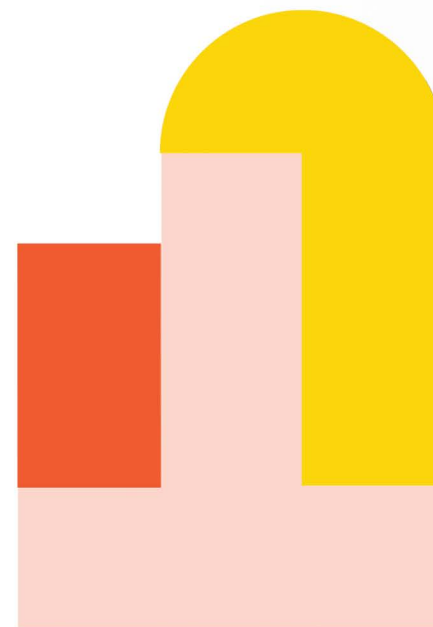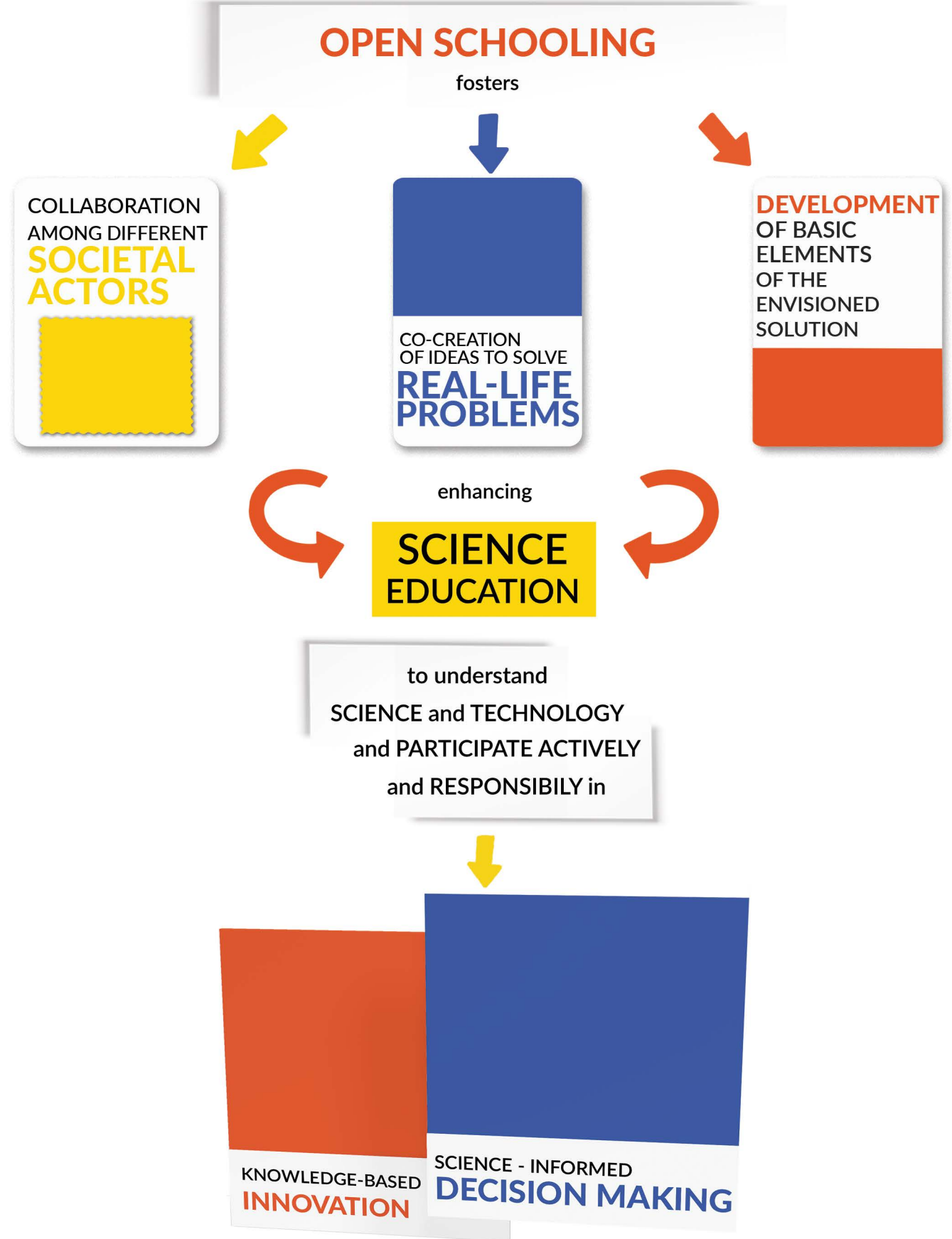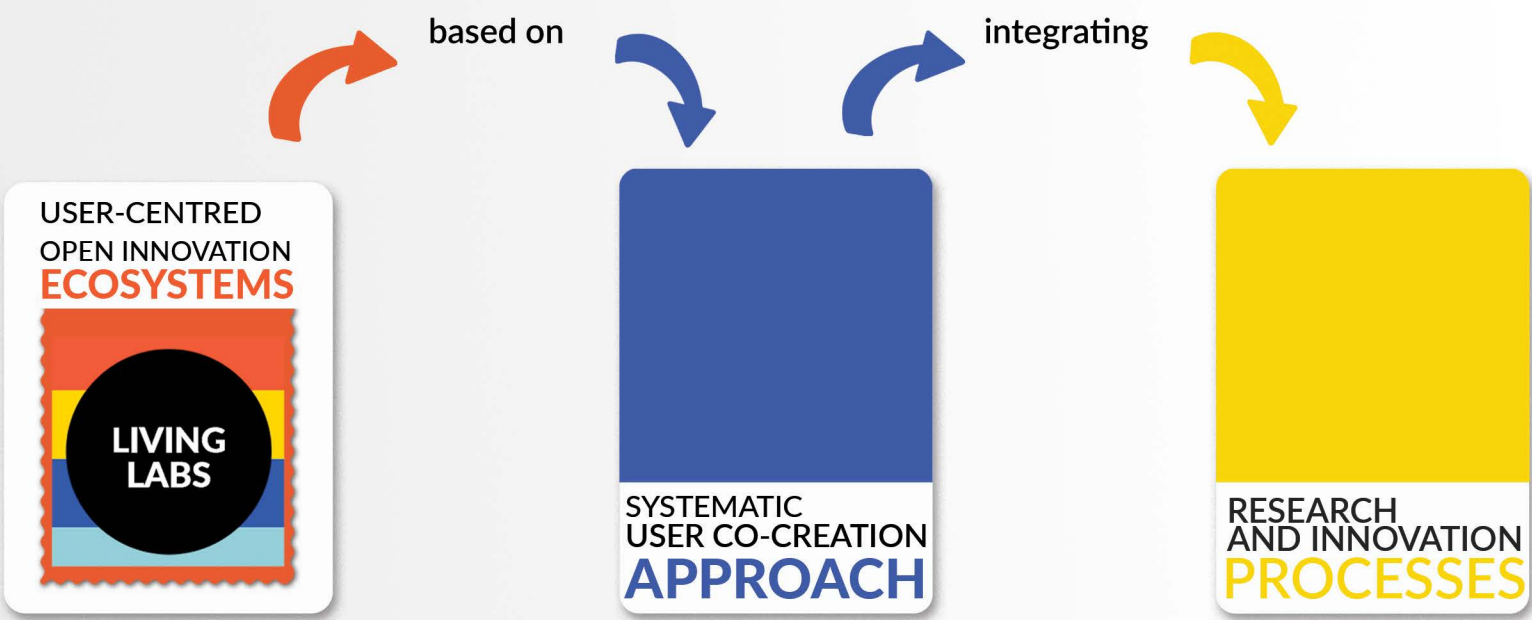SCHOOLS
AS LIVING
LABS

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A useful summary outlining a concrete approach
to science education programs
by promoting collaboration between schools
and local communities,
utilising the living-lab methodology
to facilitate a transformation
in the European educational landscape

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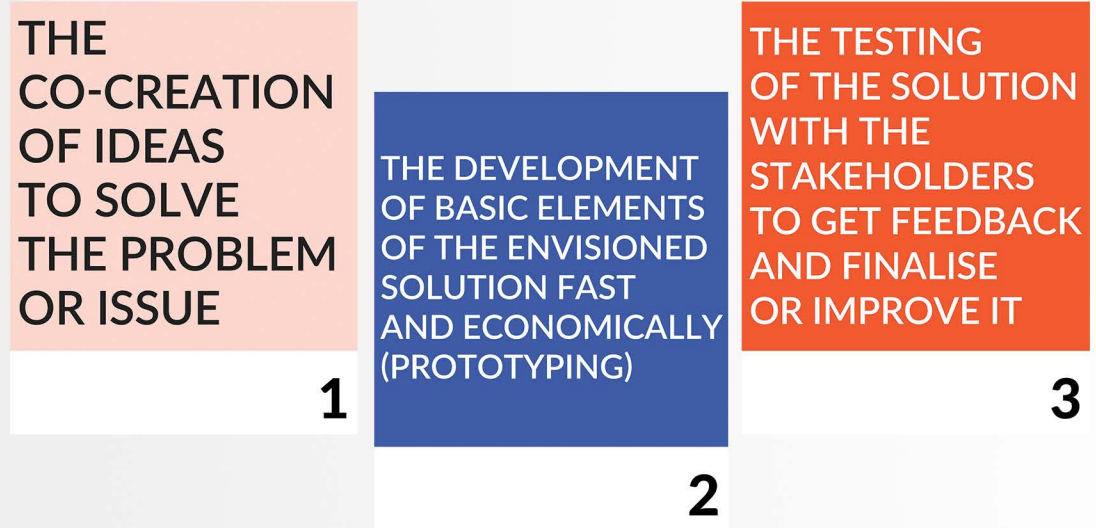
The SALL Project brings the powerful **CONCEPT** and **METHODOLOGY** of **LIVING LABS**

The **SALL Project** has adopted the concept of **OPEN SCHOOLING** in **SCIENCE EDUCATION** where schools become agents of community well-being by creating new partnerships with other local actors and addressing local issues relevant to them.

USER-CENTRED
OPEN INNOVATION
ECOSYSTEMS

LIVING LABS

based on

integrating

SYSTEMATIC
USER CO-CREATION
APPROACH

RESEARCH
AND INNOVATION
PROCESSES

OPEN SCHOOLING

fosters

COLLABORATION
AMONG DIFFERENT
**SOCIETAL
ACTORS**

CO-CREATION
OF IDEAS TO SOLVE
**REAL-LIFE
PROBLEMS**

DEVELOPMENT
OF BASIC
ELEMENTS
OF THE
ENVISIONED
SOLUTION

enhancing

**SCIENCE
EDUCATION**

Our conceptualization of a **LIVING LAB** involves:
The collaboration among different societal actors who wish to deal together with a certain problem or issue which is important to each one of them.

to understand
SCIENCE and TECHNOLOGY
and PARTICIPATE ACTIVELY
and RESPONSIBILY in

This includes:

**THE
CO-CREATION
OF IDEAS
TO SOLVE
THE PROBLEM
OR ISSUE**

1

THE DEVELOPMENT
OF BASIC ELEMENTS
OF THE ENVISIONED
SOLUTION FAST
AND ECONOMICALLY
(PROTOTYPING)

2

THE TESTING
OF THE SOLUTION
WITH THE
STAKEHOLDERS
TO GET FEEDBACK
AND FINALISE
OR IMPROVE IT

3

KNOWLEDGE-BASED
INNOVATION

SCIENCE - INFORMED
DECISION MAKING

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SALL PROPOSES
TO TRANSFORM
SCHOOLS INTO LIVING LABS

This methodology has been widely tested and has proved to be capable of nurturing meaningful collaborations between actors with diverging interests but with common objectives.

Together, they build new products, new services, new uses, etc. through a cycle that typically comprises:

CO-CREATION

EXPLORATION

EXPERIMENTATION

EVALUATION

SALL BRINGS TOGETHER
SCHOOL COMMUNITIES, INCLUDING:

• Teachers
• Students, and their families
• Research institutions
• Policy-makers
• Science engagement organisations and other non-formal learning
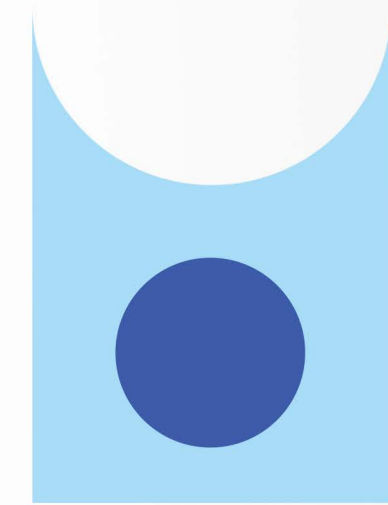• Open innovation spaces

More than 400 school communities across 10 countries implement the **SALL LIVING-LAB Methodology** to address local issues linked to the food system.

1

SCIENCE LEARNING DIALOGUES

A wealth of opinion exchanges, discussions and reflections which have taken place during the whole project since its start.

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KEY

MESSAGES

OPPORTUNITIES:

3

HANDS-ON LEARNING that allows students to actively participate in scientific investigations by:

- Conducting experiments
- Collecting data
- Analysing results

1

REAL-WORLD application that allows students to engage in:

- Authentic scientific inquiry
- Experimentation

to apply theoretical knowledge to practical situations and foster
DEEPER UNDERSTANDING of SCIENTIFIC concepts and principles

4

COLLABORATION and **COMMUNITY ENGAGEMENT**
that allow students to interact with:

- Scientists
- Researchers
- Experts

2

EXPERIENTAL LEARNING allows students to participate in scientific inquiry and experimentation and promotes:

- Critical thinking
- Problem-solving skills
- Development of scientific inquiry skills

5

INTERDISCIPLINARY APPROACH

help students to see the interconnectedness of various fields fostering

a holistic understanding of how science applies to real-world challenges

and promotes teamwork, communication and creativity.

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KEY
MESSAGES

CHALLENGES:

3 — TIME CONSTRAINTS
Implementing living lab activities in schools may require additional time for:
- Planning, coordination, and execution
- Managing field trips
- Collaborations with external partners
- Balancing the regular academic curriculum with the demands of living lab activities

1 — RESOURCE CONSTRAINTS:

- Equipment
- Materials
- Personnel

Limited funding or lack of access to necessary resources can hinder the successful implementation of these activities.
Schools and educators may face challenges in acquiring and maintaining the required resources to support meaningful and engaging science teaching and learning. Necessary resources can hinder the successful implementation of these activities.

4 — TEACHER TRAINING and SUPPORT
to implement living lab activities which involve new teaching methods and approaches and in acquiring the necessary skills and knowledge to effectively manage and facilitate these activities.

5 — COMMUNITY ENGAGEMENT

External stakeholders (businesses, community organisations, and researchers) may not be familiar with the school setting or the educational process, and they may not be willing or able to commit the time and resources necessary to collaborate on living lab activities.

2 — CURRICULUM ALIGNMENT
can pose challenges such as:

- Aligning the hands-on experiences with the established educational standards
- Learning objectives
- Finding the balance between the exploration and inquiry-based nature of living
- Need to cover specific curriculum content within limited timeframes.

6 — ASSESSMENT

Evaluating the effectiveness of living lab activities in terms of students' learning can be challenging.
There is no one-size-fits-all approach to assessment, and the methods used will need to be tailored to the specific goals and objectives of the activities.

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2

EVALUATION

YEAR 2

127 SALL school projects
(implemented by 125 schools)

YEAR 3

174 SALL school projects
(implemented by 150 schools)

485
TEACHERS

184
MEMBERS OF THE SCHOOL ADMINISTRATION

1697
STUDENTS

200
SOCIETAL ACTORS

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KEY FINDINGS

Responses of ADMINISTRATION STAFF after the COMPLETION of the SCHOOL IMPLEMENTATION

Responses of TEACHERS after the COMPLETION of the SCHOOL IMPLEMENTATION

The school is very motivated in supporting the participation of its staff in innovative projects (i.e. non-traditional methodologies)

94% of the participants agreed that the school is motivated in supporting their teaching staff in innovative projects and that teamwork and collaboration is encouraged

I feel more confident in communicating and collaborating with societal actors

80% of teachers felt more confident about their communication skills

HOW DO WE READ THE FINDING

CONFIDENCE in comunicating and collaborating with societal actors is very important

KEY FINDINGS

Descriptive statistics of STUDENTS beliefs towards the SALL PROJECT

I'm excited to pitch my ideas to companies, organizations, etc.

70% of students expressed agreement with the statement that they felt enthusiastic about presenting their ideas to companies and organizations

I feel the SALL project gave me freedom of choice

73% of students who participated in the SALL project feel they had freedom of choice

HOW DO WE READ THE FINDING

The most open pathways resulted
in enhancing students' science-related affective domains,
such as **self-efficacy** and intrinsic motivation
in doing science

3

AIMING TO PROVIDE ANSWERS TO THE FOLLOWING QUESTIONS

What are the broad recommendations and policy objectives for policymakers, researchers, and civil society organisations that are meaningful to accelerate the take-up of living-lab-based open schooling **?**

What is the anticipated impact of these changes on each policy domain and society **?**

Which major policy gaps and challenges should be considered and addressed for normalising the implementation of living-lab-based open schooling? **?**

? What kind of instruments and incentives are necessary to tackle these challenges

Which actions should be put in place in order to implement such recommendations and related policy objectives? **?**

RECOMMENDATIONS FOR **POLICY ACTIONS**
developed to address the **policy challenges** and identified gaps
and achieve the foreseen policy objectives

RECOMMENDATION

1
MAKE
OPEN SCHOOLING
MAINSTREAM

Incorporate open schooling in national educational strategies, central policies and curricula, boosting its legitimacy as a fully fledged alternative to more traditional teaching methods

This can improve stakeholder as well as parents of the students interested in STEAM education, engagement and thus support teachers in adopting the SALL methodology

RECOMMENDATION

2
TRAIN
THE TEACHERS OF
THE FUTURE

Integrate open schooling into teacher training curricula and encourage the development of leadership, facilitation, and project management skills, as well as digital and technological competencies among newly qualified teachers

In parallel, invest in upskilling the existing workforce (lifelong learning)

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RECOMMENDATIONS FOR **POLICY ACTIONS**
developed to address the **policy challenges** and identified gaps
and achieve the foreseen policy objectives

RECOMMENDATION

4

SUPPORT SCHOOLS IN ACCOMMODATING STUDENTS' NEEDS

Open schooling programmes should be desgined to be as inclusive as possible

Schools need funding and, where necessary, technical support to fully implement existing legislations and policies to ensure accessibility, and to better support students with disabilities

RECOMMENDATION

3

MAKE FUNDING AVAILABLE FOR OPEN SCHOOLING PROGRAMMES

Create incentives for school management to invest in open schooling initiatives

Taking into account existing disparities in science literacy, schools in under resourced regions and rural areas should be prioritised so that no one is left behind

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RECOMMENDATIONS FOR **POLICY ACTIONS**
developed to address the **policy challenges** and identified gaps
and achieve the foreseen policy objectives

RECOMMENDATION

5
PRIORITISE SKILLS DEVELOPMENT

Promote a shift away from traditional grading, and encourage rigorous monitoring and evaluation of open schooling initiatives

While standarised testing may continue to have some utility
in providing consistent measurement of scientific knowledge at
the national and international levels, the results of these assessments
should not be relied upon solely to evaluate
the success of open schooling programmes

4

LESSONS LEARNED
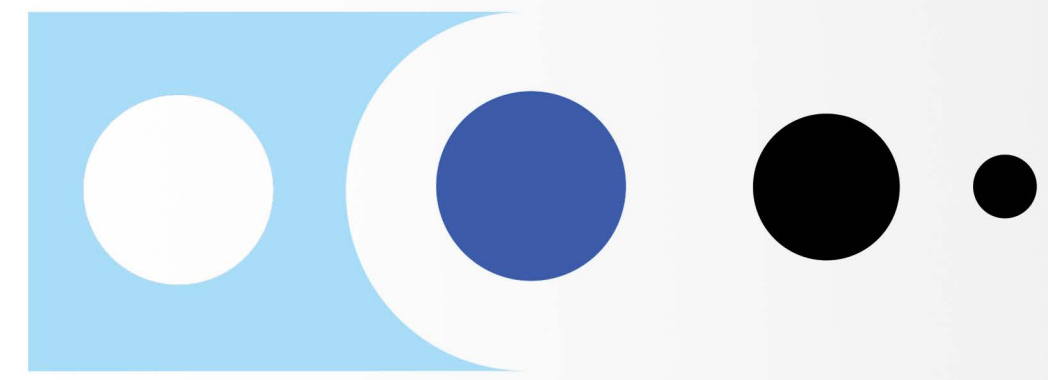
Collection of
SALL – SCHOOLS AS LIVING LABS
lessons learned that can be
featured and highlighted.

LESSONS LEARNED

LESSON LEARNED 1

Open schooling policies are gaining momentum worldwide.

Open schooling is alligned with the need for more inclusive and flexible student learning opportunities

LESSON LEARNED 2

SALL has showed that with the right guidance

Policymakers will promote awareness about open schooling process

LESSON LEARNED 3

EU policymakers have showed their needs for tools and knowledge to promote **COOPERATION** and **COLLABORATION** between countries

So that open schooling models can be adapted to national and local realities applied througout Europe

LESSON LEARNED 4

Education policies and practices remain primarily within the preview of individual member states.

LESSON LEARNED 5

Partners involved in the SALL project's approach promoted the use of educational institutions as real-world testbeds for sustainability and innovation

and are seeing open schooling as a way to foster experimental learning, interdisciplinary collaboration, and community engagement to make the European educational framework easier to transform and slowly unify.

LESSON LEARNED 6

Transforming EU schools into Living Labs will help rethink the current EU educational system and eventually redesign EU's governments' shared educational goals and challenges

LESSON LEARNED 7

Transforming EU schools into Living Labs will help rethink the current EU educational system and eventually redesign EU's governments' shared educational goals and challenges

LESSON LEARNED 8

More efforts and investment are required to keep on promoting the positive effect of the open schooling models

LESSON LEARNED 9

Participants in SALL see open schooling as a way to foster:

Experimental Learning
Interdiscinplinary collaboration
Community Engagement

SCHOOLS
AS LIVING
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IF YOU WANT SOME INSPIRATION GO VISIT OUR PLATFORM
www.schoolsaslivinglabs.eu

SALL TOOLBOX

POLICY BRIEF

SALL ROADMAP

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