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Working Group on Schools: Learning for Sustainability

Local Learning for Sustainability: places, partners and participation



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Local Learning for Sustainability: places, partners and participation

Input paper

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1. Recasting Learning for Sustainability in the Locality

When asked to consider formal education experiences, many assume that learning takes place in a classroom setting with the educator being the source of knowledge and leader of learning opportunities. Learning for sustainability (LfS) challenges these conventional notions of teacher-centred learning through its whole-school approach that sees education as both a *taught* and a *lived* experience and one that connects academic work with the realities of the wider community and the everyday lives of pupils¹. LfS therefore calls for a local learning landscape for sustainability that connects formal, non-formal and informal education.

The sustainability literature has supported local learning that prioritises experiential and community-based practices, builds relationships with the physical environment and encourages a sense of belonging². A whole-school approach to sustainability takes this notion a step further, supporting connections and synergies between schools and organisations³ drawing in external expertise⁴ and helping the learner connect sustainability to local contexts.

There are many organisations engaging in non-formal or informal education that are relevant to LfS: art, cultural and religious centres, museums and municipalities, libraries, science and resource centres, field centres and natural parks, radio and other media entities, charities as well as language, art and music schools, youth, cultural and sports associations, businesses and professional associations, social enterprises, and NGOs. Also relevant are national and regional public bodies responsible for the design, planning, implementation, and evaluation of public policies relating to education, learning and youth. Schools recognise the rich diversity of learning possibilities that partnering with local bodies and organisations brings⁵. At the same time, there are often challenges in identifying and choosing meaningful learning experiences that align with curriculum requirements or pupil's needs⁶. These considerations are explored further in this input paper.

The input paper explores learning opportunities in the locality with a focus on how policy can usefully support schools to boost local learning for sustainability. Locality could refer to environments (rural and urban) that form part of the immediate neighbourhood, village, town, city and/or sub-regional surroundings of the school. The paper seeks to identify the key features of initiatives that links the school and the local context in which they are situated. It explores how state authorities or their equivalent, national education authorities and international agencies can harness the potential of non-formal learning in local communities and accelerate and upscale such learning through policy measures, investment and action.

2. Value and Challenges of Learning Locally

Much has been written about how the wider school community can help build students' interest and capability in sustainability⁷. Education experiences rooted in the local context build a sense of place and can lead to learners developing emotive attachments with places that are familiar to them. Interaction with their local community and local issues can also generate a sense of

¹ Tilbury (2023)

² Gruenewald (2003); Heynen et al. (2006); Wals (2007); Tilbury (2011); Kudryavtsev et al. (2012a); Kudryavtsev et al. (2012b)

³ Wals, Mochizuki and Leicht (2017); Melnic and Botez (2014)

⁴ EFEE-ETUCE (2023)

⁵ Hartley and Huddleston (2010)

⁶ Costa et al. (2023)

⁷ Gonçalves (2024); Paraskeva-Hadjichambi et al. (2020); Hartley and Huddleston (2010); Tilbury and Wortman (2008)

pride, belonging and responsibility. Arguably, it not only builds meaningful citizenship engagement but also community service skills that can enrich the learning experience⁸.

Equally, rooting learning in the immediate and surrounding environments can help ground the theoretical and scientific learning associated with climate change and other environmental concerns. It can boost motivation and drive interest by establishing links with the learner's contexts, making global issues directly relevant to everyday life. These experiences can lead to authentic learning as technical understanding is anchored in the realities of lived experiences and also to a greater appreciation of scale and connections relating to environmental considerations. Learning in the local area can also strengthen cultural bonds as learners become familiar with the distinctiveness and unique features of places they can relate to or experience⁹. They can help drive commitment for sustainability and motivate pupils to make choices and take actions in favour of the environment and their locality.

Non-formal education experiences often support pedagogies such as *place-based learning*¹⁰, *inquiry based learning*¹¹, *active learning*¹² and concepts such as *action competence*¹³, *social learning*¹⁴ and *eco-justice*¹⁵. These experiences help pupils understand how they can make a difference¹⁶ and present opportunities for learners to build the skills and competences such as those outlined in the European sustainability competency framework, GreenComp. The framework helps learners to: embody sustainability values; embrace complexity; envision sustainable futures and act for sustainability¹⁷. GreenComp does not root itself in any particular curriculum subject or education sector but is instead seen as relevant across a range of learning opportunities from early years through to adult learning. It lends itself well to interdisciplinary and intersectoral learning, transcending traditional subject boundaries and social divides. Scholars have pointed to how a lack of a coherent pedagogical framework for LfS in non-formal settings is seen a major challenge to advancing this vision of education¹⁸; GreenComp can be used to help establish the value as well as guide planning and support learning in this context.

Creating quality learning opportunities that link schools with their locality is not an easy task. Educators need to establish links between curriculum expectations, learner interests and accessibility to external learning opportunities. The initial task of identifying what opportunities exist in the locality might be time consuming and involves local networking and building contacts. Educators also need to ensure that learners come to no harm when visiting external sites, mitigate risks and prepare for a range of unexpected scenarios. They should further choose experiences that provide meaningful learning and liaise with non-profit organisations, cultural institutions and others to ensure the activities, resources and speakers are tailored to the relevant age groups, abilities and backgrounds of students. In some cases, the school leadership may not prioritise sustainability learning making it harder for teachers seeking to create these local learning experiences. Those challenges may explain why formal learning

⁸ Gonçalves (2024); Hartley and Huddleston (2010)

⁹ Paraskeva-Hadjichambi et al. (2020)

¹⁰ Place-based learning is situated in, or connected to, a physical place and adopts experiential approaches when seeking to develop the learner's understanding and connections to local contexts, cultures and environments (Yemini et al 2023).

¹¹ Inquiry based learning is a form of participatory learning driven by the identification of questions, problems or scenarios (Pedaste et al. 2015).

¹² Active learning involves the active construction of meaning by the learner and is often used to refer to pedagogies that support the learning by doing (Michael, 2006).

¹³ Action competence refers to having the ability and willingness to engage in action which is distinct from learning that is focused on specific behaviours or actions (Brunn, Johnson, and Schnack, 1997).

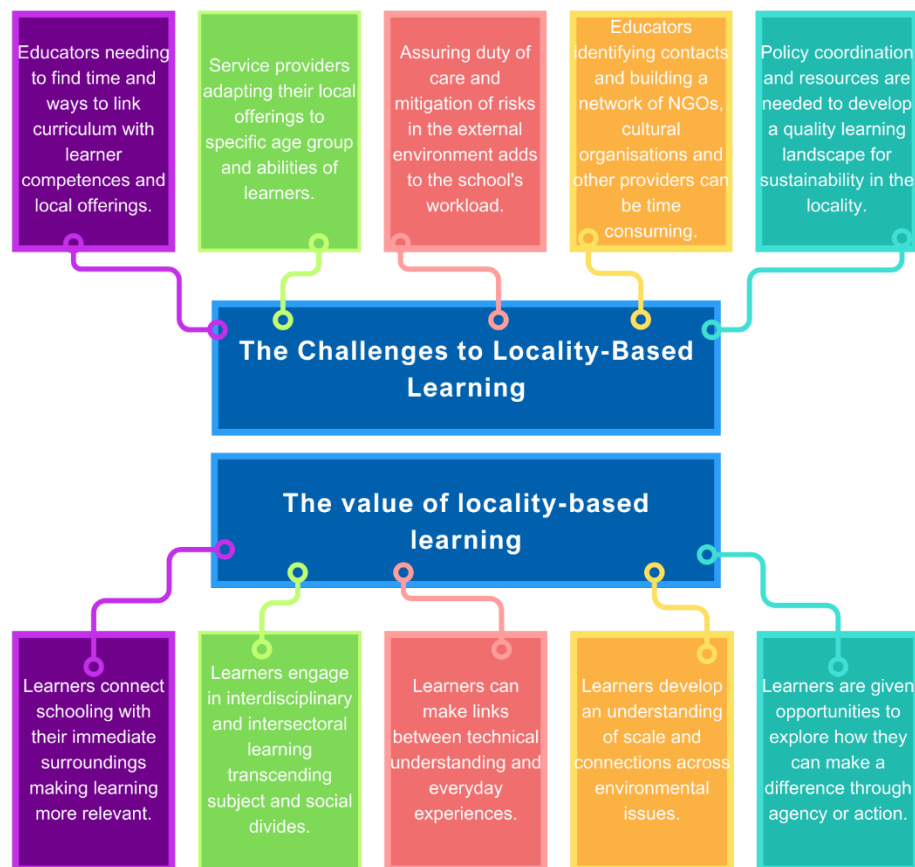
¹⁴ Social learning involves learning from each other in ways that can improve social and ecological systems (Wals 2007)

¹⁵ Ecojustice refers to the involvement of people and learners directly in decision-making situations in order to redress inequalities in power relationships and access to environments, ecological systems or natural resources (Martusewicz et al., 2015).

¹⁶ Paraskeva-Hadjichambi et al. (2020)

¹⁷ Bianchi (2020)

¹⁸ Paraskeva-Hadjichambi et al. (2020)



experiences that leverage the power of place in support of sustainability remain the exception and not common practice¹⁹. **Figure 1** summarises the value of these efforts but also the challenges faced by schools, teachers and others. It points to where policy coordination and support can be targeted to mainstream opportunities for learning in the locality.

Figure 1: The value and challenges to locality-based learning

@Daniella Tilbury and PPMI

3. Blurring the Lines: Ciência Viva

While formal education is underpinned by curriculum and assessment frameworks, non-formal education is more responsive to issues arising, open to diversity and flexible in terms of engagement²⁰. It helps encourage creativity and innovation often indispensable for navigating the challenges posed by the green transition. Making connections rather than distinctions and supporting boundary crossing gives rise to new partnerships and possibilities²¹, both essential to addressing planetary concerns. This is evidenced in the literature where sustainability literacy is maximised when a combination of formal, non-formal and informal learning experiences is offered to students²².

The Portuguese national initiative *Ciência Viva*, is rooted in the local context and seeks to build science literacy to inform citizenship responses to issues such as climate change. It provides an example of how the learning experience can be enhanced through external partnerships that draw on expertise and provide interactive education opportunities. The role of the national

¹⁹ Getting Smart (2017)

²⁰ Gonçalves (2024)

²¹ EC DG Directorate-General for Education, \

²² Caldana et. al. (2023); Martínez Casanovas

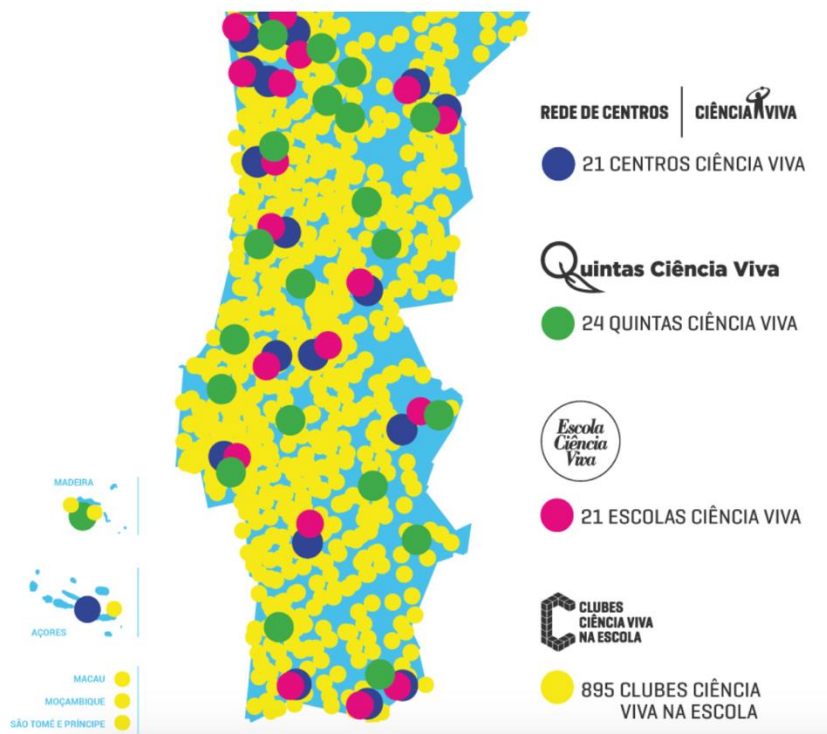
agencies are highlighted as these provide important support to enable this learning landscape to emerge.

Ciência Viva is a Portuguese national initiative dedicated to promoting education and scientific culture.

@Ciencia Viva (2024)

Policy Context

In 1996, the Portuguese Ministry of Science and Technology established the **Ciência Viva** Centres to promote experimental and experiential sciences through interactive learning opportunities²³. These centres, funded by national agencies, seek to bring the sciences ‘alive’ in schools and communities through thematic awareness campaigns, exhibits, engagement activities and bespoke educational resources that cater for a range of age groups²⁴. A key policy commitment is to establish these centres in new bespoke buildings or located in former convents, churches, factories, or prisons that are refurbished to attract visitors. National investment in *Ciência Viva* came from the realization that education and innovation are needed to address wellbeing, economic development and key socio-scientific challenges such as sustainability²⁵.



1 Map of distribution of Ciência Viva networks in Portugal (blue – science centres network, green – farms network, pink – schools network, yellow – clubs at school network).

@Ciencia Viva (2024)

²³ Ciencia Viva (2024) <https://www.cienciaviva.pt/sobre/a-ciencia-viva>

²⁴ Gonçalves (2024)

²⁵ National Agency for Scientific and Technological Culture (2020)

Key Features

- **Learning Hubs:** Twenty-one centres now exist across Portugal serving their local communities as learning hubs for sustainability. They host primary and secondary schools and invite the general public to explore how science is relevant to their everyday lives with many focusing on biodiversity, nature-based solutions and climate change. These hubs convene local authorities and municipalities, businesses, museums, community associations, professional networks and NGOs, schools, and research centres in their region and have attracted more than 13 million people to date²⁶. Amongst its associates are main national research laboratories that ensure the most relevant and up to date science is available to learners.
- **School engagement:** The hubs facilitate 'science alive' clubs that operate in schools as well as online 'conversation cycles' where scientists address questions relating to astronomy, botany, physics, zoology, environment and sustainable living amongst others²⁷. There are currently 895 Ciência Viva School Clubs across the country, involving nearly 720,000 students and covering all districts, including the Autonomous Regions of Madeira and the Azores and the Portuguese Schools of Mozambique²⁸. These clubs help students learn in their locality while connecting with other schools and science professionals internationally. Catering to primary and secondary school students, these initiatives invite learners to experiment, explore, connect, discuss and apply science in a creative way.
- **Connecting the local to the global partnerships:** The Ciência Viva network is particular to Portugal but similar initiatives exist across Europe²⁹. Ciência Viva Centres network with these initiatives as well as with associations such as ASTEC (Association of Science Technology Centers³⁰) and ICOM (International Council of Museums). It regularly partners with European Organization for Nuclear Research (CERN)³¹, the European Space Agency (ESA), the European Maritime Safety Agency (EMSA), the King Baudouin Foundation³², the European Brain Council, the La Caixa Foundation³³ and Biogen³⁴. The hubs broker these international relationships that bring innovative ideas and cutting-edge science to schools and local communities.
- **Unique characteristics of regions:** More recently, the programme has been extended to *Quintas Ciência Viva* which has a more rural focus with centres established in spaces where agricultural production and services are important for livelihoods³⁵. These seek to create synergies between traditional and innovative ways of supporting food production and encourage the sustainable use of local resources as well as purchasing of local produce. The centres are tailored to the unique characteristics of the area or region they are located in and invite students to connect science and sustainability with

²⁶ Gonçalves (2024)

²⁷ Ciencia Viva (2024)

²⁸ Ciencia Viva (2024); National Agency for Scientific and Technological Culture (2020)

²⁹ See <https://www.ecsite.eu/>

³⁰ This Association is based in North America but has global outreach.

³¹ CERN, The European Organization for Nuclear Research in Switzerland

³² This is a foundation based in Brussels that seeks to change society for the better and invests in inspiring projects and individual

³³ La Caixa, also known as the "La Caixa" Foundation, is a not-for-profit banking foundation based in Catalonia, Spain

³⁴ Biogen Inc. is an American multinational biotechnology company based in Cambridge, Massachusetts, United State

³⁵ Ciencia Viva (2024)

the local economy. They promote critical mindsets, entrepreneurship and citizenship through active engagement and learning in their surrounding environment.

Learning from Experience

- **Value-added:** This experience demonstrates how non-formal education is well-positioned to support schools in the context of LfS. It shares discoveries and new initiatives relevant to sustainability as they emerge and draws expertise into primary or secondary schools.
- **Engagement:** Through using inquiry based learning and participatory pedagogies the centres are able to engage students actively in the key issues that shape aspirations for a more sustainable future. These learning experiences serve to develop understanding and capability as pupils can potentially gain action competence through the process.
- **Linking learning context:** Ciência Viva also enters the classroom setting and through digital technologies helps situate local learning within a wider global context. It actively seeks to connect educators and learners with national and international actors that can support the green transition at more local levels.
- **Learning from each other:** Research has documented the value of Ciência Viva centres but also points to the need for stronger collaboration between the science communicators that prepare the activities and the practicing teachers. More opportunities are needed for them to work together to design activities that are more closely linked to the school curricula³⁶.
- **Role of national agencies:** National agencies and coordinating authorities can play a critical role in connecting the school to its local area and in ways that connects learning to national and international systems and actors. Lessons could be drawn through a formal evaluation of the policy context and levers that helped extend this programme across Portugal and beyond.
- **Motivations and drivers:** Work that supports the green transition and building of green competences in local contexts does not always have to be motivated or labelled as sustainability. Economic motivations or social drivers also lead to environmental learning opportunities given that sustainable development convenes these three overlapping concerns that exist in our communities.

4. Learning Landscapes: Hamburg as a Learning City

Hamburg's vision is to 'structurally anchor' its work in education and learning for sustainability across formal, non-formal and informal education³⁷. The city of Hamburg, cultural institutions and learning providers as well as local government play key roles in establishing a learning landscape in support of sustainability. This ambition differs from that presented in the *Ciências Viva* model as it seeks to establish a connected ecosystem focused on education for

³⁶ Costa et al. (2023)

³⁷ UNESCO (2022)

sustainable development (ESD) and through connecting a diversity of providers within the same city location³⁸.

Policy Context

Hamburg is a *Learning City* that belongs to a family of UNESCO's international and policy-oriented networks that provides inspiration on a number of global challenges, including sustainability. Learning cities effectively mobilise expertise and resources to promote learning that is connected to culture, community and learning³⁹. These ambitions are embedded in the national policy context that has seen high levels of commitment to ESD and wide community engagement over many years. Germany has a significant track record in this area having been a key protagonist in the *UN Decade of Education for Sustainable Development (2004-2015)*, a champion of the UNESCO's *ESD Global Action Programme (2015-2019)* and, more recently, a leading advocate for the '*ESD for 2030*' programme⁴⁰. Much has been learnt from this long-term engagement making Germany a best practice example of how to advance sustainability education through cooperation between national authorities but also across education providers in sub-regional areas⁴¹.

Supporting Hamburg's commitment to sustainability is the German National ESD Action Plan⁴²; a policy document that values networks of learning and seeks to promote dialogue in municipalities. This plan offers a connected vision of learning and education for sustainability through building closer links between kindergartens, schools, vocational colleges and universities as well as local authorities, NGOs and other entities offering training and learning opportunities. The commitment outlined in the National Plan led to the Federal Ministry of Education and Research of Germany (BMBF) funding the "*ESD Competence Centre Education - Sustainability - Municipality*" initiative, which seeks to support communities to establish place-based learning networks for sustainability across Germany⁴³. It funds network support structures as well as evaluation processes that can help improve implementation and serves as a hub for ESD in municipal educational landscapes all over Germany. Hamburg stands out amongst the around 50 municipalities committed to building learning communities for sustainability.

Key features

- **A masterplan:** The Hamburg Ministry for Environment, Climate, Energy and Agriculture developed a set of strategies and activities based on partnership and cooperation arrangements between formal, non-formal and informal education providers. This is outlined in the Hamburg ***ESD for 2030 Masterplan***⁴⁴ which offers a strategic frame from across the learning system involving museums, field centres, ecological markets, green festivals, the media as well as kindergartens, schools, vocational schools and institutes of higher education. The networking and interlinking of all areas of education is an elementary component of the plan as is inquiry or experiential based learning approaches that root global issues in the local environment. The Masterplan, that was developed jointly with more than 100 organisations, has a

³⁸ The Ciencia Viva case study points to how a locally focused centre of learning can add value to LfS experiences by brokering relationships through a national (and internationally) connected landscape of professional scientists, learning centres and schools.

³⁹ <https://www.uil.unesco.org/en/learning-cities>

⁴⁰ UNESCO and DUK (2021)

⁴¹ For example, the national ESD monitoring in Germany, which was part of the national strategy to implement the UNESCO Global Action Programme on ESD has provided the data needed for it to learn from experience.

⁴² BNE (2017)

⁴³ BNE (2024)

⁴⁴ Hamburg Ministry for the Environment, Climate, Energy and Agriculture (BUKEA) (2022)

dedicated budget of around 1 million euros per year to support the implementation of the scheme.

- **A thriving and green environment:** As Germany's second largest city, Hamburg thrives on specialist shipbuilding and chemical industries as well as logistics and natural resource management. It is also one of Germany's greenest cities with 190 renewable energy companies and research expertise that makes it a European hub for sustainability innovation.
- **A Learning City:** Hamburg is a *Learning City*; belonging to this UNESCO network gives it prestige and profile⁴⁵ and thus assists its work to establish partnerships and connect experiences across the local learning landscape.

Tools and Strategies for Strengthening Cooperation

Concrete tools for strengthening cooperation between formal and non-formal education partners help the initiatives succeed at a municipal level. To guide schools in their quest for extra-curricular learning opportunities and support providers of education services in sustainability, Hamburg has:

- **Digitally captured** the city's most significant learning opportunities in sustainability that helps educators as well as other interested parties to access an overview of the ESD projects and initiatives across the city.
- **Developed the NUN certification scheme** as a means to enhance the quality of non-formal and informal learning opportunities and support freelance providers to align with ESD principles, good practice and school's expectations⁴⁶. This Norddeutsch und Nachhaltig (NUN) scheme is a result of a Northern German partnership including the Federal States of Hamburg, Mecklenburg-Vorpommern and Schleswig-Holstein.
- **Encouraged monitoring and evaluation initiatives** that gather data guided by an indicator-based monitoring plan which includes local stakeholders in the process. This is supported by the Free University of Berlin that developed self-assessment tools to establish the effectiveness of policy structures, participation and engagement, capacity building as well as learning outcomes. This approach helps uncover enabling conditions and identify factors that underpin quality experiences.
- In addition, the UNESCO Institute for Lifelong Learning and the Federal Ministry of Education and Research of Germany (BMBF) are conducting **a pilot project and reviewing** how to strengthen data-based educational planning and management for lifelong learning so that lessons learnt can be shared with other municipalities in Germany and beyond⁴⁷.

Experiences for Sustainability

This section presents two examples of ESD opportunities that form part of the Learning City of Hamburg and help illustrate the diversity and value of the learning initiatives:

- **Gut Karlshöhe** is an environmental centre that provides young and old with ideas of how to live well and sustainably, without excessive use of natural resources. Located in a farm estate, Gut Karlshöhe hosts over 1,000 events a year promoting sustainable consumption, climate change, natural resource management, well-being and health

⁴⁵ <https://www.uil.unesco.org/en/learning-cities>

⁴⁶ <https://www.hamburg.de/contentblob/5111664/fde9c8a7103dcd2dd0022d3c2835de26/data/nun-zertifizierung-eng-.pdf>

⁴⁷ <https://www.uil.unesco.org/en/connecting-german-localities-learning-cities>

through experiential learning in a natural environment context. Businesses hold their annual meetings and seminar in this venue, universities host teacher education seminars and schools visit to engage pupils with sustainable living concepts (see <https://gut-karlshoehe.de/>).



2 One of the activities for families with children is 'Breakfast for Sheep', which involves feeding sheep on the meadows at Karlshöhe in Hamburg.

@Gut Karlshöhe (see <https://gut-karlshoehe.de/>)

- The **Project 'Hamburg Climate Scale'** engages people with choices that help lessen the carbon burden on the planet. Through interactive tools, teaching units, seminars and workshops learners explore alternative practices and their role in effecting the green transition. It is an initiative of the Hamburg Ministry for the Environment, Climate, Energy and Agriculture (BUKEA) and Hamburg Climate Protection Foundation.



3 The Hamburg Climate Scale Project seeks to engage citizens of all ages in discussions about climate impacts and sustainable alternatives.

@JFS / City of Hamburg (see <https://www.uil.unesco.org/en/articles/project-hamburg-climate-scale>)

Learning from Experience

- **Track-record:** Hamburg has a long track-record of engagement with education and learning for sustainable development. Over time, the involvement of authorities and stakeholders has deepened and widened providing an ideal environment for a local learning landscape. Through evaluation and reflective work, it has gained clarity of the needs but also of where the opportunities may lie.
- **Ability and capability:** Hamburg has understood and sought to make learning for sustainable development a process of citizenship engagement that builds competences and capabilities. The learner is given numerous opportunities to engage with sustainability through a holistic head, heart and hand approach that form part of the Hamburg learning landscape.

- **Connections:** Hamburg has seen ESD as an essential thread that connects the various features of the city and the organisations operating within it. The impact of this is that learners will experience ESD as a part of their community but also as a life-long learning process. The ESD Master Plan is the mechanism by which Hamburg has systematically connected ESD across all areas of education⁴⁸.
- **Drivers and influences:** Underpinning these efforts is a clear and supportive national policy commitment that sees *education and learning* for sustainability as a key driver in its quest for a more sustainable future. The partnership with UNESCO, built over the last three decades, has helped translate this policy vision into local practice⁴⁹.
- **Alignment of government agencies:** Most notable is how dots have been aligned between national ministries and subnational authorities responsible for education, youth, research, health, climate change and other related areas. The supportive and connected policy measures have been vital and have enabled this learning landscape to thrive and with a focus on quality education⁵⁰.
- **Challenges:** Coordinating and agreeing on a strategic plan with various actors takes time and can be a tough negotiation process. Localising high level principles and global issues also presents its difficulties; for example, some of the providers have had challenges sourcing expertise that can translate global figures and evidence to the local level⁵¹. Equally, creating experiences, exhibits and learning materials tailored to different age groups has not been an easy task..

5. Quality and Policy Considerations

This final section looks at defining a set of questions that can assist those engaged in formal education to identify quality offerings in non-formal and informal contexts. It also identifies key policy levers and actions that can leverage local places as a learning ecosystem for students and support a systemic approach to learning for sustainability.

5.1. Quality Considerations

Often, activities are facilitated by qualified subject experts or volunteers with deep commitment to core agendas and/or who know the local context well. Yet, tailoring learning to specific age groups, abilities or learning needs also requires the input of education specialists or experienced teachers.

A recent review concludes that there is a need for a coherent pedagogical framework for LfS in non-formal settings to guide schools (and providers). Its absence is seen as a major challenge to advancing a sustainable future through education⁵². This section offers a set of questions to guide the selection of external education experiences. These questions are informed by the scholarly literature and lessons learnt from the examples of practice

⁴⁸ The Free and Hanseatic City of Hamburg, Ministry for the Environment, Climate, Energy and Agriculture (2023)

⁴⁹ The Free and Hanseatic City of Hamburg, Ministry for the Environment, Climate, Energy and Agriculture (2023)

⁵⁰ See for example, The Free and Hanseatic City of Hamburg, Ministry for the Environment, Climate, Energy and Agriculture (2023)

⁵¹ E.g Hamburg *Scaling Climate Action* notes that while BUKEA provides essential data and information, professional model makers are needed to craft visually appealing models suited to specific and local contexts.

⁵² Gonçalves (2024)

documented in this input paper. They can assist with identifying the characteristics as well as features that non-formal programmes should have to align with quality learning experiences in sustainability. It recognises that learners learn not just with what is explicitly intended but also through what they experience and see when engaging with places, spaces and organisations. A long list of considerations could potentially be listed in this section, however, questions have been limited to 15 to assist with a preliminary interrogation of experiences:

- Does the offering have well-defined educational objectives and seek to actively develop LfS competences (GreenComp)?
- Does the offering consider the needs of the age group and interests of learners?
- Does the provider tailor the offering to a range of abilities within an age group?
- Does the offering explicitly align or support the national curriculum requirements or national/state learning priorities?
- Does the offering allow learners to explore and interpret places in ways that contribute to developing a sense of place or place meaning?
- Does the provider present issues or information in ways that help learners interrogate and unpack them?
- Does the provider present opportunities for students to develop an understanding of how communities are connected and transformed?
- Does the provider offer participatory and engaging methodologies including the sharing of experiences, active listening, experiential learning, interpersonal engagement and peer learning?
- Do the activities offer practical opportunities for learners to develop LfS competences?
- Do activities promote transformation and agency motivating learners to play an active role in improving local spaces, places and communities?
- Does the provider offer accessible and inclusive engagement of learners, educators and schools in a way that promotes equity and social justice?
- Does the provider offer opportunities to provide feedback on the experience?
- Does the provider assess the value and impact of their offering and adapt the experience on a regular basis?
- Does the provider offer relevant preparatory information or support for schools to conduct relevant risk assessments for potential visits?
- Does the organisation itself visibly operate on the principles of sustainability and adopt LfS good practice?

This list is not meant to be exhaustive or final but instead seeks to promote dialogue on how we define quality non-formal education in local settings⁵³.

5.2. Policy Considerations

In 2022, the Council adopted *the Recommendation on learning for the green transition and sustainable development*⁵⁴ to make learning for sustainability a priority in education and training, in formal, non-formal and informal settings.

⁵³ The suggestion is that the questions are considered and adapted by participants at the PLA visit scheduled for the 3-5th June in Hamburg.

⁵⁴ EC (2022)

Member States are well positioned to take the ideas of the Recommendation forward; many are building on previous policy commitments to green education to strengthen links between non-formal and school education. Slovakia's Green Education Fund, advances opportunities for learning in the community and seeks to connect education offerings through the development of interactive digital tools. As part of the reform of the Danish primary and lower secondary education, schools are required to work with local sports, cultural associations, life, leisure and club activities during the school day⁵⁵. Schools thus make connections with their local communities in and outside of the classroom. Efforts to reach out to the community or bring the locality into schools are not new or recent. However, efforts to connect these through the establishment of learning landscapes merit greater policy attention.

The following policy considerations can help schools and learners become participatory members of local environmental communities, extend non-formal education offerings and also assist learning landscapes to emerge and thrive.

- **Clarifying purpose and value:** Explicitly clarifying the value of local learning in relevant policy documents can help accelerate and upscale efforts. Local learning landscapes can deliver sustainability ambitions and targets, develop more cohesive communities and improve education and learning. Additionally, they serve as catalysts for innovation and competitiveness. Research indicates that supplementing formal education with these external activities fosters entrepreneurship and enhances innovation and competitiveness levels in EU economies⁵⁶. It can also be argued that such practice facilitates the integration of cultural values, and community perspectives into sustainability learning, thereby promoting community cohesion⁵⁷. From an educational perspective, it nurtures critical thinking, creativity, and engagement and supports participatory citizenship.
- **Funding opportunities:** Funding is often needed to drive policy priorities. Assessing the potential value of existing opportunities to the development of learning landscapes should also be a policy consideration. For example, the New European Bauhaus (NEB), that funds urban renewal and breathes new life into cities, could be explored as an important driver. Funds are used to build cultural zones and hubs in defunct spaces and bring the community together. Strong involvement from schools, teachers and education sector in these processes would strengthen opportunities for learning landscapes to emerge. Germany's regional and municipality funding programme⁵⁸ for place-based LfS has had its successes in catalysing efforts. This experience could be shared and adapted to catalyse local learning landscapes for sustainability.
- **Professional development, certification and support:** Authorities also have a responsibility to steer provision to ensure that offerings align with quality education and best practice. This can be done in a number of ways:
 - **Professional development** of educators and teachers to ensure that non-formal education opportunities add value to the school learning experience. Similar offerings could be made to providers of non-formal education.
 - **Certification schemes** such as NuN adopted by Hamburg, can help non-formal educators and organisations ensure that quality learning experiences are offered to schools.
 - **Support:** Support measures can take several forms, including: providing formal guidance on how to integrate non-formal learning opportunities into the school

⁵⁵ Ministeriet for Børn (2016)

⁵⁶ Denkowska et al. (2020)

⁵⁷ Gonçalves (2024)

⁵⁸ BMBF funding the *Education - Sustainability – Municipality* initiative

experience; creating opportunities for teachers to establish contacts with key organisations in the locality; and, developing frameworks to help teachers assess risk and plan logistical and practical arrangements of visits.

- **Evaluation:** Investment in strategic evaluations should also be a consideration. While monitoring ensures continuous improvement, strategic evaluation provides evidence of individual and social gains of these approaches. The latter can document how employers, local authorities, civil society also benefit from a more connected and systemic view of education and sustainability. Equally, it could assist in identifying the key policy levers and actions that can leverage local places as a learning ecosystem and support a whole-school approach to sustainability.

6. Bibliography

Adams, J.D., 'Theorizing a sense of place in transnational community', *Children, youth and environments*, Vol. 23, No. 3, 2013, pp. 43-65.

Bellino, M. and J.D. Adams, 'Reimagining environmental education: Urban youths' perceptions and investigations of their communities', *Revista Brasileira de Pesquisa em Educação de Ciências*, Vol. 14, No. 2, 2014, pp. 27-38.

Bianchi, G., 'Sustainability competences', EUR 30555 EN, Publications Office of the European Union, Luxembourg, ISBN 978-92-76-28408-6, doi:10.2760/200956, JRC123624, 2020.

Brunn Jensen, B., and K. Schnack, 'The Action Competence Approach in Environmental Education', *Environmental Education Research*, Vol. 3, No. 2, 1997, pp. 163–178.

BNE 'Germany's National ESD Action Plan for Education for Sustainable Development', 2017. https://www.bne-portal.de/bne/de/nationaler-aktionsplan/nationaler-aktionsplan_node.html.

BNE, 'ESD Competence Centre Education – Sustainability – Municipality', BNE Kompetenzzentrum, 2024.

Caldana, A. C. F., J. H. P. P. Eustachio, B. Lespinasse Sampaio, M. L. Gianotto, A. C. Talarico, A. C. D. S. Batalhão, 'A hybrid approach to sustainable development competencies: The role of formal, informal and non-formal learning experiences', *International Journal of Sustainability in Higher Education*, Vol. 24, No. 2, 2023, pp. 235-258.

Ciencia Viva, 'A Ciencia Viva', 2024. <https://www.cienciaviva.pt/sobre/a-ciencia-viva>.

Costa, I., R. Cardoso Reis, F. Bessa Almeida, and I. Monteiro, 'From Science Communication to Science Education: The Educational Assessment of an Outreach Oriented Science Centre', *Proceedings of INTED2023 Conference 6th-8th March, 2023*, pp. 5638-5644.

Denkowska, S., K. Fijorek, G. Węgrzyn, 'Formal and non-formal education and training as an instrument fostering innovation and competitiveness in EU member countries', *Journal of Competitiveness*, Vol. 12, No. 3, 2020.

European Commission, Directorate-General for Education, Youth, Sport and Culture, 'Learning for the green transition and sustainable development: staff working document accompanying the proposal for a Council recommendation on learning for environmental sustainability', Publications Office of the European Union, 2022. <https://data.europa.eu/doi/10.2766/02392>.

European Commission, Directorate-General for Education, Youth, Sport and Culture, 'Prospective report on the future of non-formal and informal learning – Towards lifelong and life-wide learning ecosystems', Publications Office, 2020. <https://data.europa.eu/doi/10.2766/354716>.

GettingSmart, 'What is Place-based Education and Why does it matter?' Getting Smart in partnership with eduInnovation & Teton Science Schools, 2017. www.gettingsmart.com/wp-content/uploads/2017/02/What-is-Place-Based-Education-and-Why-Does-it-Matter-3.pdf.

Gonçalves, S, 'Non-formal education on green transition and sustainability', EENEE Analytical Report. Brussels: European Commission, 2024 in publication.

Gruenewald, D.A., 'Foundations of place: A multidisciplinary framework for place-conscious education', *American Educational Research Journal*, Vol. 40, No. 3, 2003, pp. 619-654.

Hamburg Ministry for the Environment, Climate, Energy and Agriculture (BUKEA) and Hamburg Climate Protection Foundation, 'Hamburg Climate Scale Project', Hamburg: Germany, 2022.

Hamburg Ministry for the Environment, Climate, Energy and Agriculture (BUKEA), 'Education for Sustainable Development (ESD) Master Plan 2030', 2022. <https://www.hamburg.de/contentblob/15668168/7f4c75fa943240bc77b9e2588c802463/data/masterplan-englisch.pdf>.

Hartley, M. and T. Huddleston, 'Education for democratic citizenship in Europe and the United States of America', Council of Europe Publishing, ISBN 978-92-871-6795-8, 2010.

Heynen, N., M. Kaika, and E. Swyngedouw, 'In The Nature of Cities: Urban political ecology and the politics of urban metabolism', New York: Routledge, 2006.

Kudryavtsev, A., M.E. Krasny, and R.C. Stedman, 'The Impact of Environmental Education on Sense of Place among Urban Youth', *Ecosphere*, Vol. 3, No. 4, p. 29, 2012a.

Kudryavtsev, A., R.C. Stedman, and M.E. Krasny, 'Sense of place in environmental education', *Environmental education research*, Vol. 18, No. 2, 2012b, pp. 229-250.

Martínez Casanovas, M., N. Ruíz-Munzón, M. Buil-Fabregá, 'Higher education: The best practices for fostering competences for sustainable development through the use of active learning methodologies', *International Journal of Sustainability in Higher Education*, Vol. 23, No. 3, 2022, pp. 703-727.

Martusewicz, R., J. Edmundson, and J. Lupinaccic, 'EcoJustice education: Toward diverse, democratic, and sustainable communities', Routledge New York, 2011, p. 360. <http://dx.doi.org/10.4324/9780203836040>.

Masterson, V. A., R. C. Stedman, J. Enqvist, M. Tengö, M. Giusti, D. Wahl, and U. Svedin, 'The contribution of sense of place to social-ecological systems research: a review and research agenda', *Ecology and Society*, Vol. 22, No. 1, p. 49, 2017. <https://doi.org/10.5751/ES-08872-220149>.

Melnic, A. S. and N. Botez, 'Formal, non-formal and informal interdependence in education', *Economy Transdisciplinarity Cognition*, Vol. 17, No. 1, 2014, pp. 113-118.

Michael, J., 'Where's the evidence that active learning works?' *Journal of Advances in Physiology Education*, Vol. 30, No. 4, pp. 159-167.

Ministeriet for Børn, 2016 – this case study is an extract from: European Commission, Directorate-General for Education, Youth, Sport and Culture, Learning for the green transition and sustainable development – Staff working document accompanying the proposal for a Council recommendation on learning for environmental sustainability, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2766/02392> (the reference itself is not listed in the document only mentioned).

National Agency for Scientific and Technological Culture, 'A Strategic Plan 2012-2030 Ciência Viva NASTC Lisbon', December 2020, p. 50. https://webstorage.cienciaviva.pt/public/pt.cienciaviva.www/StrategicPlan_CV2021_2030.pdf.

Paraskeva-Hadiichambi, D., D. Goldman, A. Ch. Hadjichambis, G. Parra, K. Lapin, M-C. Knippels, and F. Van Dam, 'Educating for Environmental Citizenship in Non-formal Frameworks for Secondary Level Youth' In: Hadjichambis, A.C., et al. Conceptualizing Environmental Citizenship for 21st Century Education. Environmental Discourses in Science Education, Vol. 4, Springer, Cham., 2020, pp. 213-235.

Pedaste, M., M. Mäeots, L. A. Siiman, T. de Jong, S. A.N. van Riesen, E. T. Kamp, C. C. Manoli, Z. C. Zacharia, E. Tsourlidaki, 'Phases of inquiry-based learning: Definitions and the inquiry cycle', *Educational Research Review*, Vol. 14, 2015, pp. 47-61.

Russ, A., S.J. Peters, M.E. Krasny, and R.C. Stedman, 'Development of ecological place meaning in New York City', *Journal of environmental education*, Vol. 46, No. 2, 2015, pp. 73-93.

Siekierski, E., 'Developing Education Quality in the Extracurricular Sector NUN Certification Scheme for extracurricular teachers within the framework of Education for Sustainable Development', Federal States of Hamburg, Mecklenburg-Vorpommern and Schleswig-Holstein, 2017, p. 28.
<https://www.hamburg.de/contentblob/5111664/fde9c8a7103dcd2dd0022d3c2835de26/data/nun-zertifizierung-eng-.pdf>.

Smith, G.A. and D. Sobel, 'Place- and community-based education in schools', New York: Routledge, 2010.

Stedman, R. and N. Ardoin, 'Mobility, power and scale in place-based environmental education'. In Krasny, M. and Dillon, J. (Eds.) *Trading zones in environmental education: Creating transdisciplinary dialogue*, New York: Peter Lang, 2013, pp. 231-251.

Thomashow, M., 'Bringing the biosphere home: Learning to perceive global environmental change'. Cambridge, Massachusetts: The MIT Press, 2002.

Tilbury, D., 'Sustainable Learning Environments in Schools: Rethinking spaces and places of learning', Working Group on Schools: Learning for Sustainability Input paper Brussels: EC. DG EAC, 2023.

Tilbury, D., 'Education for Sustainable Development: An Expert Review of Processes and Learning', Paris: UNESCO. Available in Spanish, French and English. ED-2010/WS/46pp.129, 2011.

Tilbury., D and Wortman D., 'How is Community Education Contributing to Sustainability in Practice?', *Applied Environmental Education & Communication*, Vol. 7, No. 3, 2008, pp. 83-93.

The Free and Hanseatic City of Hamburg, Ministry for the Environment, Climate, Energy and Agriculture, 'Hamburg's VOLUNTARY LOCAL REVIEW 2023. Sustainability Report Implementing the 2030 Agenda and the Sustainable Development Goals at the local level', Hamburg: Germany, 2023.
<https://www.hamburg.de/contentblob/15668168/7f4c75fa943240bc77b9e2588c802463/data/masterplan-englisch.pdf>.

UNESCO and DUK, 'Education for Sustainable Development: A Roadmap', ESD 2030 Berlin: Germany, 2021. <https://www.bne-portal.de/SharedDocs/Publikationen/de/bne/bne-roadmap-2030.html>.

UNESCO Germany, 'City of Hamburg - Hamburg learns sustainability', 2022.
<https://www.unesco.de/bildung/bne-akteure/stadt-hamburg-hamburg-lernt-nachhaltigkeit>.

Wattchow, B. and Brown, M., 'A pedagogy of place: Outdoor education for a changing world', Monash, Australia: Monash University Publishing, 2011.

Bernardes, M., M. C. Falisse, T. Hoang The, D. Wisniewski, E. Efimenco, P. Duggan, 'European Social Partners in Education promoting Environmental Sustainability in School Learning, Teaching and Management', Research Report Joint EFEE-ETUCE project, EFEE 2023.

Wals, A., 'Social learning towards a sustainable world: Principles, perspectives, and praxis', Wageningen publications, p. 538, 2007.

Wals, A. E., Y. Mochizuki, Y., A. Leicht, 'Critical case-studies of non-formal and community learning for sustainable development', *International Review of Education*, Vol. 63, 2017, pp. 783-792.

Yemini, M., Engel, L., & Ben Simon, A., 'Place-based education – a systematic review of literature', *Educational Review*, pp. 1–21, 2023, <https://doi.org/10.1080/00131911.2023.2177260>.

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