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Policy Brief



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Abstract	This Deliverable is the 2 nd Policy Brief of the Learning from the Extremes (LfE) project. The Policy Brief is based on the developments of the project, including information and outputs from the main achievements of the project and the proposed activities that should be taken into consideration from the policy makers. This document also presents the LfE multidimensional approach to thinking about and planning for the future of technology enhanced rural school education by involving all educational stakeholders.
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Executive summary

Towards the transformation of remote and rural schools to Learning Hubs of the Rural Community.

Learning from the Extremes: A Rural Schools Innovation Roadmap.

This deliverable refers mainly to policy makers. As such, it includes the main strategies and approaches that are recommended by the LfE project and have been tested in **123 schools of 10 European countries**.

The scope of this document is to demonstrate the LfE multidimensional approach to thinking about and planning for the future of technology enhanced rural school education by involving all educational stakeholders.

This document summarizes the achievements of the project and presents the main results coming from the policy-oriented deliverables that have been developed. The reader can find links to these deliverables in the References of this document for further reading.

Learning from the Extremes (LfE) is addressing inequalities of access to digital education by enhancing inclusion and by reducing the digital gap suffered by school communities from remote areas with low connectivity and with limited or no access to devices, digital educational tools and digital learning content.

The project started in February 2022 and, by its conclusion (January 2024), offered a vision of what can be achieved with adequate investment in ICT infrastructure, tools and content, along with a detailed **Rural School Innovation Roadmap on how to achieve that vision** – a plan with clear targets, clear priorities, and a management process that ensures continuous feedback and reflection. Learning from the Extremes adopts a multidimensional approach to thinking about and planning for the future of technology enhanced rural school education. This approach is comprised of:

- foresight work involving all educational stakeholders, aiming to identify the probable, possible and desired developments in rural school education in the mid-term future and
- user-driven consultation process with the key stakeholders, to map the directions provided by the foresight activity onto the diverse realities of rural schools in Europe today, assessing the impact of numerous innovative digital solutions and identifying barriers to adoption and wide roll-out.

LfE involved 123 rural and remote schools from 10 European countries (Greece, Portugal, Cyprus, Croatia, Ireland, Finland, Bulgaria, Romania, Italy, Spain).

All of these rural and remote schools, benefit from stronger, more responsive and reliable distance education platforms, online labs and simulations and high-performance web-conferencing and collaboration tools. All schools are already able to share teaching excellence with professional support in the classroom, the school and the region. Students have modern, connected and constructive learning spaces equipped to support engaged, personalised learning. Teachers have already been provided with short-term professional development (through webinars that have been realized since March 2023), an intensive 5-days course (the LfE Summer School) and the support and resources they needed to integrate digital tools within the learning environment. School communities have access to digital tools and connectivity for effective communication and collaboration through the LfE Community Portal (<https://www.schoolofthefuture.eu/en/lfe>).

During the project all 123 schools that participated in the LfE activities followed a self-reflection procedure by using the LfE Self-Reflection Tool (<https://srt.learningfromtheextremes.eu/>). All the school have filled in the 1st and the 2nd Self-Reflection Tool (SRT) and have identified their pre and post status.

The school environments measured the status from January 2023 (pre) until November 2023 (post) during the implementation period of the project by completing two measurements, one before their involvement and one after their engagement in the transformation journey. Participating schools achieved an average increase of **24.54% in their openness level, innovation status and e-maturity levels**. The majority of the initial lowest performers, based on the first measurement achieved a 35–55% improvement. The higher scorers from the first measurement still reached a small but significant increase in the recorded openness, innovation and e-maturity levels. This very significant improvement of the schools' statuses could act as a reference point for educational policy actions to support school development through cooperation and continuous interaction with external stakeholders. Consequences for school management, development plans, and teachers' professional development are discussed.

The Learning from the Extremes contribution to the transformation of the schools into Innovation Hubs is supported with three supported with two key documents that the *Learning from the Extremes* project has developed:

a) the **School Innovation Strategies** which proposes concrete strategies to support schools to develop their pathways towards innovation. It is within this context, that the *Learning from the Extremes* Participatory Action aims to take forward the agenda of practitioner-led innovation at the European level. For a culture of transformative innovation to flourish, it needs to be allied with, or developed from, challenges or ideas that correspond to the core needs, objectives and values of a school, its community, and the people within it. The key target groups of the project are school heads, teachers and policymakers who are willing to gain experience and expertise in innovative practices. Indirectly, their students as well, as their participation in a range of learning activities will be able to further develop their competences. During the lifecycle of the project, webinars, conferences, International Professional Development Courses, and other events were organized for engaging the wider educational community into the methodology of *Learning from the Extremes* Participatory Action. These events have acted as proof-of-concept experiments for the design of the final service that will be offered from the School Innovation Academy at the end of the *Learning from the Extremes* Participatory Action.

b) The **School Innovation Academy** which describes the process for its development. The School Innovation Academy, a mentoring and support service for the schools, which will facilitate the process for envisioning, managing and monitoring change in school settings by providing a localized and flexible structure to follow. It integrates the project outcomes and tools in a single mentoring and support service that will be offered to schools. It will offer guidance and support for school heads with recommendations on the strategies the must develop according to their school needs and their visions, support services to teachers and networking opportunities for best practice sharing, school Profiling and Recommendations for school development, tools to boost innovation in the school settings according to e-maturity level of the school. This mentoring service will be the central node to support school innovation at European level.

c) the **School Innovation Roadmap**, which supports school communities to reflect on, plan and undertake changes and introduce innovation to evolve and adapt for 21st Century learning. Applying the proposed approach in local settings will facilitate schools to will educate students to be successful in a complex and interconnected world that faces rapid technological, cultural, economic and demographic change. More importantly, the adoption of the School Innovation Roadmap will support organizational change towards identifying goals of sustainable innovation, defining actions and achieving improved learning outcomes.

Table of Contents

Executive summary	3
1 Learning from the Extremes Approach: Generating Creative Options and proposing Strategies ..	6
1.1 The LfE Approach.....	6
1.2 LfE Recommendations.....	6
2 The School Innovation Academy	10
3 Rural Schools Innovation Roadmap (The LfE Roadmap)	12
4 Conclusions.....	14
List of Figures.....	15
References.....	16

1 Learning from the Extremes Approach: Generating Creative Options and proposing Strategies

1.1 The LfE Approach

The LfE project adopts a multidimensional approach to thinking about and planning for the future of technology enhanced rural school education by involving all educational stakeholders. The overall aim of the LfE project is the development of a strategy that will present targeted recommendations on how to increase access to digital education in the EU remote areas and communities that require such support. LfE project has already produced a set of recommendations that are based on the following activities undertaken within the project:

- Analysis of the needs of communities and schools located in remote and rural areas of Bulgaria, Croatia, Cyprus, Finland, Greece, Ireland, Italy, Portugal, Romania and Spain to gain insights related to the barriers and enablers for digital education.
- The provision of funding to rural schools in the above-mentioned countries to help them install the minimum equipment needed for their digital transformation and e-maturity journey.
- Set up targeted consultation and training services to provide the selected schools with technical support, pedagogical guidance, mentoring to access further funding and networking opportunities.
- Analyse the data collected from the selected schools' pilots and experiences to prepare the final recommendations for future actions to support digital education in rural communities.

The strategies proposed by the LfE project in order to achieve the recommended activities are organised around three key thematic areas: a) Organisation and support for rural schools b) Equity and excellence in rural schools and c) Rural schools as community and educational spaces.

For each of the three strategies, specific recommendations are stated to support rural schools so as to embark on their digital and innovation transformation journey. Below, a summary of the main strategies is provided:

- Organization and support for rural schools
 - Installation and effective use of a highly equipped and connected classroom (HECC) model, and investment in opportunities for further development of the school's digital infrastructure
 - Exploitation of professional development opportunities offered by the LfE project and other national and international PD providers
- Support equity and excellence
 - Establishment of a positive school culture and shared vision
 - Promotion and facilitation of differentiated teaching and learning
- Rural schools as community and educational spaces
 - Development of opportunities to connect with local/regional stakeholders
 - Transformation of rural schools into Learning and Innovation Hubs

1.2 LfE Recommendations

Table 1, Table 2 and Table 3 present a summary of the LfE recommendations for rural schools in line with the main barriers and opportunities that schools have, and a list of relevant resources to support the e-maturity and innovation in schools. For more details, the reader could see the References and Specifically Deliverable D3.2.

Table 1: Strategy of organization and support for rural schools

Organization and support for rural schools	
Digital technology infrastructure	
Recommendations	Resources / Proposing Tools
<ul style="list-style-type: none"> • Good communication with technology providers, access to user manuals and technical support for the instalment and use of the selected digital solutions. • Ethics committee for cybersecurity, protection of sensitive personal data and responsible use of digital technologies. • Awareness system for emerging technologies to sustain and further develop the digital technology infrastructure. • Sustainable funding mechanism for the update and maintenance of the school's digital technology infrastructure. 	<p>Highly Equipped and Connected Classroom – HECC model: https://bit.ly/3q8m5Po (EC 2019)</p>
Professional development for teachers	
Recommendations	Resources / Proposing Tools
<ul style="list-style-type: none"> • Identification of teachers and school leaders’ needs for professional development through self-reflection tools. • Sustainable professional development mechanism (distributed opportunities, dissemination and mentoring within the school environment). • Courses that encourage peer learning for increasing opportunities for collaboration and networking. • Certified open online courses for accreditation and recognition. • Courses focusing on student-centred and innovative approaches to teach with digital technologies. 	<ul style="list-style-type: none"> • The LfE Self Reflection Tool (for School Managers): https://srt.learningfromtheextremes.eu/ (LfE (2022). "Quick Guide on how to use the Self-Reflection Tool) • LfE online training course: https://usavrsavanje.loomen.carnet.hr/login/index.php# • Rural Schools Innovation Academy: http://learningfromtheextremes.ea.gr/ • European School Innovation Academy (ESIA): https://esia.ea.gr/ • Digital Competence Framework for Educators (DigCompEdu): https://bit.ly/3wSxyqg (Redecker, C. & Punie, Y., 2017) • SELFIE for Teachers: https://bit.ly/3qaDRSb (Economou, A., 2023) • Digital Competent Teachers for Creating Digital Students (MOOC): https://bit.ly/3pTWYzC • Integrated STEM Teaching for Secondary and Primary Schools (MOOCs): https://bit.ly/3KypmAY and https://bit.ly/3KztKQ3 • Building a School Digital Strategy with the SELFIE Tool (MOOC): https://bit.ly/3CNPxlg

Table 2: Strategy around Support equity and excellence

Support equity and excellence	
School leadership	
Recommendations	Resources / Proposing Tools
<ul style="list-style-type: none"> • Clear leadership expectations and values to support the effective use of digital technologies. • Development of a shared vision and a common school strategy. • Leading group to ensure that the use of digital technologies does not violate national and European safety and ethical regulations. • Leading group to ensure the capacity building of all teachers, and lead the achievement of the shared vision. • Guide professional learning by providing opportunities for all teachers. • Teacher’s collaboration for selecting and creating digital content, and reflecting on teaching and learning practices. • Communities of practice for sharing and learning about school leadership. 	<ul style="list-style-type: none"> • Video about shared leadership: https://bit.ly/3qpCl9y • Online course about shared leadership (provided by the European Schoolnet Academy): https://bit.ly/3RPtQpm
Personalized and inclusive learning	
Recommendations	Resources / Proposing Tools
<ul style="list-style-type: none"> • Use digital technologies to enhance inclusion and equity by providing students with appropriate guidance and support. • Ensure the provision of flexible, differentiated and needs based learning content and activities to all students by elaborating the UDL guidelines. • Ensure that all students who have special educational needs have access to appropriate assistive technologies. • Request specific guidance and advice on pedagogical approaches for using assistive technologies for students with special educational needs. 	<ul style="list-style-type: none"> • UDL guidelines: https://udlguidelines.cast.org/ (CAST, 2018) • Training module about UDL in practice: https://bit.ly/3UayDUj • Collection of online lessons designed based on the UDL framework: https://bit.ly/3U9JJZs

Table 3: Strategy around rural schools as community and educational spaces

Rural school as community and educational spaces	
Connection with local/regional stakeholder	
Recommendations	Resources / Proposing Tools
<ul style="list-style-type: none"> • Facilitate the development and implementation of innovative good practices for digital education through intergroup and ingroup interaction between stakeholders. • Stakeholder meetings for planning, monitoring and assessing joint actions in digital education. • Participatory scenario development approach to plan and implement for ideal and sustainable conditions for digital education. • School network with external stakeholders to join and contribute with new innovative technology solutions, good practices and creative applications. 	<ul style="list-style-type: none"> • LfE community platform with community building tools and networking and mentoring services: https://www.schoolofthefuture.eu/en/lfe
Opportunities for community learning	
Recommendations	Resources / Proposing Tools
<ul style="list-style-type: none"> • Procurement of digital technology solutions and applications that can serve for lifelong learning for all the members of the rural community. • Horizontal links with the local communities for exchanging support, material and financial help. • Follow the digital transformation path provided by the LfE support and training services to transform the school into a sustainable innovation ecosystem. 	<ul style="list-style-type: none"> • Support, training, mentoring and networking opportunities through the LfE community platform: https://www.schoolofthefuture.eu/en/lfe (Teacher Square and School Square Sections) • Open Schooling Roadmap: A Guide for School Leaders and Innovative Teachers: https://bit.ly/3B8sDTg (Sotiriou, S. et al, 2020)

2 The School Innovation Academy

The Learning from the Extremes project developed and presented the detailed process to set-up the **School Innovation Academy** in order to achieve its aim, namely to fulfil the need for an integrated mentoring and support service that will help rural schools to design and implement transformative interventions to their settings as well as to ensure and safeguard the long-term impact of the proposed training framework. The Academy's main goal is to expand teachers' pre- and in-service training opportunities, **under a common standard-based framework** (see Figure 1). By introducing the concept of Learning Ecologies (Barron, B. 2006), **the School Innovation Academy has the ambition to design and set-up a strong training ecosystem**. In such an ecosystem each piece is interconnected thanks to the common standard-based framework that was proposed and validated during the preparatory action: formal and informal training opportunities, short term and long-term courses, self-paced activities, social learning and mentoring opportunities and involvement in virtual events or practical workshops with physical presence, participation to communities of practice, participation to conferences and seminars, job shadowing activities in other schools, participation in short term summer or winter schools.

A series of training activities (at local, regional, national and international level) will be organised to help teachers design the most effective and engaging lessons that will make use of innovative forms of instruction (inquiry-based, project-based, game-based) and tools (e.g., access to rich scientific data archives, virtual and remote experimentations, animations) in their classrooms, and more generally think differently about their students' learning of and about the environment, science and technology. This will be expanded by offering concurrently opportunities for mobilities, such as study visits, job shadowing opportunities, meetings, conferences, contests and competitions with the goal to enable the Academy to become a forum for exchange of knowledge, and an information hub which will support, develop and promote:

- the development and enrichment of educational activities or events with emphasis to technology enhanced education, but also innovative and effective forms of instructions (e.g., IBSE and PBL) and other learning strategies for all subjects related to rural and distance education.
- the integration and coordination of educational activities between all stakeholder groups across different disciplines, regions and cultures.
- programmes, events, activities, and organizations that promote and provide means and tools for rural education to collect and identify best-practices and outcomes.
- the scientific community and entities interested in rural and distance education.



Figure 1: The School Innovation Academy Joint Learning Offer to teachers will include a variety of activities designed to help them to navigate the trials and tribulations of training and help them forge their own path forward towards professional development. A standard-based framework will provide the links between the different parts of the training ecosystem.

School Innovation Academy will also offer guidelines and tools for the effective organisation of training and the delivery of effective school heads and teachers training programmes. By offering teachers a large repertoire of training activities, tools, guidelines and other support, along with a detailed competence framework for their effective introduction in the school practice, the Academy will professionalise and thus empower teachers not only to change their teaching practice and introduce contemporary issues in their lessons, but also to propose and initiate the necessary changes in their schools, to allow for a more seamless introduction of innovations.

School Innovation Academy will strengthen the teachers' profession, by raising the standards for rural education in pre-service and in-service training. It will offer and facilitate the learning about new innovative approaches to teaching. It will provide a framework for implementing teacher training, combining the strengths of seminar workshops with possibilities of mobilities throughout Europe, bringing teachers in contact with each other to facilitate an enhanced exchange of experience, ideas and knowledge about activities and opportunities for teaching in rural schools throughout Europe.

3 Rural Schools Innovation Roadmap (The LfE Roadmap)

The outcome of the work of the LfE Project is a list of key features (along with their descriptions) that acts as a reference point for the development of the **Rural Schools Innovation Roadmap**. This also includes a list of the activities that support the experimentation and development of the digital learning solutions to bridge the digital divide and to increase the access to digital content and tools.

This process informs future decisions on investments related to access and connectivity in rural areas. The **Rural Schools Innovation Roadmap** highlights the added value of the *Learning from the Extremes* support scheme for the schools that embark on the digital transformation journey. This parameter has to be also considered in any future plan and investment. The innovation process was informed from the pilots in the selected 123 rural schools across the whole period of implementation, while at the same time pedagogical and technical guidance and support has been provided to the schools either through the community or centrally from the project team.

Rural Schools Innovation Journey begins with the preparation of the school's path, **by identifying the needs**, involving a careful **exercise of self-reflection** and participatory actions with relevant stakeholders to **craft a strong development plan**. **Communities should be formed** around the **Innovation and Transformation Plans**, with support provided for their materialization through **Continuous Professional Development (CPD) opportunities**. At the same time, the school should be supported and be able to **identify possible funding mechanisms** in order to support the proposed activities (e.g. ERASMUS+ KA1 and KA2). Within this pathway, the school unit **should transform into a Community Innovation Hub**, collaborating with **the Local/Regional Stakeholders** so to **Forge Collaborative Ties**. Towards the last steps of this journey, the school unit should review all the realised activities and building on the results to develop a concrete and feasible sustainability plan in order to continue the journey of transformation and improvement.

Attempting to reflect what is needed to diffuse innovation by following specific actions that LfE highlighted through the LfE pilots' implementation, a series of actions are described in Figure 2 that forms the **Rural Schools Innovation Roadmap**. The detailed description of all the proposed steps according to the LfE Roadmap are included in the deliverable D8.2 (https://www.learningfromtheextremes.eu/files/Dissemination_Files/LfE_D8.2_Rural_Schools_Innovation_Roadmap_FINAL.pdf).

ROADMAP

LEARNING FROM THE EXTREMES

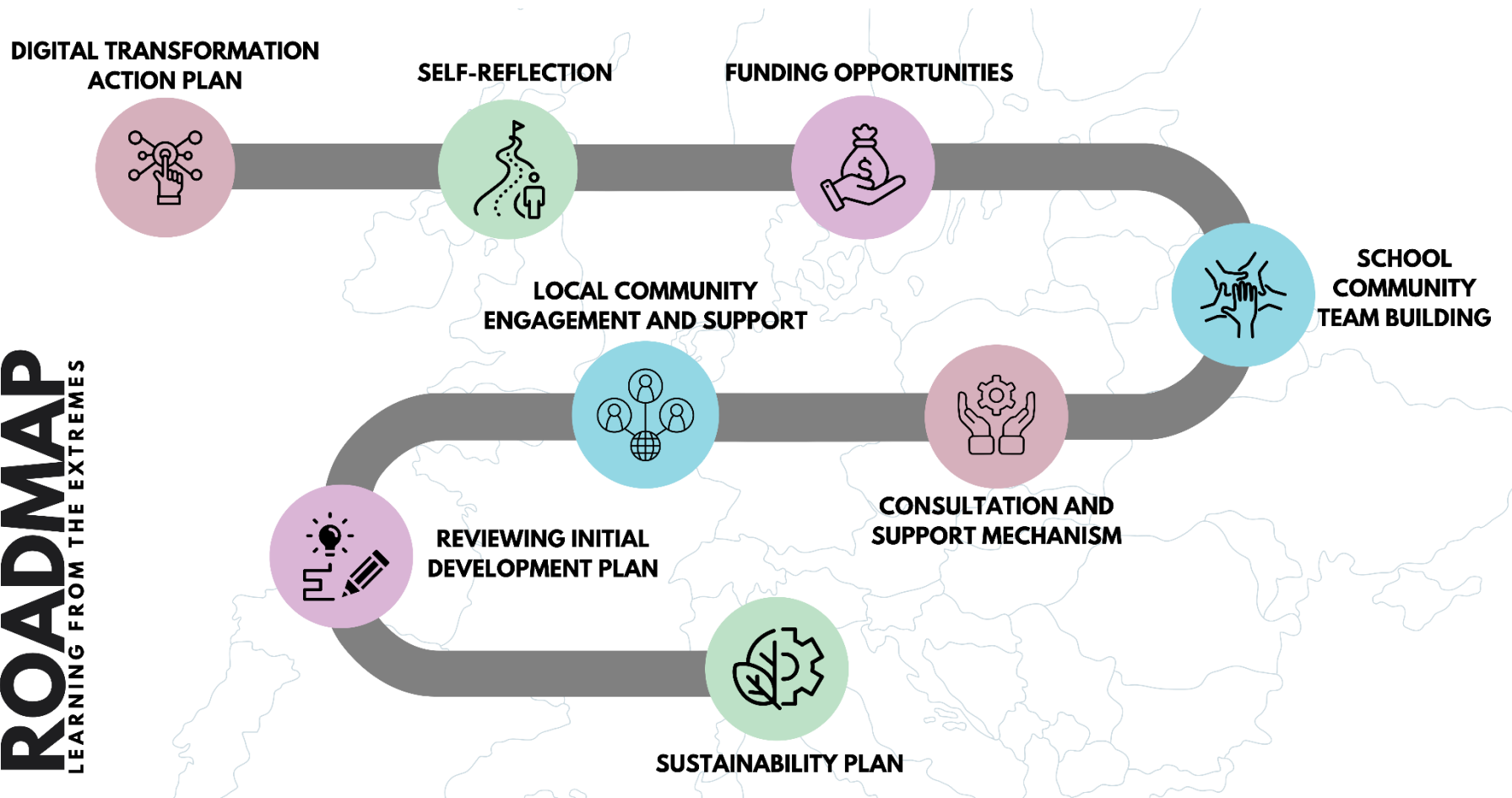


Figure 2: Learning from the Extremes Roadmap

4 Conclusions

In conclusion, a number of **successful strategies and approaches recommended** by the LfE project have already tested in 123 schools of 10 European countries. All of these rural and remote schools, benefit from stronger, more responsive and reliable distance education platforms, online labs and simulations and high-performance web-conferencing and collaboration tools, sharing teaching excellence with professional support in the classroom, the school and the region.

The LfE project adopting a multidimensional approach to thinking about and planning for the future of technology enhanced rural school education has already developed a strategy to present targeted recommendations on how to increase access to digital education in the EU remote areas and communities that require such support.

Participating schools achieved an average increase of **24.54% in their openness level, innovation status and e-maturity levels**. The majority of the initial lowest performers, based on the first measurement achieved a 35–55% improvement. The higher scorers from the first measurement still reached a small but significant increase in the recorded openness, innovation and e-maturity levels. This very significant improvement of the schools' statuses could act as a reference point for educational policy actions to support school development through cooperation and continuous interaction with external stakeholders. Consequences for school management, development plans, and teachers' professional development are discussed. In this framework, the **School Innovation Academy** ensures and safeguard the long-term impact of the proposed support mechanisms and training framework.

The Support Mechanism of LfE, through its various activities, provides a user friendly and smooth implementation of each school's Journey to Innovation, based on a path that starts with the school's reflection, followed by a transformation development plan. The overall process is built on a strong participatory model, with consultation and mentoring present during all phases of the school's journey, facilitating innovation.

The **Rural Schools Innovation Roadmap**, as a result key outcome of the project, along with the whole process will inform future decisions on investments related to access and connectivity in rural areas.

List of Figures

- Figure 1: *The School Innovation Academy Joint Learning Offer to teachers will include a variety of activities designed to help them to navigate the trials and tribulations of training and help them forge their own path forward towards professional development. A standard-based framework will provide the links between the different parts of the training ecosystem. 11*
- Figure 2: *Learning from the Extremes Roadmap..... 13*

References

Barron, B. 2006. Interest and self-sustained learning as catalysts of development: A learning ecology perspective. *Human Development* 49: 193–224.

D3.2: Rural Schools Innovation Strategies, Learning from the Extremes Project.

https://www.learningfromtheextremes.eu/files/Dissemination_Files/LfE_D3.2_Innovation%20strategies_Final.pdf

D6.4: School Innovation Academy, Learning from the Extremes Project.

https://www.learningfromtheextremes.eu/files/Dissemination_Files/LfE_D6.4_School_Innovation_Academy.pdf

D7.3: Impact Assessment, Learning from the Extremes Project.

D8.2: School Innovation Roadmap, Learning from the Extremes Project.

https://www.learningfromtheextremes.eu/files/Dissemination_Files/LfE_D8.2_Rural_Schools_Innovation_Roadmap_FINAL.pdf