lack of time was mentioned by the majority of participants across every setting and site. The scoping survey identified that whilst most practitioners were supported to engage in LfS, they did not have the time to do so. Time constraints relate not only to workload but also affect timetabling and the school calendar resulting in restrictions and an inability to offer extra-curricular activities, trips or develop practical and experiential elements to their teaching. Access to external training opportunities and the time required to fit in so many other priority curriculum areas were also key constraints. As Malone and Truong, (2017), argue, in concert with the voices of young people in this study, a creative approach is needed for delivery of experiential pedagogies within LfS, ITE and its coordination of LfS pedagogy. This will require ongoing management support, appropriate spaces and learning resources in the school or community area.

Limited resources and opportunities for field trips and outdoor education were seen as a barrier by the young people. They identified the need to be outdoors, where the more academic elements of learning about LfS can be correlated with the embodied experience of being in the natural environment. This aligns with Jeronen et al.'s (2016) conclusions where 'first-hand experiences, locality and place-based education' (p.12) appeared to positively affect sustainability learning and attitudes. Two systematic literature reviews show that outdoor learning, particularly in natural environments where active, participatory, and interactive learning occurs (Jeronen et al., 2016; Mann et al., 2022), is generally beneficial to learning.

Funding was raised as a significant barrier to delivering LfS, specifically linked to staffing and time. With additional small funds participants mentioned that place-based projects could be established but staff needed time to coordinate and develop long-term, joined up outdoor learning experiences in the community for young people. Without seed funding or small-scale budget set aside, there is very little opportunity for schools to establish meaningful projects long-term, deliver programmes themselves or work with their preferred external providers and partnerships who could deliver elements of LfS.

The absence of recognisable terminology (see section 5.1) mapping projects, curriculum content and partnerships delivering elements of LfS was raised. An LfS lead tying together what is happening in the community would allow a more joined-up and whole-school strategic approach to emerge, as supported by Capra (2007), in collaboration with the local authority to identify LfS aims and objectives. Practitioners felt this would be helpful to identify ways to either contribute to existing

initiatives or develop their own offering. Similarly, young people stated basic expectations about sustainable practice could not be met due to a gap in infrastructure systems between schools and their respective local authorities around paper and plastic recycling, food waste reduction, and management of heating systems. It was argued that establishing sustainable and ecologically efficient infrastructure was one of the best ways to exemplify LfS with young people, yet often these are constrained by providers/ services who have restrictions on their own contracts and capacities to deliver sustainable approaches.

5.5 Strengthen LfS with core curriculum, social justice and outdoor learning

Young people identified the need for more direct teaching and learning about LfS in all areas of the curriculum. This was consistent with responses from the practitioners who said that incorporating LfS across school/community settings through cross-sector collaboration, sharing models of integration of LfS into the curriculum and increasing curriculum resources would be helpful. This also implies, as indicated by the practitioners, that education policy needs to make LfS explicit in national curriculum frameworks and be supported by appropriate resources. Evidence of this was articulated through examples of integration of LfS into the curriculum occurring where there was joined up infrastructure allowing LfS leads to play a coordinating role in connecting the systems. Topics highlighted by young people for promoting LfS also included designating LfS as a core school or setting value, placing additional focus on eco-clubs to further engage in eco-justice and environmental ethics issues. These ideas showcase the level of awareness the young people have about their communities and their understanding of what they need. Similar sentiments were expressed by practitioners when discussing the need for school and CLD settings to be more flexible in the integration of LfS and more responsive to their own communities.

Dissemination of information about social justice and sustainability issues was highlighted by the young people as an important means of promoting LfS. Communications about school policy on a range of topics related to social justice and sustainability and two-way communication between the school/CLD and community were considered important with numerous suggestions for a range of guest speakers from various sectors providing talks at the settings. Young people talked of conducting plays and eco fairs to provide information to the community, the preparation of which would enhance their own understandings. This approach is consistent with the recognised need for young people to be active participants in their engagement with LfS (Rousell & Cutter-Mackenzie-Knowles, 2020) and addresses their expressed need for a more creative approach to LfS (Malone and Truong, 2017). This need is also evident in the scoping survey responses where fewer than half of the practitioners say that young people are empowered to act on LfS issues in their settings.

Outdoor learning was discussed by young people in all of the sites. They highlighted the ways in which subjects could be taught outdoors including geography and mathematics and recommended outdoor learning for young people who were less academically inclined. Truong, Gray and Ward (2016) demonstrate the value of garden-based learning for re-engaging young people who find it difficult

to progress through standard academic approaches. The success of this approach is supported by Lloyd et al. (2018) who posit place-based outdoor learning as a broader integrated approach that connects place, curriculum and learners. Gardens were consistently mentioned by young people as useful spaces for learning that needed to be utilised more effectively. Local land for learning agricultural skills and geography were suggested for integrating LfS, community and curriculum in the outdoors. These connections could be made more explicit across the CfE S1-3 and support more subjects for inclusion in Nat 4s and 5s.

5.6 Future vision and aspirations

A key message young people wanted the Scottish Government to consider is the need for schools and CLD settings to be held up as examples of good practice. This included best practice in energy generation and use, recycling and food production. This would create a connection between theory and practice and support Capra's idea (2007) of living systems. Practitioners supported this idea recognising that they, and their settings, needed to "be the change they wanted to bring about".

Creative and integrated approaches to LfS were called for as a priority. This included greatly increasing outdoor education opportunities and integrating LfS into curriculum content. This would make better use of community land resources, promote engagement in the curriculum, in LfS at school and support young people's health and wellbeing (Truong et al., 2016). Practitioners highlighted the scope for effective use of school and CLD setting grounds and the potential for prioritising and embedding LfS into school/community life. This would benefit the practitioners, young people and community enabling integrated group learning, avoiding silos, and supporting individuals that may otherwise struggle within the confines of traditional classrooms. This could engage young people in the community and promote networks with feeder schools, other secondary schools, and higher education institutions. Universities were also considered potential partners, containing expertise that would enable and support LfS. Enacting these approaches would respond to the scoping survey where at present most practitioners recognise that few young people and community members and even fewer parents are involved in developing opportunities for LfS at the sites indicated above.

Young people wanted to ensure that all age groups had access to LfS, not just those fortunate enough to have eco groups or clubs that fitted their timetable or year level. This was reflected in their desire to ensure that LfS was included as a priority in schools/CLD settings, not as an additional layer that could be forgotten when other demands of curriculum imposed. For practitioners this means policy, resources and budgets to support full integration of LfS, opportunities for professional development within working hours, ensuring they are part of the LfS planning process and having a dedicated LfS lead in school/CLD settings to support the ongoing integration and prioritisation of LfS.

Measuring and valuing all learning pathways was a key feature of practitioner recommendations to enable acknowledgement of out of school participation and

achievement in activities such as DoE, Princes Trust, Outward Bound, Scouts and Guides programmes. Formal recognition of these achievements would recognise the importance of young people's agency (Rousell, Cutter-MacKenzie-Knowles, 2019) and potentially support young people of all ages to identify as LfS champions and to promote further engagement among their peers.

The agency of young people and practitioners was seen as pivotal in engagement with the community. Taking leadership roles in developing LfS activities in collaboration with other schools, community organisations and members, and key climate change organisations featured in aspirations for future LfS development. For example, integrating the process of policy development or LfS oriented community arts events would provide visibility and support community action. Inwood et al. (2017) and Ward (2013) highlight the activist role that community arts can play in raising awareness of LfS issues and there were many suggestions from young people about ways in which they may engage with their communities in this way. CLD practitioners felt that this type of activity would support engagement, promote global citizenship skills and energise community partnerships.

Practitioners recognised that the kinds of future recommendations they were making were underpinned by the need for a cultural change in schools and communities – both in the way LfS was integrated as fundamental part of the curriculum but also in terms of community engagement and partnership. Some of the young people (5 participants) took this a step further by recommending that “we say ‘yes’” to the potential independence referendum in order for Scotland to take ownership of its environmental and sustainability infrastructure.

Clearly, any discussion of future education in Scotland relates to the work of Scotland's Future Forum. In their report produced with 'The Goodson Group: Schooling, Education and Learning 2030 and Beyond' (2020), they highlight three main challenges for education in order of priority: environmental, technological, and social and economic change. This is consistent with the findings in this report where the need for LfS to be a core principle of the curriculum is voiced by all stakeholders. It is also clear that LfS must be included in any national discussion about transformation of education and that young people play a key role in this discussion. Young people and their practitioners also know that practitioners need to be able to guide and support them, and in order to do this, they need guidance, training and support.



6. Conclusion and refresh recommendations

The conclusions are presented under the five priority areas from the 'One Planet Schools' (2012) and the 'Vision 2030+ Concluding Report of the LfS Implementation Group' (2016) in order to highlight the synergies with these documents and demonstrate where new strategies and processes may be enacted.

Learners should have an entitlement for Learning for Sustainability

The findings and discussion sections above make clear that young people believe that they have an entitlement to LfS but their options are currently limited.

The first issue is the language associated with LfS. Many had not heard the term "Learning for Sustainability" but were familiar with other terminology such as climate change, environmental education or Forest School. However, when discussing LfS in the World Café settings, they associated many areas of understanding gained through school (often through memories of primary school), CLD settings or in the community. This highlights the general awareness young people have about sustainability issues, in spite of the language issues, and demonstrates that it is gained through a variety of routes. Standardising terminology and ensuring it is used throughout the curriculum would reduce the confusion and make content about sustainability more recognisable and accessible.

What is learned about LfS in schools emerges through specific subjects such as the sciences and geography related lessons. While there are some examples of project learning in schools and CLD settings, these are short-term and engage relatively few young people. Practitioners support the young persons' right to LfS but are constrained by workload, curriculum priorities, time, and funding. COP26 did impact on the LfS opportunities but not across all sites. The extent to which these were embraced was dependent on school resources, flexibility and the good will of practitioners to integrate the relevant content. However, young people want and need to see LfS integrated throughout their school curriculum and CLD programmes in order for it to be a dynamic and engaging awareness in all contexts and therefore a meaningful part of their lives.

Young people believe they should have greater opportunities for outdoor learning. This will support the synergy of practice and theory allowing them to relate LfS to the outdoor settings, to integrated curriculum areas and to many contexts in the community. Practitioners require additional time and understanding of outdoor education opportunities in order to implement this practice. It is clear that outdoor learning opportunities need to be broadened and made far more frequent to meet this need.

Young people want agency. They want to be consulted on how LfS is integrated into the curriculum and to be able to make decisions about the ways in which they can work with it in partnership with schools/CLD settings and in the community. They want to make meaningful contributions and make a difference to their schools, their communities and their lives.

Recommendation 1: Standardise terminology and ensure it is used throughout the curriculum to reduce confusion and make content about sustainability more explicitly, recognisable and accessible.

Recommendation 2: Integrate LfS throughout the school curriculum and CLD programmes to promote a dynamic and engaging awareness of sustainability issues in all contexts and render it a meaningful part of the lives of young people.

Recommendation 3: Enhance opportunities for outdoor learning so they are more frequent and broader in scope.

Recommendation 4: Provide meaningful and genuine opportunities for young people to exercise agency in contributing to LfS in their communities and in national discussions of educational transformation to include LfS.

In line with the new GTCS Professional Standards, every practitioner, school and education leader should demonstrate Learning for Sustainability in their practice

Most respondents in the scoping survey believed they demonstrated LfS in their practice. World Café and focus group participants also believed they did so but within the constraints of their subject area, time and resources. They acknowledged that the young people may not recognise the content of their engagement as LfS and many of the practitioners did not acknowledge that they were engaged in LfS. The prompts provided in the World Café resources linking LfS to many other areas of the social, civic and educational realms of life enabled more discussion of the ways in which their subjects were related. This realisation also highlighted the extent to which much more could be done to integrate LfS into the curriculum. A number of actions are needed to make this a reality.

Similar to the young people, terminology relating to LfS is an issue for practitioners and standardisation of it is recommended. Integration of LfS into school/CLD policy and at local authority level is recommended to guide practice and identify required outcomes.

Time is required for practitioners to integrate LfS content into their respective areas of teaching and engagement. Time is also needed to attend training events to support learning and collaboration with colleagues about innovative LfS practice. Additional planning time for practitioners may also be required in the earlier stages of this work to normalise the process of LfS integration.

Funding is required to support training of all staff but also employment of LfS leads in every school. This would help to ensure that policy is disseminated, practitioners are aware of and collaboratively enacting good practice locally and regionally, and that LfS activities are mapped across school and CLD settings.

Recommendation 5: Integrate LfS into policy at school, CLD and local authority level to guide practice and support stakeholders to identify good practice and related outcomes.

Recommendation 6: Provide time and training for practitioners to integrate LfS content into their respective areas of teaching and engagement.

Recommendation 7: Appoint LfS leads in every school to ensure policy is disseminated, practitioners are aware of and enact good practice locally and regionally and that LfS activities are mapped across school and CLD settings.

Every school should have a whole-school approach to Learning for Sustainability that is robust, demonstrable, evaluated and supported by leadership at all levels

The policy and training initiatives recommended above support the development of a whole-school approach to LfS, but additional initiatives are required to achieve this aim.

Participants made clear that the whole-school approach is not yet being fully realised in the local authorities included in this research, although emerging elements were evident. Findings highlight the value of including all stakeholders: young people, community and family members and school leaders, in contributing to the whole-school approach. Young people made it clear they wanted agency including engagement in how LfS is integrated through schools/CLD settings and the ways in which they engage with the broader community. An LfS lead in the local authority and at school/CLD level would be a first step in developing robust channels of communication. Steering groups with rotating membership for family, community, school practitioners and young people would provide an opportunity for ongoing planning and monitoring of LfS initiatives. Such groups would be supported by the school/CLD leadership and the local authority. Their remit could include the following.

- planning and monitoring of integration of LfS in school and CLD settings
- assisting in identifying appropriate training for integration of LfS
- planning and supporting inter-sectoral engagement in LfS activities in the community
- working with the local authority on projects where broad stakeholder groups could participate and contribute

Recommendation 8: Appoint LfS leads in local authorities and at school/CLD level.

Recommendation 9: Create steering groups with LfS leads and rotating membership for family, community, school practitioners and young people for ongoing planning, monitoring and evaluation of LfS initiatives.

All school buildings, grounds and policies should support Learning for Sustainability

Participants thought that policy needs to be developed to support LfS at all levels. This includes school and CLD sites, local authority and national level. Practitioners made it clear that policy needs to clearly identify and articulate the following.

- the expectations for integration of LfS as a core curriculum principle
- role of stakeholders involved in implementing LfS
- the scope for schools and CLD settings to localise the policy implementation
- opportunities for support and funding
- the recommendation from young people that LfS needs to be a core school value to support their future and that of the community

The findings indicate that school grounds and buildings can be developed to incorporate technology related to LfS and could be considered as a practical cost saving measure and – critically - a learning example. This includes renewable energy generation where possible, development of school/ community gardens with robust plans for engagement and maintenance, places where young people and practitioners can enjoy being outdoors with elements of the natural world and where habitat for local species is supported.

Recommendation 10: Develop policy to support LfS at all levels. Ensure it includes LfS as a core value for schools and CLD settings.

Recommendation 11: Consider ways in which school and CLD grounds and buildings can be developed to incorporate renewable energy generation where possible, development of school/community gardens with robust plans for engagement and maintenance, places where young people and practitioners can enjoy being outdoors with elements of the natural world present and potentially where habitat for local species is supported.

A strategic national approach to supporting Learning for Sustainability should be established

Few participants in this study were familiar with the Learning for Sustainability Vision 2030+ report and the LfS Action Plan. The existing strategic national plan should be redeveloped to overcome the barriers identified in this study and to support the refreshment of the LfS Action Plan. This plan needs to incorporate the UN SDGs; NPF; Scottish Attainment Challenge; Developing the Young Workforce; STEM Education Strategy; and GIRFEC. It also needs to incorporate principles for living a sustainable life as identified by the Paris Agreement Framework Convention on Climate Change (United Nations, 2015), COP26 and 27.

The refreshed strategic plan should provide additional opportunities for representative stakeholder groups, and in particular young people, to participate in their respective communities. Regional implementation of the national plan would

be coordinated by local authorities and evaluation of the regional implementation, against pre-established performance indicators conducted by a stakeholder group.

The strategic plan should highlight LfS as a core principle in education for young people and communities. This would help to identify the pathways required to implement regionally adaptable LfS as curriculum options, funding, infrastructure, training and support for practitioners, which necessitates ensuring LfS is a core requirement in ITE, CLD programmes.

Recommendation 12: Redevelop the existing strategic national plan to overcome the barriers identified in this study and to support the refreshment of the LfS Action Plan. This plan needs to incorporate the UN SDGs; NPF; Scottish Attainment Challenge; Developing the Young Workforce; STEM Education Strategy; and GIRFEC, and principles for living a sustainable life as identified by the Paris Agreement Framework Convention on Climate Change (United Nations, 2015), COP26 and 27.

Recommendation 13: Provide additional opportunities in developing the refreshed plan, for representative stakeholder groups, and in particular young people, to participate in their respective communities.

Recommendation 14: Task local authorities with implementation of the national plan and evaluation of its regional implementation. Include regional stakeholder groups in evaluation of the plan against pre-established performance indicators.

Recommendation 15: Highlight LfS as a core principle in education for young people and communities. Identify the pathways required to implement regionally adaptable LfS through curriculum options, funding, infrastructure, training and support for practitioners. Designate LfS as core component requirement in ITE and CLD programmes.



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