

PerMa School

School Educators

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User Guide for the PERMASCHOOL Curriculum

Applying Permaculture as a Pedagogical Tool in Schools

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1. Introduction

What is PERMASCHOOL?

PERMASCHOOL is a European educational initiative that introduces permaculture as a practical and interdisciplinary approach to sustainability education in secondary schools. The project develops a complete curriculum, training tools, and digital resources designed to support both teachers and students in understanding and applying ecological principles in real-life school settings.

At its core, PERMASCHOOL promotes a vision of schools as dynamic ecosystems: spaces for experimentation, collaboration, and long-term thinking. Rather than treating environmental education as a separate subject, it embeds permaculture into the heart of the learning experience, making it relevant across disciplines and adaptable to diverse national contexts.

The curriculum is designed to be used both in formal education settings (e.g. Biology, Technology, Social Sciences) and in non-formal or community-based learning, ensuring broader accessibility and impact. Through its modular design and hands-on activities, PERMASCHOOL encourages both educators and learners to engage critically with the world around them and become active participants in building sustainable futures.

Project background and rationale

The PERMASCHOOL project responds to the increasing need for education systems to address the climate crisis and promote sustainability competences among young people. While climate change and environmental topics are widely acknowledged in policy frameworks, their integration into classroom practices remains inconsistent and, in many cases, superficial.

Permaculture offers a concrete, systemic, and values-based approach that is still missing from most school curricula. It not only addresses environmental content, but also focuses on design thinking, community engagement, resilience, and ethics, making it a powerful tool for transformation in education.

This project was built on the idea that schools can do more than raise awareness. They can become laboratories for sustainability, places where students learn by doing, reflect critically, and develop solutions that matter. Through co-creation processes with educators, environmental experts, and students, the PERMASCHOOL curriculum brings a fresh perspective to environmental education and gives educators a clear framework for action.

General objectives

The PERMASCHOOL project aims to:



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- Develop and implement a permaculture-based curriculum that equips students and teachers with tools to understand and address environmental challenges.
- Promote participatory and interdisciplinary learning methodologies, in line with the [EU's GreenComp framework](#) for sustainability competences.
- Strengthen teacher capacity through targeted training and resources, supporting the integration of sustainability topics across subject areas.
- Encourage behavioural change and student agency, empowering young people to take leadership in school and community-based sustainability projects.
- Foster cross-sectoral and transnational cooperation between schools, NGOs, and research institutions in Spain, Greece, and Cyprus.
- Create lasting impact by offering a replicable educational model that supports both formal and non-formal learning, and that can be transferred across Europe.

These objectives align with several key EU goals, including support for the [Sustainable Development Goals \(SDGs\)](#), climate action, innovation in education, and active citizenship.

Educational approach: learning through permaculture

PERMASCHOOL is not just about content, it's about how we learn. The educational approach is built on the ethics and design principles of permaculture, which include Earth Care, People Care, and Fair Share. These principles guide not only the curriculum topics, but also the pedagogical methods used throughout the programme.

The curriculum promotes experiential learning, problem-solving, and systems thinking, with a strong emphasis on collaboration and critical reflection. Students are invited to observe their environments, identify challenges, and design real solutions, from school gardens and composting systems to community mapping and participatory projects.

Teachers are supported with training and digital tools that allow them to adapt the content to their national contexts, while maintaining the core values of the programme. This flexible, competence-based model makes the curriculum suitable for a wide range of school settings and age groups.

Project history and partner organizations

PERMASCHOOL is a two-year project funded by the Erasmus+ programme (KA220-SCH – Cooperation Partnerships in School Education), running from December 2024 to November 2026. It was created in response to the urgent need for more concrete, participatory and systemic approaches to environmental education in secondary schools. The project's main goal is to support the integration of permaculture as a pedagogical framework within schools, through both curriculum design and practical implementation.

The curriculum and guidebook have been co-developed by a transnational partnership of seven organisations from Spain, Greece, and Cyprus, each contributing expertise in



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education, sustainability, social innovation and community engagement. This collaborative approach ensures that the materials reflect a wide range of educational realities and are adaptable across diverse European contexts.

Project Coordinator:

IES Altaia (Spain)

A public secondary school located in Altea, Comunidad Valenciana, IES Altaia has long experience in inclusive education, service learning, and environmental projects. The school serves a diverse student body, including young people from sheltered housing and migrant backgrounds. IES Altaia leads the overall project coordination and ensures the alignment of all outputs with the needs of school educators.

Key Educational Partners:

Geniko Lykeio Efkarpias (Greece) and Perifereiako Gymnasio Akakiou (Cyprus)

These two secondary schools bring valuable classroom insight to the project, ensuring that all materials are tested and relevant for students aged 14–18. They are directly involved in piloting the curriculum, organising student-led projects, and supporting teacher training at national level.

Experts in Permaculture and Environmental Education:

Permacultura Cantabria (Spain)

With more than 15 years of experience in permaculture training and environmental projects, this NGO has played a leading role in the pedagogical and technical development of the curriculum. They contributed practical content, real-world examples, and design tools based on the ethics and principles of permaculture.

Organization Earth (Greece)

This award-winning NGO focuses on urban sustainability, climate education, and nature-based solutions. It brings strong expertise in community learning and inclusive education, offering insights into how permaculture can be integrated into urban and socially diverse school contexts.

Innovators in Social Impact and Communication:

WeChange Research & Outreach Ltd. (Cyprus)

An agency with expertise in communication, storytelling, and outreach, WeChange leads the development of visibility materials and supports the documentation and dissemination of the project's impact. They are responsible for the creation of the PERMASCHOOL Website: the project's public-facing, multilingual site for communication and dissemination, and the main entry point where the PERMASCHOOL Hub will be integrated.



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Stimmuli for Social Change (Greece)

This organisation specialises in educational innovation, co-creation methodologies, and capacity building. Within PERMASCHOOL, it supports the design of inclusive, participatory learning strategies and contributes to the training frameworks for teachers. Stimmuli is responsible for the creation of the PERMASCHOOL Hub: an interactive digital environment that hosts the curriculum, planning tools, and collaborative resources.

Together, these organisations form a committed and diverse partnership. Their collaboration reflects the cross-sectoral and international nature of PERMASCHOOL, which is not only a curriculum, but also a shared learning journey between educators, students, and communities across Europe. The guidebook you are reading now is one of the main outcomes of that collaboration.

2. How to Use This Guide

This guide is designed to help educators, school leaders, trainers, and organisations implement the PERMASCHOOL Curriculum in real-world settings. Whether you are working in a formal school environment, a vocational training centre, or a community learning space, this guide provides the tools and context you need to adapt and apply the curriculum effectively.

It is not a fixed manual or a step-by-step recipe. Instead, it offers a flexible structure based on core permaculture principles, which can be adapted to the needs of your students, your national curriculum, and your local community.

This section explains how to navigate the guide and make the most of its content.

Target audience (educators, schools, NGOs)

The guide is primarily aimed at secondary school educators working with students aged 14–18. However, its content is also relevant to:

- Educational and training institutions (including VET providers and adult education centres)
- Youth workers and NGOs involved in sustainability education
- Curriculum developers and education policymakers
- School networks or municipalities supporting green school initiatives

Because the curriculum is competence-based and interdisciplinary, it can be used in multiple subject areas such as Biology, Geography, Technology, Civic Education, Visual Arts, and even Literature. The structure also supports project-based learning and non-formal education settings.

Implementation formats (formal / non-formal education)



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This guide has been designed to support educators working across both formal and non-formal education settings. Depending on your context, the way you use the guide, and the curriculum it accompanies, may differ slightly.

If you are working in **formal education**, such as in a secondary school subject like Biology, Civic Education, or Technology, you can use the guide to:

- Select specific modules or learning scenarios that align with your national curriculum.
- Integrate permaculture topics into interdisciplinary projects or sustainability education blocks.
- Adapt activities to fit within existing lesson plans or school calendar constraints.
- Use the provided assessment suggestions to align with your country's evaluation standards.

If you are working in a **non-formal education** setting, such as a youth centre, NGO, or after-school programme, the guide can help you:

- Structure project-based learning experiences using the curriculum modules as flexible thematic units.
- Design and implement workshops or seasonal activities using the tools and planning templates included in the annex.
- Encourage collaboration with schools or families to connect informal learning with the school community.
- Use the guide as a facilitator handbook, guiding young learners through observation, experimentation, and reflection.

In both formal and non-formal settings, this guide offers clear explanations of learning goals and competences, practical guidance on how to organise activities and use digital tools, and concrete suggestions for adapting the content to different age groups, contexts, and learner needs. Whether you are planning a long-term school project or a short series of workshops, the guide is intended as a flexible reference that can support you throughout the process, from preparation and facilitation to assessment and reflection.

3. Foundations of the PERMASCHOOL Curriculum

The PERMASCHOOL Curriculum is built on a pedagogical foundation that connects sustainability, permaculture, and participatory education. Its aim is to provide students and educators with tools and opportunities to explore ecological challenges, develop collaborative solutions, and contribute meaningfully to their local communities. This section presents the key educational pillars of the curriculum, including the competences it supports, the learning



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objectives it pursues, its alignment with global goals, and the methodological approach that shapes its design and implementation.

Competence-Based Approach and the GreenComp Framework

The PERMASCHOOL Curriculum is aligned with the European GreenComp framework, which defines a set of sustainability competences that learners need in order to think, plan, and act for a sustainable future. Rather than focusing solely on content knowledge, this approach promotes the development of attitudes, skills, and values that support ecological, social, and civic responsibility.

Each module and learning scenario in this guide contributes to the development of key competences such as systems thinking, critical reflection, collaboration, and responsibility for the future. These are not introduced as isolated topics, but are embedded in real-life, practical activities that allow students to make connections, take initiative, and act in context. Educators can use this guide to identify which competences are being developed in each activity, and to reflect on how to further support their learners in becoming more capable, autonomous, and engaged.

In addition to sustainability competences, the curriculum supports transversal learning goals including scientific reasoning, digital literacy, social participation, and creative problem-solving, making it a relevant resource across subjects and learning environments.

Learning Objectives for Students and Educators

The PERMASCHOOL Curriculum is designed to foster meaningful learning experiences for both students and educators.

For students, the main objectives are to:

- Strengthen their understanding of ecological systems and sustainability principles.
- Learn to apply permaculture ethics and design thinking in local contexts.
- Collaborate with peers to explore solutions and take action.
- Connect school learning with real-life experiences and challenges.

For educators, the curriculum offers:

- Structured content and adaptable tools for integrating sustainability into their teaching.
- Support in shifting from traditional instruction to more learner-centred and participatory methods.
- Opportunities to grow as facilitators of interdisciplinary and project-based learning.
- A framework to reflect on and expand their own competences as sustainability educators.



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Connection to the Sustainable Development Goals (2030 Agenda)

The PERMASCHOOL Curriculum contributes directly to the goals of the 2030 Agenda for Sustainable Development, creating links between local school action and global sustainability efforts. In particular, the curriculum supports:



SDG 4 – Quality Education, by promoting inclusive, competence-based learning for sustainability.



SDG 11 – Sustainable Cities and Communities, through place-based and community-oriented projects.



SDG 12 – Responsible Consumption and Production, by encouraging reflection on resources, waste, and circular models.



SDG 13 – Climate Action, by building climate literacy and proactive behaviours.



SDG 15 – Life on Land, by fostering direct engagement with natural ecosystems.

These connections are embedded throughout the modules, helping students situate their learning within broader societal and environmental contexts.

Methodological Framework: Co-Creation and Active Learning

The development and implementation of the PERMASCHOOL Curriculum are grounded in principles of co-creation, participatory learning, and experiential education. The curriculum was created through a collaborative process involving teachers, environmental educators, students, and community partners from Spain, Greece, and Cyprus, ensuring that its content reflects real educational needs and local relevance.

The methodology encourages students to take an active role in their learning, using observation, experimentation, and critical inquiry to explore sustainability challenges. Teachers act as facilitators, supporting learners in designing their own projects, reflecting on their process, and connecting knowledge with action.

The learning scenarios make use of:



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- Scenario-based and project-based learning, focusing on real-world problems.
- Place-based education, rooted in the local environment and community.
- Permaculture-inspired planning tools, such as zoning, mapping, and the OBREDIM design cycle.

This methodological approach reinforces the development of sustainability competences while cultivating student agency and long-term engagement with the world around them.

4. Curriculum Modules

4.1 Introduction to the Permaschool Curriculum for Teachers

Permaculture is a design discipline focused on creating sustainable, resilient, and regenerative human systems inspired by the rhythms, relationships, and intelligence of natural ecosystems. Within the Permaschool approach, permaculture becomes a practical and educational framework that supports schools in evolving into living learning environments, places where sustainability is not only taught, but experienced, practiced, and embodied.

This section of the *School Educators Guidebook* provides the foundational permaculture knowledge that school educators need in order to use the *Permaschool Curriculum for Teachers* effectively and with confidence. The curriculum is presented as a complementary intellectual output designed specifically to help educators integrate permaculture into everyday teaching practice, school culture, and the design of learning spaces. Its purpose is not only to introduce ecological concepts, but to offer a clear structure for turning them into meaningful learning experiences that respond to today's environmental and social challenges.

To support this transformation, the training is grounded in three core pillars that guide both the design of physical spaces and the educational and social dynamics of the school:

- **Permaculture ethics:** based on *Earth care, People care, and Fair share*. These values provide a strong ethical compass for decision-making in schools, encouraging responsibility, wellbeing, cooperation, and a balanced use of resources.
- **Permaculture design principles:** a set of practical tools that help educators observe, analyze, and respond creatively to their specific context. These principles support effective planning, encourage solutions that are efficient and locally adapted, and strengthen the capacity of schools to learn and evolve as systems.
- **Design patterns:** an approach based on recognizing natural patterns and applying them to school environments and learning processes. Working from the big picture down to the details, educators can use tools such as zoning and sector analysis to organize spaces, activities, and resources in a way that supports both learning and ecological regeneration.



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The *Permaschool Curriculum* promotes an active, experiential learning model where students learn through observation, participation, collaboration, and real-world action. Through practical learning scenarios, such as creating school gardens, managing waste, enhancing biodiversity, or improving water and soil care, teachers can connect academic subjects with hands-on experiences that make learning relevant, interdisciplinary, and transformative.

Ultimately, this approach helps schools become laboratories of sustainability and resilience, where knowledge is translated into action and learners are empowered to understand their environment, care for their communities, and contribute to building fairer and more sustainable futures.

Permaculture is built on a simple yet demanding ethical foundation: any design decision, whether it concerns a garden, a building, a community, or an educational project, should improve life without degrading the environment or exhausting the people involved. For this reason, before focusing on techniques, permaculture establishes three ethics as a decision-making “filter”: **Earth Care**, **People Care**, and **Fair Share**. These are not slogans; they are practical criteria that help assess whether a system will be truly sustainable over time.

4.2 The Ethics of Permaculture

Earth Care

Earth Care is based on a central idea: human life depends on the health of ecosystems. Soil, water, biodiversity, and local climate are not external “resources”, but the living infrastructure that makes any community, school, or economy possible. From this perspective, good design means working with natural processes, strengthening them, and, where degradation has already occurred, actively supporting regeneration.

In permaculture, this means going beyond simply “reducing harm”. It is not enough to pollute less or use fewer inputs; the goal is to increase the land’s capacity to sustain life: building fertile soil, improving water infiltration and retention, restoring diversity, stabilizing microclimates, and reducing vulnerability to droughts, heatwaves, or heavy rainfall. A key question within this ethic is: *Does this decision strengthen or weaken the ecosystem over the next 10 or 20 years?*

In practical terms, Earth Care often leads us to prefer systems that close cycles and reduce losses: composting and returning biomass to the soil, keeping soil covered to prevent erosion, designing diverse and layered plantings instead of fragile monocultures, managing water to infiltrate and store it in the landscape rather than draining it away, and choosing materials that are repairable and have low embodied energy.

In schools, this ethic becomes especially tangible because the school itself can be read as an ecosystem. A playground with compacted soil, little shade, and low biodiversity offers a powerful learning opportunity: observing what is happening, identifying flows (water loss, heat

accumulation, lack of habitat), and designing small improvements that increase biodiversity and comfort. Typical Earth Care activities include school composting, biodiversity corners, mulching and soil care in the school garden, simple water audits, and designing shade-friendly spaces.

People Care

People Care recognizes that a sustainable system cannot last if people burn out, become discouraged, or are excluded. Permaculture understands that sustainability is not only ecological; it is also emotional, social, and organizational. Designing with People Care means creating the conditions for a community to sustain a project with wellbeing, cooperation, and a sense of purpose. This includes meeting basic needs (safety, belonging, rest, access), but also designing processes that reduce friction and avoid dependence on a few “key people”. Permaculture values the fact that resilient systems rely on networks: clear roles, mutual support, communication, and shared responsibility. Another key idea is that People Care also means designing within the energy available, avoiding projects so ambitious that they require constant heroic effort, because that usually leads to burnout and abandonment.

In practice, People Care shows up in decisions such as simplifying routines, doing small and frequent tasks rather than exhausting workdays, creating accessible materials and clear signage, setting up rotating roles or teams, and respecting the rhythms of the school year so that the project becomes a source of motivation rather than stress.

In schools, this ethic makes the difference between a garden that lasts one term and one that becomes part of the school’s culture. A “permaculture-smart” project is not the one that produces the most, but the one that can be maintained without falling entirely on the same teachers. People Care can be as concrete as organizing student teams with specific roles (watering, seedling care, compost, documentation), designing spaces for calm and social connection, and evaluating the project through wellbeing indicators: Does it improve classroom climate? Does it strengthen belonging? Does it reduce conflict? Does it increase cooperation?

Fair Share / Return of Surplus

The third ethic is the one that brings balance. Over time it has been expressed as *Fair Share*, “returning surplus”, or even as “limits to consumption”. At its core, it involves two inseparable movements: setting limits (avoiding overconsumption and hoarding) and redistributing surplus in order to support both Earth Care and People Care.

Fair Share introduces a fundamental question: *How much is enough?* It is not only about “sharing what is left over”, but about designing with moderation, consuming consciously, and avoiding growth that comes at the expense of depleted resources or increased inequality. In permaculture, surplus can take many forms: food, time, money, knowledge, seeds, materials, or infrastructure. The idea is to reinvest it where it strengthens the whole system, returning



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biomass to the soil, supporting the community, maintaining tools and spaces, or helping others learn and replicate what works.

This ethic is also closely linked to intergenerational responsibility: not compromising the future for short-term convenience. In practice, it often translates into decisions about scale (a realistic size for the project), purchasing criteria (less but better, repairable, durable), shared governance of resources (who decides and based on what principles), and circular economy strategies.

In schools, Fair Share can be explored very clearly through the management of shared resources: how tools are used and cared for, how seeds are saved and shared, what happens to the garden's surplus (school canteen, families, solidarity distribution, exchange with the neighbourhood), and how material flows can be redesigned to reduce waste. It is an excellent ethic for connecting sustainability with cooperation, fairness, and collective responsibility.

How the three ethics work together (a key educational idea)

The three ethics function together as a framework of coherence. Earth Care protects the living foundation without which no system can exist; People Care ensures human and community continuity; and Fair Share prevents imbalance through excess, inequality, or depletion. In education, this becomes a highly useful compass for planning any Permaschool Curriculum activity: *Does this improve the place? Does it care for the people who sustain it? Is it fair and replicable within real limits?*

4.3 Permaculture Design Principles

Permaculture design principles are practical thinking tools that help us make better decisions when creating sustainable and regenerative systems. They provide a shared language for observation, planning, and problem-solving, allowing educators and learners to move from abstract environmental concerns to concrete actions that improve a place. In the Permaschool context, these principles support teachers in designing learning experiences, school spaces, and everyday routines in ways that are ecologically sound, socially supportive, and realistically manageable.

Rather than being rigid rules, the principles function as guiding questions: *What is happening here? What is working already? Where are resources being lost? How can we create more benefit with less effort?* When applied in schools, they help build long-term projects that can evolve over time, remain meaningful for students, and stay sustainable for staff.

Below is an overview of the twelve widely used permaculture design principles and how they can be understood and applied in educational settings.



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1. Observe and interact

Good design begins with careful observation. Instead of rushing into action, permaculture encourages us to spend time noticing patterns: where sunlight falls, how water moves, where students naturally gather, what areas feel stressful or calm, and how the space changes through the seasons. Observation also includes listening to people, the needs of students, teachers, and the wider school community.

In schools, this principle supports a culture of inquiry. Before starting a garden, redesigning a playground, or launching a sustainability project, learners can practice real-world scientific and social observation: taking notes, drawing maps, measuring, interviewing, and reflecting. This creates solutions that fit the actual context rather than copying ideas that may not work locally.

2. Catch and store energy

Permaculture teaches that systems become resilient when they can capture and store resources when they are abundant, so they are available when conditions change. “Energy” includes sunlight, rainwater, nutrients, time, and even motivation or community support.

In a school, catching and storing energy can mean harvesting rainwater, building healthy soil through composting, planting shade trees to store summer cooling, or creating seed-saving practices. It can also apply to learning: documenting projects, building routines that last across school years, and preserving knowledge so it does not disappear when one teacher leaves.

3. Obtain a yield

A system needs to produce meaningful results in order to be sustained. Yield is not only food. In educational contexts, yield can be learning outcomes, student engagement, wellbeing, biodiversity, reduced waste, stronger relationships, or improved school culture.

This principle helps schools avoid projects that are inspiring but unsustainable. A small garden that reliably produces herbs for the kitchen, regular compost for the soil, and weekly learning opportunities can be more valuable than a large project that collapses after a few months. “Yield” also includes quick wins that build motivation and long-term yields that deepen over time.

4. Apply self-regulation and accept feedback

Healthy systems learn. Permaculture encourages us to notice what is not working and adjust early, rather than repeating mistakes or pushing harder in the wrong direction. Feedback can come from nature (plants failing, soil drying out), from people (overload, lack of participation), or from results (maintenance too complex, tools getting lost).

In schools, this principle supports reflective teaching and adaptive project management. It encourages educators to create simple monitoring systems: checklists, observation journals, student feedback sessions, seasonal reviews, and shared responsibility agreements. It also promotes healthy limits, reducing the scale of a project if it becomes too demanding.

5. Use and value renewable resources and services

Permaculture prioritizes resources that can be renewed naturally and services that ecosystems provide for free: pollination, shade, wind protection, water filtration, soil building, and pest control through biodiversity.

In practice, this means choosing strategies that rely less on external inputs and more on living systems. For schools, it may include using leaf litter and prunings as mulch, planting insectary flowers for natural pest regulation, using shade from trees instead of artificial cooling, and designing spaces that work with local climate conditions.

6. Produce no waste

In permaculture, waste is a design flaw. What we call “waste” is often a resource in the wrong place. This principle encourages circular thinking: turning outputs into inputs and closing loops.

Schools can apply this through composting organic waste, reusing materials creatively, setting up repair and reuse systems, and reducing single-use consumption. It also applies to time and effort: simplifying routines so that projects remain manageable, and ensuring that learning activities produce resources that can be used again (seed banks, teaching materials, student guides).

7. Design from patterns to details

Nature is organized through patterns: branching systems, cycles, layers, networks, and edges. Permaculture teaches us to begin with the big picture (how the whole system works) before focusing on small details.

In schools, this principle helps avoid fragmented sustainability actions. Instead of isolated activities, educators can design a coherent learning ecosystem: how garden work connects to science, how compost links to waste reduction, how biodiversity areas support wellbeing, and how student roles support responsibility. Once the overall pattern is clear, the details become easier and more effective.

8. Integrate rather than segregate

Permaculture values relationships. The goal is not simply to place elements in the same space, but to connect them so they support each other. Integration reduces work and increases resilience.

In a school setting, integration can mean designing the garden next to a water source, placing compost close to where food waste is produced, or connecting biodiversity zones to outdoor learning areas. Socially, it means creating collaborative systems where students, teachers, caretakers, and families all have a role, strengthening ownership and continuity.

9. Use small and slow solutions

Small systems are easier to maintain, learn from, and improve. Slow growth allows time for observation, adjustment, and skill-building. This principle protects projects from becoming overwhelming.

For schools, this is especially important. A pilot garden bed that succeeds can be expanded gradually. A simple compost station that works can later evolve into a full soil regeneration system. Starting small also makes it easier to include students meaningfully, ensuring the project is not just adult-managed infrastructure but a real learning process.

10. Use and value diversity

Diversity increases stability. Natural ecosystems are resilient because they contain many species and many functions. In permaculture, diversity is not random; it is purposeful, supporting multiple yields and reducing vulnerability.

In schools, diversity can be ecological (mixed plantings, habitats for pollinators) and social (multiple learning styles, inclusive roles, shared leadership). It can also be curricular: connecting science, geography, art, ethics, and technology through one living project. Diverse systems offer more entry points for participation and more opportunities for learning.



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11. Use edges and value the marginal

The edge is where two systems meet: forest and field, water and land, garden and path. These zones are often the most productive and biodiverse. This principle encourages designers to notice and value overlooked spaces and people.

In schools, edges can be physical (fence lines, corners of the playground, unused strips of land) and social (students who feel disconnected, families not usually involved, staff roles often invisible). Designing for the margins can unlock hidden potential: transforming neglected areas into biodiversity hotspots, or creating learning roles that allow different students to thrive.

12. Creatively use and respond to change

Change is unavoidable: seasons shift, weather becomes unpredictable, staff changes, student groups evolve, and school priorities move. Permaculture teaches that resilience comes from working with change rather than resisting it.

In education, this principle supports flexibility and long-term thinking. A garden may fail in one season and succeed in another; a project may need to be redesigned when time is limited; a new group of students may bring different energy. By treating change as information, schools can adapt their designs and strengthen their capacity to respond to real-world challenges.

4.4 Why these principles matter in schools

Together, these principles help educators move from isolated sustainability activities to integrated, long-lasting learning ecosystems. They support practical decision-making, reduce unnecessary workload, and create environments where students learn by doing, developing ecological awareness, collaboration skills, and the confidence to take action. When schools apply permaculture design principles consistently, sustainability becomes part of everyday culture rather than an occasional project.

4.5 How to Structure a Permaculture Course as Educators: A Practical Training Model Based on Professional Standards

Permaculture courses offered by experienced practitioners tend to follow a clear logic: they begin by building a shared ethical and conceptual foundation, then move into observation and design tools, and finally develop the practical skills needed to regenerate land, produce food, and create resilient human systems. When educators borrow this logic, the course becomes both academically meaningful and realistically applicable, especially in school contexts where time, continuity, and teamwork are essential.

At the same time, schools are not professional certification contexts. Teachers need a structure that is easier to timetable, easier to assess, and easier to embed into existing subjects. This is why PERMASCHOOL keeps the same core elements of professional



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permaculture, but organises them into five school-friendly modules. The modules form a learning journey from “why we design differently” to “how we read a place” to “how we implement and sustain change with students and communities”.

A helpful way to explain this in the guidebook is:

Professional permaculture training often presents content through thematic domains (ethics → design → soil/water/food → built environment/resource cycles → social permaculture).

PERMASCHOOL modules offer a more teachable sequence that covers all these domains, but distributes them to reduce complexity and to support implementation in schools.

Below is a practical teacher-training model that uses the official PERMASCHOOL module titles, while making clear how the professional themes are included..

Module 1: Foundations of Permaculture

Professional permaculture courses begin by establishing a shared language and a clear intention. For educators, this module is essential because it frames permaculture not as a set of gardening techniques, but as a design approach that can reshape the culture of a school.

Teachers should guide participants through the ethics of permaculture (Earth Care, People Care, and Fair Share) so that every decision in the course is anchored in responsibility, wellbeing, and balance. This module also introduces permaculture design principles as practical thinking tools that help translate sustainability into action. When delivered well, it gives educators clarity and confidence: they understand what permaculture is, what it is not, and why it matters in education.

To connect with school realities, this module should not stay at the level of abstract values. It works best when educators are invited to ask:

- *What does “Earth Care” look like in a school environment?* (materials, waste, schoolyard, biodiversity)
- *What does “People Care” look like in daily teaching?* (wellbeing, inclusion, participation, safe spaces)
- *How do we practice “Fair Share” in a classroom?* (sharing resources, repairing/reusing, equitable roles)

How this relates to professional training themes

In professional settings, ethics and principles provide the “compass” for all later design decisions. In PERMASCHOOL, they also provide the pedagogical compass: they help educators make consistent choices about classroom culture, assessment (valuing process and responsibility), and long-term care of projects.



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Recommended teaching approach

- short theory inputs followed by discussion and reflection,
- simple observation exercises (“What is already working in our school system?”),
- a small, shared design challenge introduced early (e.g., improving one outdoor learning corner).

Module 2: Eco-System Dynamics

In professional permaculture, understanding ecosystems is not optional: it is the basis for any design that aims to be resilient. PERMASCHOOL translates this into school-ready ecological literacy, helping educators teach students to read living systems and understand relationships rather than isolated facts.

Teachers should focus on key dynamics such as:

- energy flows and feedback loops,
- biodiversity and ecological roles,
- cycles (water, nutrients, carbon),
- disturbance and resilience,
- the idea of soil as a living community.

This module is especially powerful in education because it builds systems thinking through real observation. Students learn to collect data, recognise patterns, and explain cause-and-effect relationships, skills transferable across science, geography, citizenship, and even language (argumentation and evidence).

How this relates to professional training themes

In the “classic” professional structure, themes like soil, water, and regeneration are sometimes taught as their own chapters. PERMASCHOOL begins by building the underlying ecosystem logic first: students and teachers understand why water and soil matter before deciding what to do (Module 4).

Recommended teaching approach

- field notes and seasonal observation routines,
- simple experiments (soil jar test, infiltration tests, biodiversity counts),
- linking ecological concepts to the school site (microclimates, sun/shade, compacted soil, heat islands).

Module 3: Designing Sustainable Systems



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In professional training, observation and design tools are a core skill set: design based on real conditions rather than assumptions. This module gives educators a practical, teachable process to guide students from observation to decision-making.

Teachers should introduce simple, high-leverage tools such as:

- mapping and basic site surveying,
- pattern recognition (edges, flows, connections),
- zoning (placing elements based on frequency of use),
- sector analysis (sun, wind, water flow, access, noise),
- defining criteria and constraints (budget, maintenance, safety, inclusion).

The goal is not to turn educators into landscape architects, but to support a reliable method for school decisions: where to place a garden bed, how to improve outdoor learning areas, where shade is needed, why a corner of the playground stays unused, or what a realistic maintenance plan looks like.

How this relates to professional training themes

This corresponds directly to the “observation and design” chapter in professional courses. In school contexts, it is also where interdisciplinary learning becomes easiest: Geography supports mapping, Maths supports measurement and data, Technology supports prototyping, Language supports presenting and defending design choices.

Recommended teaching approach

- a guided schoolyard design brief (one problem, one space, one realistic constraint),
- team-based design studios (sketching, comparing options, choosing based on evidence),
- emphasis on *design justification*: students explain why they chose an option.

Module 4: Applied Permaculture

Professional trainings often treat water, soil, regeneration, and food production as major practical domains. In schools, these themes are still central, but they must be implemented as **manageable interventions** that can survive timetable limits, seasonal constraints, and school holidays.

This module is where learning becomes tangible. Teachers can guide participants and students into high-impact, visible practices such as:

- improving soil health through composting, organic matter, mulching, and protection from compaction,
- understanding water in the landscape: slow it, spread it, infiltrate it; reduce runoff;

- designing low-maintenance planting systems (native and drought-resilient species where relevant),
- creating microhabitats that support biodiversity and wellbeing,
- developing school food-growing systems that are realistic (small plots, container gardening, herb spirals, raised beds).

A key educational principle here is *continuity*. A small garden that survives holidays and produces learning every week is more valuable than an ambitious project that collapses due to lack of time.

How this relates to professional training themes

This module integrates what professional courses might separate into “soil and water,” “regeneration,” and “food systems.” PERMASCHOOL keeps the same content, but packages it into school-friendly cycles: plan → implement → monitor → improve.

Recommended teaching approach

- hands-on sessions paired with short scientific inquiry (measure, observe, adjust),
- maintenance planning as part of learning (student roles and rotas),
- emphasis on small wins (one compost corner, one pollinator zone, one shaded planting area).

Module 5: Community Engagement and Scenario Based Permaculture Activities

Professional permaculture courses usually expand beyond gardens into the broader design of human systems. This module makes explicit that sustainability is not only about growing food: it is also about how we build, consume, manage waste, and organise communities.

For educators, Module 5 supports two crucial outcomes:

1. Long-term sustainability of school projects: many initiatives fail not because the technical design is weak, but because ownership is unclear and participation is low.
2. Authentic citizenship learning: students practise dialogue, decision-making, and responsibility in real contexts.

Teachers can introduce:

- circular resource cycles (reduce, reuse, repair, compost; outputs become inputs),
- community mapping and partnership building (municipalities, NGOs, families, local growers),
- scenario-based learning (role-play, stakeholder perspectives, trade-offs),
- communication and advocacy (presentations, exhibitions, proposals to leadership).

This module also includes the heart of social permaculture: designing the relationships and processes that allow projects to last: shared decision-making, teamwork, conflict resolution, and a culture of care.

How this relates to professional training themes

This corresponds to “built environment and resource cycles” plus “social permaculture” in many professional courses. In PERMASCHOOL, it is framed through scenarios because scenarios make complexity teachable: students can explore real dilemmas (budget limits, space conflicts, community needs) while still producing concrete learning evidence.

Recommended teaching approach

- one scenario cycle per term (problem → stakeholders → options → decision → communication),
- a public sharing moment (project fair, school assembly, meeting with local partners),
- explicit roles for inclusion (communication team, design team, data team, stewardship team).

Teaching Approach: How Professionals Deliver Permaculture Training

Across professional permaculture courses, one pattern is consistent: learning is active, practical, and design-based. A strong training for educators should balance short theory sessions with observation, discussion, and hands-on practice. The most effective courses do not overload participants with information; instead, they provide a structure that can be applied immediately and developed over time.

A good way to unify the five modules is to include a small design project throughout the course. Participants can work individually or in teams to develop a realistic permaculture plan for their school or teaching context. This gives coherence to the learning process and ensures that every module produces something useful: maps, ideas, strategies, and next steps.

Ultimately, configuring a permaculture course for educators means designing for real conditions: limited time, seasonal constraints, school routines, and diverse learners. When the course is built around the five PERMASCHOOL modules, teachers gain not only knowledge, but a practical framework for turning schools into living systems of learning, care, and regeneration.

4.6 Quick crosswalk: Professional permaculture themes and where they sit in the PERMASCHOOL modules

Professional courses often present permaculture through recognisable thematic blocks (ethics, design tools, soil/water/food systems, built environment/resource cycles, and social



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permaculture). PERMASCHOOL covers the same territory, but redistributes it across the modules to make school implementation easier.

| Professional permaculture theme (common in practitioner trainings) | Where it appears in PERMASCHOOL (module emphasis) |
|--|---|
| Ethics & purpose (Earth Care, People Care, Fair Share) | Module 1 (core framing) and Module 5 (community responsibility and shared ownership) |
| Design principles and design thinking | Module 1 (principles as thinking tools) + Module 3 (design process applied to a real site) |
| Observation, site reading, patterns | Module 2 (ecosystem observation and relationships) + Module 3 (mapping, patterns, zoning, sector analysis) |
| Systems thinking and feedback loops | Module 2 (core concepts) + Module 3 (design decisions based on evidence) + Module 5 (systems in communities) |
| Water in the landscape (slow, spread, infiltrate) | Module 2 (water cycle and dynamics) + Module 4 (applied water-wise strategies and maintenance) |
| Soil as a living system (fertility, compost, organic matter) | Module 2 (soil ecology) + Module 4 (composting, mulching, regeneration practices) |
| Regeneration and resilience | Module 2 (resilience concepts) + Module 4 (interventions and monitoring) |
| Food production systems (gardens, edible landscapes, perennials) | Module 4 (school-friendly cultivation systems) with design support in Module 3 |

| | |
|--|--|
| Biodiversity and habitat creation | Module 2 (ecological roles) + Module 4 (microhabitats, pollinator zones) |
| Built environment and comfort (shade, microclimate, bioclimatic thinking) | Module 3 (site analysis and microclimate) + Module 5 (school space decisions, wellbeing, comfort) |
| Resource cycles (waste, reuse, circular systems) | Module 4 (composting as a cycle) + Module 5 (wider circular economy and school routines) |
| Social permaculture (participation, governance, conflict, collaboration) | Module 5 (scenario-based activities, partnerships, shared decision-making) |
| Community engagement and partnerships | Module 5 (core) with practical entry points from Module 4 (visible projects that invite participation) |

4.7 Digital Educational Resources

Here is a comprehensive, hyper-linked list of English-language resources, categorized by the key areas of your syllabus (Ethics, Principles, and the 5 Modules). These resources are selected for their educational value for teachers and students.

Introduction & Foundations

- [Permaculture Research Institute](#) – A comprehensive article defining permaculture, its history (Mollison & Holmgren), and its global application.
- [The Essence of Permaculture \(PDF\)](#) – David Holmgren’s definitive summary of the concept and evolution of permaculture.

Ethics & The 12 Design Principles

- [PermaculturePrinciples.com](#) – The go-to visual guide for the 3 Ethics and 12 Principles with icons and simple explanations.



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- [Deep Green Permaculture](#) – An in-depth breakdown of each principle with practical examples and diagrams.

Reading the Landscape (Design Tools)

- [Oregon State University – Mapping Guide](#) – Academic-level open resource on creating base maps and site analysis.
- [Milkwood – Zones & Sectors](#) – A clear, illustrated guide to understanding Zones (0–5) and Sectors (energies).
- [Toby Hemenway – Pattern Literacy](#) – Articles by the author of *Gaia's Garden* on how to use natural patterns in design.

Water, Soil & Regeneration

- [Harvesting Rainwater \(Brad Lancaster\)](#) – The leading resource on water retention landscapes, swales, and earthworks.
- [Soil Food Web School](#) – Dr. Elaine Ingham's animations explaining the biology of healthy, living soil.
- [Kiss the Ground \(Education\)](#) – Educational resources on regenerative agriculture and soil health.

Food Production & Agroforestry

- [Plants For A Future \(PFAF\)](#) – The ultimate database for searching edible and useful plants for permaculture systems.
- [Agroforestry Research Trust](#) – Martin Crawford's resources on creating food forests and forest gardens.
- [Geoff Lawton Online](#) – Hundreds of videos on food forests, chicken tractors, and integrated animal systems.

Social Permaculture, Building & Energy

- [Transition Network](#) – A movement focused on community resilience and moving away from fossil fuel dependence.
- [Appropedia](#) – A wiki dedicated to appropriate technology, bioconstruction, and sustainable living solutions.
- [People & Permaculture \(Looby Macnamara\)](#) – Resources focused on the "social" side: group dynamics and personal resilience.

Teacher's Toolkits

- [Permaculture Association \(UK\) Educators](#) – Lesson plans and guides for teaching permaculture to different age groups.



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- [Permaculture for Schools](#) – Curriculums specifically designed to bring permaculture into the classroom.

5. Evaluation and Success Criteria

PERMASCHOOL assessment is designed to be manageable for teachers and meaningful for students. In practice, rubrics are one of the most effective ways to evaluate permaculture-based activities, because they:

- make expectations clear from the start,
- support formative feedback (students improve during the process),
- capture both process (how students work) and product (what students create), and
- allow fair assessment when outputs vary (maps, prototypes, garden interventions, presentations).

A simple and effective approach is to use two complementary rubrics:

1. a **Student Self-Assessment Rubric** (students assess their own engagement and learning), and
2. a **Teacher Assessment Rubric** (teachers assess the quality of the work and the learning outcomes).

Peer assessment can be added as a short, guided step, especially during presentations.

This section describes evaluation methods, proposes impact indicators for students and the school community, and suggests documentation and monitoring routines aligned with the project's focus on measurable indicators and impact assessment.

5.1 Evaluation methods (rubrics, self-assessment, peer assessment)

A. Recommended model: two rubrics (plus optional peer feedback)

1) Student Self-Assessment Rubric (reflection-focused)

Purpose: build student ownership and metacognition (“How did I contribute? What did I learn? What will I improve?”).

What it assesses: attitudes and participation that students can judge fairly in themselves.

Suggested criteria (student-friendly language):

- **Engagement and effort** (I participated actively; I stayed focused)
- **Responsibility** (I respected materials and safety; I completed my role)

- **Collaboration** (I listened; I contributed; I helped the group)
- **Learning growth** (I can explain what changed in my thinking)
- **Care values in action** (Earth Care / People Care / Fair Share in what we did)

How to use it: 3–5 criteria on a simple scale (1–4 or 1–5) + one short reflection prompt.

2) Teacher Assessment Rubric (evidence-focused)

Purpose: evaluate learning outcomes and the quality of the project work.

Suggested criteria (aligned with PERMASCHOOL scenarios):

- **Observation and evidence use** (data/notes are relevant; patterns identified)
- **Design quality and feasibility** (solution fits constraints; clear plan)
- **Ecological coherence** (decisions reflect permaculture ethics/principles)
- **Implementation / practicality** (safe, realistic, maintainable)
- **Communication** (students justify choices clearly)
- **Team process** (roles, participation, problem-solving)

How to use it: keep it realistic. In short pilots, assess one product criterion (e.g., design quality) and one process criterion (e.g., collaboration) strongly, and use the rest for feedback.

3) Peer assessment (optional, brief, guided)

Purpose: strengthen feedback culture and improve final outputs.

Best formats:

- **“Two stars and a wish”** (two strengths + one suggestion)
- a quick peer form linked to 2–3 criteria (clarity, feasibility, evidence)

This is particularly useful in design scenarios and presentations.

B. Practical workflow (low workload)

A routine that fits most school schedules:

1. **Share criteria early** (students see what quality looks like).
2. **Collect evidence during the process** (teacher notes + photos + artefacts).
3. **Use a short self-assessment at the end** (5 minutes).
4. **Score the teacher rubric while reviewing the final artefacts.**
5. **Close the loop:** one improvement goal per group for the next cycle.

C. Pre/post questionnaires (optional but useful for impact)



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For project-level monitoring, schools can use pre- and post-questionnaires (short and age-appropriate) to measure changes in awareness and attitudes related to sustainability/climate action through the permaculture approach.

5.2 Impact indicators for students and the school community

Impact indicators should be simple, measurable, and meaningful. To support both school practice and project reporting, choose indicators at three levels:

- **Learners** (student learning, engagement, competence development)
- **School/organisation** (school routines, collaboration, visible environmental improvements)
- **Community/systemic** (partnerships, outreach, transferability)

A. Learner indicators (students)

Choose 3–6 indicators that match your scenario.

Engagement and participation

- % of students taking a role in the project (steward, data, materials, communication)
- attendance/participation rate in key sessions
- student engagement rating (1–5) in a short exit ticket

Competence development (evidence-based)

- rubric results for design thinking (problem framing, options, justification)
- rubric results for collaboration (roles, listening, contribution)
- reflection quality (students explain what they learned and why it matters)

Knowledge and awareness

- pre/post short prompt on sustainability/permaculture understanding
- ability to link decisions to ethics/principles (in student words)

Wellbeing and inclusion

- student perception of belonging/usefulness (one survey item)
- participation of students who typically disengage (teacher observation)

B. School indicators (culture and environment)

Visible environmental change

- square metres improved/greened (beds, planters, shaded corners)
- number of functioning elements (compost system, insect hotel, microhabitats)



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- survival rate of plantings after 4–6 weeks
- simple biodiversity count before/after (e.g., pollinator sightings)

School routines and capacity

- number of teachers involved (cross-curricular collaboration)
- number of lessons/units where PERMASCHOOL was embedded
- existence of a maintenance plan (rota) for weekends/holidays

School participation

- student-led sharing event (project fair, exhibition, assembly)
- evidence of shared ownership (eco-team activity, student stewardship)

C. Community and systemic indicators (beyond the school)

- number of partners involved (municipality, NGO, experts, families)
- number of families participating in an event/workshop
- dissemination outputs (school website update, local media mention, posts)
- replication interest (another class/teacher adopting the activity)

5.3 Suggestions for documentation and monitoring

Documentation should be lightweight but consistent. The goal is to capture enough evidence for assessment, reflection, and continuity, without creating extra bureaucracy.

A. The “light documentation pack” (recommended)

For each pilot or project cycle, collect:

1. **One-page curriculum mapping:** scenario → subject(s) → outcomes → evidence
2. **Session log:** dates + 2–3 lines per session (what happened, what to improve)
3. **Student artefacts:** maps, designs, prototypes, posters (photos are enough)
4. **Rubrics:** student self-assessment + teacher rubric
5. **Impact snapshot:** 3–5 indicators (baseline + follow-up)

B. Monitoring routines that save time

- Take 3 photos per session: learning in action / artefact / site.
- Use a one-minute exit ticket: “What did we learn? What did we change? What is the next decision?”
- Record a simple baseline (one photo + one quick count) and repeat after 4–6 weeks.

C. Using the results (closing the loop)

Evaluation becomes valuable when it informs the next step:



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- share a short summary with leadership (mapping + photos + key indicators),
- run a short teacher debrief (what worked / barrier / next step),
- adjust rubrics or routines based on what students found difficult,
- scale gradually (another scenario, another class, one new partner).

In this way, evaluation supports learning and long-term sustainability, not only reporting.

6. Recommended Digital Tools

Digital tools are supportive in PERMASCHOOL: they help students *observe, document, design, collaborate, and communicate*, but they should never become a barrier. Schools can implement every learning scenario with low-tech equivalents (paper mapping, physical models, posters), and then add digital tools where access and time allow.

To keep implementation realistic, this section focuses on:

- Tools already mentioned in the PERMASCHOOL learning scenarios (so schools can implement “as written”).
- A short description of what each tool is best for, how easy it is to use, and whether there is a free tier / education access.
- Free/open-source alternatives for schools that need low-cost or privacy-friendly options.

6.1 Tools mentioned in the Learning Scenarios

Digital tools in PERMASCHOOL are not an end in themselves: they are scaffolds that help students observe reality, document evidence, and communicate design decisions. The table below groups tools by their classroom purpose and offers “Plan B” options (free/open tools and low-tech equivalents). This allows every school to implement the same scenarios while adapting to local constraints (devices, time, connectivity, and data-protection policies).

| Function in PERMASCHOOL | Tools mentioned in learning scenarios | Best use in class (typical activities) | Low-cost / privacy-friendly alternatives | Low-tech equivalent (no devices) |
|-------------------------|---------------------------------------|--|--|----------------------------------|
|-------------------------|---------------------------------------|--|--|----------------------------------|

| | | | | |
|--|--|--|--|--|
| Mapping & place-based observation | Google Earth, Google Maps, Google My Maps | Site reading (sun/shade, runoff paths), marking hotspots, sharing a custom class map | uMap (OpenStreetMap); QGIS (advanced/older students) | Printed aerial photo + tracing paper; compass + field sketches; "site walk" observation sheets |
| Collaborative whiteboard / system mapping | Miro (Jamboard mentioned but retired) | Systems maps, stakeholder maps, brainstorming, design iterations | Excalidraw; Microsoft Whiteboard (if available) | Big paper / wall chart + sticky notes + strings/arrows for relationships |
| Evidence wall / gallery publishing | Padlet (used for showcasing / collecting outputs in scenarios) | Collecting photos/notes, curating drafts, publishing final outcomes as a gallery | Shared Slides deck ("one slide per team"); shared Drive/OneDrive folder | Classroom exhibition board; printed "gallery walk" with peer feedback stickers |
| Visual design & infographics | Canva | Posters for stakeholders, infographics of findings, simple layouts for proposals | LibreOffice / OnlyOffice; Google Slides templates | Hand-drawn posters; collage with magazines; marker-based infographics |
| 3D modelling / prototyping | Tinkercad, SketchUp | Garden element prototypes, redesign mockups, communicating feasibility | Sweet Home 3D; Blender (advanced) | Cardboard/foam models; LEGO/recycled materials; scaled drawings on grid paper |

| | | | | |
|---|---|--|--|---|
| Presentations & interactive storytelling | Google Slides, Genially, Prezi | Project storytelling (before/after), interactive zone tours, systems connections | LibreOffice Impress; LMS pages (Moodle/Classroom /Teams) | Oral presentation + posters; “station” presentations; role-play stakeholder meeting |
| Documentation & collaboration | Google Drive, Google Docs | Shared evidence folders, collaborative reports, teacher monitoring | OnlyOffice; school LMS; Microsoft 365 equivalents | Paper portfolios; binder per group; teacher “evidence checklist” sheets |
| Project hub / digital portfolio | Notion (used as a project space option) | One project homepage per team: tasks, evidence links, reflections | LMS project page; Google Sites (if available) | Project logbook + task board on classroom wall |
| Rubrics, reflection & surveys | Google Forms | Self/peer assessment, quick diagnostics, pre/post snapshots | Microsoft Forms; LimeSurvey (self-hosted) | Printed rubrics; exit tickets; quick dot-voting |
| Live feedback / group decisions | Mentimeter | Word clouds, prioritising actions, stakeholder votes | Slido/Kahoot-style tools if already licensed; Forms “quick poll” | Hands-up voting; sticky-dot prioritisation; “four corners” debate |

| | | | | |
|---|-----------|--|--|--|
| Video creation for dissemination | Clipchamp | Short project videos, captions/voice-over, sharing to school community | iMovie (Apple); OpenShot/Shotcut (desktop) | Photo story sequence + narration live; storyboard poster; "radio-style" audio report |
|---|-----------|--|--|--|

6.2 Mini user manuals (purpose, ease of use, access)

Note for educators: The goal is not to master every platform. Choose **one tool per function** (mapping, collaboration, presentation, assessment) and reuse it across modules. Keep outputs **simple and repeatable**: one shared folder, one template, one routine.

Canva (visual design: posters, infographics, simple layouts)

Best for: Posters for stakeholders, infographics of findings, clean visual summaries of design proposals.

Setup (teacher, 5–10 min): Create a class folder + share **1–2 templates** (poster + infographic). Set naming rules (e.g., **M2_Group3_Infographic**).

Student workflow (15–45 min): Choose template → add key evidence (photos/data) → write 3–5 concise claims → export/share link.

Teacher controls to check. Sharing permissions (view vs edit), commenting rules, and whether student accounts are needed.

Access / cost. Freemium + education access in many contexts (eligibility varies by country/institution).

Privacy note: Avoid posting student full names or identifiable personal data on public links; prefer school-managed accounts when possible.

Miro (collaborative whiteboard: systems maps, stakeholder maps)

Best for: Systems thinking maps, brainstorming, connecting elements (arrows/feedback loops), iterating designs as a team.

Setup (teacher, 5–10 min): Create one board per class or per group. Add a **frame structure**: “Observations → Patterns → Interventions → Impacts”.

Student workflow (20–60 min): Add sticky notes (one idea per note) → cluster → connect with arrows → add icons/photos → final “clean map” frame.

Teacher controls to check: Board access (private link vs invited users), edit rights, and whether anonymous editing is allowed.

Access / cost: Freemium model; schools should confirm current education options/limits.

Privacy note: Use initials/group names, not full student identities, especially if boards are shared outside the school.

Padlet (evidence wall / gallery: collecting and showcasing outputs)

Best for: Collecting research, photos, drafts; building a class gallery; “living” documentation across weeks.

Setup (teacher, 5–10 min): Create one Padlet per module or project. Choose a format (Wall/Canvas/Timeline). Turn on moderation if needed.

Student workflow (10–40 min): Post evidence (photo + 1–2 sentences) → tag to a category (e.g., Soil/Water/Biodiversity) → comment on peers → revise.

Teacher controls to check: Moderation, commenting permissions, visibility (private/class link/public), and content filters.

Access / cost: Freemium; free quotas can change—verify before adopting at scale.

Privacy note: Prefer private/class-only boards. Avoid faces/names in photos unless the school policy allows it.

Google Earth / Google Maps / My Maps (site reading and mapping)

Best for: Site reading (sun/shade, vegetation patches, pathways), placing markers, presenting proposals on a shared custom map.

Setup (teacher, 5–10 min): Decide your mapping task: “hotspots”, “shade zones”, “runoff paths”, “biodiversity spots”. Create a shared My Map if needed.

Student workflow (20–60 min): Observe onsite → record evidence (photos/notes) → add map points/lines/polygons → add short descriptions → export/share.

Teacher controls to check: Who can edit the map, whether students need accounts, and whether location data is being shared externally.

Access / cost: Generally accessible via web/app; My Maps supports custom layers and sharing.

Privacy note: Do not publish detailed school security-sensitive information (e.g., entry points). Keep maps private when possible.

Scratch (coding: simulations, interactive storytelling)

Best for: Simple simulations (e.g., predator/prey, water cycle), interactive stories explaining designs, systems mini-games.

Setup (teacher, 10–15 min): Provide a starter file (sprites + basic controls) or a “minimum spec” (must include: rules, feedback, and explanation screen).

Student workflow (45–120 min): Build a simple model → test with peers → adjust variables → add explanation (what the model shows + limits).

Teacher controls to check: Account/log-in needs for saving projects; whether projects are public or unlisted.

Access / cost: Free.

Privacy note: Ensure students do not include personal info in usernames or public project descriptions.

Tinkercad (3D prototyping: quick models)

Best for: Simple 3D models of garden elements (beds, composters, rainwater parts), quick “spatial thinking” prototypes.

Setup (teacher, 10 min): Share a starter “scene” with scale reference (e.g., 1 unit = 10 cm). Define a maximum complexity rule (e.g., ≤20 shapes).

Student workflow (30–90 min): Assemble shapes → label components → screenshot 3 views (top/side/perspective) → explain how it works.

Teacher controls to check: Student account requirements, classroom codes, sharing permissions.

Access / cost: Commonly used with a free tier in education contexts.

Privacy note: Use group IDs (Team A/Team B). Avoid real names in publicly shared galleries.

SketchUp (3D design: spatial layouts)

Best for: Communicating layout options and feasibility (paths, volumes, sun exposure). Useful for older students or longer projects.

Setup (teacher, 10–15 min): Provide a base map image or simple site dimensions. Share a “minimum model” checklist (boundaries, paths, 3 key elements).

Student workflow (60–180 min): Build base → add major objects → test variants → create 3 “scenes” (Option A/B/C) → export screenshots for presentation.

Teacher controls to check: Which version (browser vs installed), exporting options, and how students share outputs.

Access / cost: Browser-based free option + paid tiers for advanced use.

Privacy note: Focus on site geometry, not identifying details; keep shared links within the class.

Genially (interactive storytelling: clickable presentations)

Best for: Interactive “click-to-explore” schoolyard maps, before/after proposals, stakeholder journey storytelling.

Setup (teacher, 10 min): Choose one template and define structure: Home → Evidence → Design → Impact → Call-to-action.

Student workflow (45–120 min): Create pages → add clickable hotspots → embed images/short text → test navigation → publish to class.

Teacher controls to check: Collaboration permissions, publishing visibility, and whether accounts are required.

Access / cost: Freemium; collaboration/publishing options depend on plan.

Privacy note: Publish as unlisted/private if students appear in media or if school policy requires restricted sharing.

Prezi (non-linear presentations: systems connections)

Best for: Showing relationships (zoom from whole system → subsystems → interventions). Strong for systems thinking.

Setup (teacher, 10 min): Provide a simple storyline: “Whole site → 3 problems → 3 interventions → expected outcomes”.

Student workflow (45–120 min): Build structure → place content nodes → rehearse navigation → deliver timed presentation (3–5 minutes).

Teacher controls to check: Privacy settings and whether content becomes public by default.

Access / cost: Freemium/subscription model (varies).

Privacy note: Avoid publishing with identifiable student data; prefer classroom-only sharing.

Google Slides (presentations: reliable group work)

Best for: Fast collaborative presentations, evidence reporting, stakeholder pitch decks.

Setup (teacher, 5 min): Share one deck template. Assign **one slide per team** + a final slide for “class synthesis”.

Student workflow (30–90 min): Insert evidence → explain design choice → add 1 chart/table if relevant → rehearse roles.

Teacher controls to check: Edit vs comment permissions; version history; link sharing scope.

Access / cost: Typically included in Google Workspace contexts.

Privacy note: Keep decks inside the school domain; export PDF for external sharing.

Google Drive + Google Docs (documentation: shared evidence + reports)

Best for: Collecting evidence over time, writing group reports, teacher monitoring and feedback.

Setup (teacher, 10 min): Create folder structure + a Docs template: *Aim* → *Evidence* → *Analysis* → *Design* → *Reflection*.

Student workflow (20–120 min across weeks): Upload evidence → write short weekly entries → add citations/links → peer review → final version.

Teacher controls to check: Folder permissions, file naming rules, and who can access outside the domain.

Access / cost: Typically included in Google Workspace contexts.

Privacy note: Do not store sensitive student data in shared project folders unless policy allows it.

Notion (project hub / portfolio: one page per team)

Best for: Keeping everything in one place: tasks, links, evidence, reflections, timeline.

Setup (teacher, 15 min): Duplicate a template page for each team (Task board + Evidence gallery + Reflection prompts).

Student workflow (weekly, 15–30 min): Update tasks → attach evidence links → answer reflection prompts → publish “final page” for evaluation.

Teacher controls to check: Workspace access, sharing settings, and whether students can publish publicly.

Access / cost: Freemium + education offers (conditions vary).

Privacy note: Disable public publishing; use team codes rather than student full names.

Google Forms (assessment: rubrics, self/peer feedback, surveys)

Best for: Rubrics, quick check-ins, pre/post measures, structured reflection.

Setup (teacher, 10–20 min): Create a rubric form with 4–6 criteria (1–4 scale) + one open reflection question.

Student workflow (5–15 min): Complete self-assessment → peer feedback (optional) → review class summary → set one next-step goal.

Teacher controls to check: Collecting emails on/off, response anonymity, and access restrictions.

Access / cost: Typically available in Google Workspace contexts.

Privacy note: For sensitive reflections, consider anonymous forms or offline reflection journals.

Mentimeter (live feedback: polls, word clouds, prioritisation)

Best for: Quick diagnostics (“what do you notice?”), prioritising actions, fast group decisions.

Setup (teacher, 5–10 min): Prepare 3 slides: Word cloud → Ranking → Multiple choice.

Student workflow (2–10 min): Join with code → respond → discuss results → document decision in project log.

Teacher controls to check: Participation limits, moderation options, and whether student names are displayed.

Access / cost: Freemium; limits vary.

Privacy note: Use anonymous mode where possible; avoid collecting identifying data unless needed.

Clipchamp (video editing: dissemination)

Best for: Short project videos (1–3 min), captions, voice-over explanations, before/after storytelling.

Setup (teacher, 10 min): Share a storyboard template: *Problem* → *Evidence* → *Intervention* → *Expected impact* → *Call-to-action*.

Student workflow (45–120 min): Import clips/photos → trim → add captions → voice-over → export final cut.

Teacher controls to check: Where exports are saved/shared, whether accounts are required, and media rights (music/images).

Access / cost: Free tier + premium options (depends on context).

Privacy note: Avoid identifiable faces without consent. Use school-approved media libraries and copyright-safe audio.

Recommended toolkits (3 realistic setups)

To reduce complexity, many schools succeed by adopting a small “toolkit” and using it repeatedly across modules. Below are three realistic setups. All of them can be combined with low-tech documentation (paper notebooks, printed maps, physical models).

Toolkit A — Google-based (simple and reliable)

Best when: your school already uses Google Workspace.

- Mapping & site reading: Google Earth + My Maps
- Collaboration & documentation: Drive + Docs (shared folders + a report template)
- Presentations: Google Slides (one deck template, one slide per team)
- Assessment: Google Forms (rubrics, self/peer reflection)

Typical classroom routine:
Field notes + photos → upload to Drive → add map points in My Maps → write short findings in Docs → present in Slides → reflect via Forms.

Toolkit B — Microsoft-based (common in many schools)

Best when: your school uses Microsoft 365 / Teams.

- Mapping & site reading: Bing Maps (or any available map tool) + annotated screenshots
- Collaboration & documentation: OneDrive + Word online (shared report template)
- Presentations: PowerPoint online
- Assessment: Microsoft Forms
- Video (dissemination): Clipchamp

Typical classroom routine:
Field notes + photos → OneDrive folder → annotated map screenshots → group report in Word → stakeholder pitch in PowerPoint → reflection in Forms → short video in Clipchamp.

Toolkit C — Privacy/low-cost (flexible, low barrier)

Best when: you need low-cost tools, fewer accounts, or more privacy-friendly options.

- Mapping: uMap (OpenStreetMap) or printed maps + photos
- Collaboration / systems maps: Excalidraw (shared link)
- Documentation & publishing: school LMS page (Moodle/Classroom/Teams) or OnlyOffice/LibreOffice files
- Assessment: paper rubrics, or LimeSurvey (if self-hosted is possible)

Typical classroom routine:
 Observation sheets + photos → upload to LMS folder → simple map layer (uMap or screenshots) → system map in Excalidraw → poster/PDF output → paper rubric reflection (or LimeSurvey).

Implementation tip (works for all toolkits):
 Start with one module using a single toolkit. Only add new tools if they clearly improve learning outcomes (evidence, collaboration, or communication), not just “because they are available”.

7. PERMASCHOOL HUB Platform (to be finished)

The PermaSchool Hub is a multilingual, open-access digital platform designed to support upper secondary school educators and students, alongside environmental experts, stakeholders from the Co-Creation Panel, external schools, and members of the public interested in permaculture and sustainability. It acts as the central entry point to the project’s educational content and interactive tools, offering a seamless user experience across desktop and mobile devices.

Platform functionalities

The Hub is structured around four core zones: (1) the Homepage (Landing Page), (2) the Curriculum Zone, (3) the Permaculture Theme-Based Activity Planning Tool, and (4) the User Account and Registration Area. Core functionalities include:

- Direct access to learning content through five curriculum modules and the School Educators Guidebook, provided as downloadable PDFs and supporting materials (e.g., worksheets).
- Clear navigation and discoverability, supported by a main navigation menu and breadcrumbs, plus a consistent footer including partner logos, legal information, Erasmus+ disclaimer, and Creative Commons licensing details.
- Multilingual access via a language selector (EN, Catalan, ES, GR) to ensure wide usability across partner and external countries.
- Inclusive accessibility features, such as an accessibility bar.

Collaborative activities

Collaboration is supported through practical, classroom-oriented workflows centered on the Theme-Based Activity Planning Tool, which functions as the Hub’s core interactive space. Users can explore and select content via a dashboard organised into tabs (notably Activities, Good practices, and Videos) presented in list or grid formats with preview cards. Users can then adapt choices into their own context and export outcomes as a PDF, facilitating sharing within teaching teams, across schools, and among project stakeholders.



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This design supports co-creation in practice: educators can build learning activities aligned with the modules, exchange implementation approaches, and reuse tested formats, while experts and stakeholders can contribute perspectives that strengthen real-world relevance.

Repository of best practices

A dedicated Good practices area within the Planning Tool functions as a structured repository where users can browse curated examples and proven approaches. Together with the Activities and Videos tabs, this repository helps users move quickly from inspiration to implementation, enabling replication and adaptation of effective methods across different classroom realities.

How to register and participate

Participation is enabled through a simple User Account Area designed to minimise barriers to entry while capturing basic user context. First-time registration includes standard fields (name, email and password). After registration, users can access the Hub’s resources and tools, moving from modules to the Planning Tool as needed. A typical flow is: landing on the homepage, selecting a language, opening a module, downloading materials, switching to the Planning Tool, filtering content relevant to the selected module, choosing an activity, video, or good practice, and exporting outputs when needed.

8. Implementation in National Contexts

PERMASCHOOL was designed to be *transferable* across different education systems, but it becomes meaningful only when it is connected to the realities of each school: the national curriculum, the school timetable, available spaces, local environmental challenges, and the culture of teaching and learning.

This section provides practical guidance on how to integrate PERMASCHOOL into national frameworks in Spain, Greece, and Cyprus, drawing on partner-school feedback. It is written for educators who want to move from “we like this idea” to “we can run it next term”.

8.1 A practical approach to adaptation

Instead of asking, “Where do we fit permaculture?” PERMASCHOOL invites a more useful question:

Which existing learning goals can we achieve more effectively through permaculture-based learning?



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In practice, adaptation is less about adding a new subject and more about changing the learning pathway: students still work towards the same curricular goals, but they do it through observation, design, experimentation, and real-world action.

To make this manageable for teachers, we recommend working with three simple principles:

1) Start from what your school already does well

Most schools already have hooks you can use: a science unit on ecosystems, a civic education project, a technology/design task, an eco-committee, or a school garden initiative. PERMASCHOOL can become the *learning frame* that connects these pieces.

2) Adapt the format before you adapt the content.

The same scenario can run as:

- a 3–5 lesson mini-project inside a subject,
- a cross-curricular project week,
- a club / eco-team action,
- a service-learning activity with a community partner.

If a school has limited time, start with a small format. If a school has stronger flexibility, expand the format and deepen the inquiry.

3) Keep the permaculture essence

Even when you simplify, try to preserve the core of the approach:

- observation before action,
- working with natural cycles and feedback,
- care for people and place,
- small, iterative improvements.

Where PERMASCHOOL can live inside a curriculum

Because the curriculum is competence-based and interdisciplinary, it can be embedded in:

- **Existing subjects** (e.g., Biology, Geography, Technology, Civic Education)
- **Cross-curricular projects** (project weeks, interdisciplinary areas, STEAM projects)
- **School-wide programmes** (SDGs, wellbeing, eco-school initiatives)
- **Non-formal spaces** (eco-teams, garden clubs, service learning)

A quick “teacher decision tool”

If you are unsure how to place a scenario, use these guiding questions:

- *What subject already teaches the key concepts?* (Choose your **host subject**.)
- *What competency is most visible here?* (Design thinking? Collaboration? Scientific inquiry? Citizenship?)

- *What can students produce as evidence?* (A map, a design proposal, a prototype, a data set, a reflection.)
- *What is realistic in our space and timetable?* (Small pilot → scale later.)

This way, adaptation becomes a pedagogical decision, rather than an additional burden.

8.2 A step-by-step method for national integration

This sequence helps teams translate PERMASCHOOL from a curriculum document into a concrete, school-ready plan. It is designed for real conditions: limited hours, mixed teacher confidence, uneven access to outdoor space, and the need to “prove” curriculum alignment.

You can use the steps as a checklist, but they work best as a short planning meeting (60–90 minutes) with at least two teachers and, if possible, one member of school leadership.

Step 1: Identify the *host subject(s)* and the “why now?”

Start by selecting **one or two host subjects** where time and assessment already exist. This reduces workload and avoids the feeling of adding an extra programme.

- **Host subject** = the subject that will carry the timetable slot and, if needed, the official grading.
- **Supporting subjects** = subjects that contribute one task or one lesson (e.g., Art for posters, ICT for mapping, Language for presentations).

Then name a simple *local reason* to do this now (the “why now?”). Examples:

- heat and lack of shade in the schoolyard,
- low student motivation and the need for hands-on learning,
- a sustainability/SDG priority in the school plan,
- a school garden that needs structure and learning goals.

When this “why now?” is explicit, it becomes easier to gain approval and keep momentum.

Step 2: Translate learning goals into national curriculum language

Use a simple mapping table (one page is enough):

- **PERMASCHOOL module / scenario** → **national subject area** → **competence / learning outcome** → **assessment evidence**

This is not about rewriting the curriculum; it is about **making alignment visible** to colleagues, leadership, and (where needed) inspectors.

A practical rule: aim for **2–4 key learning outcomes** for a short pilot. More than that becomes hard to assess and communicate.



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Step 3: Choose a “minimum viable pilot”

A pilot should be small enough to succeed even in a busy term, but meaningful enough to show impact.

A good pilot usually has:

- **3–5 sessions** (45–60 minutes each),
- one clear product (a map, a design proposal, a prototype, a mini-intervention),
- one moment of sharing (gallery walk, short presentation, poster fair).

Examples of minimum viable pilots:

- *Observation and mapping* of the schoolyard + one priority problem identified.
- *Microhabitat* creation (pollinator corner, shade planters, biodiversity “islands”).
- *Composting starter* with monitoring of inputs/outputs.
- *Water-wise planting* in pots/raised beds with a simple irrigation plan.

If the school has more flexibility, the same scenario can expand into a project week or a longer action cycle.

Step 4: Plan time as a learning rhythm (not as a one-off event)

Permaculture projects benefit from continuity. A realistic rhythm is:

- Weekly micro-sessions (short routines: observation logs, watering schedule, data collection), plus
- one longer action block per term (implementation, planting, building, community event).

This rhythm also helps classroom management: students know that some lessons are for thinking and design, and others are for action.

Step 5: Design assessment that matches your everyday practice

PERMASCHOOL supports formative, competence-based assessment. The key is to assess *what students do with knowledge*, not only what they recall.

Recommended evidence types:

- **Design log / learning journal** (short entries: decisions, observations, reflections)
- **Group artefacts** (maps, system diagrams, prototypes, planting plans)
- **Presentations** (to peers, teachers, community)
- **Portfolios** (photos + captions + data snapshots)

A practical assessment approach for pilots:



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- 1 rubric for **process** (collaboration, inquiry, decision-making)
- 1 rubric for **product** (quality of design, feasibility, evidence use)
- 1 short **reflection** (what changed in your thinking? what would you improve?)

This keeps grading manageable while capturing learning that traditional tests miss.

Step 6: Do a space, materials, and safety check

Before implementation, complete a short “learning ecosystem scan”:

- **Space:** yard corner, raised bed, pots, balcony, corridor window ledges, nearby park.
- **Materials:** what the school already has; what can be reused; what can be borrowed.
- **Safety:** tools, supervision ratios, allergies, sun exposure, hygiene (soil/compost), risk assessment.

If outdoor access is limited, many activities still work through:

- indoor micro-experiments (soil jars, worm observation, water infiltration tests),
- modelling and prototyping (paper/ cardboard/ recycled materials),
- neighbourhood observation walks with clear routines.

Step 7: Decide roles and responsibility (teacher workload matters)

Many projects fail not because learning is weak, but because maintenance is unclear.

Define simple roles:

- **Teacher coordinator:** keeps the plan and documentation.
- **Student roles:** garden stewards, data team, materials team, communication team.
- **Caretaking plan:** who checks plants/compost during weekends/holidays?

A small student “eco-team” (rotating) can reduce workload and strengthen ownership.

Step 8: Connect with local partners to add authenticity

Even a single partner session can transform motivation. Partners can provide:

- expertise (local gardener, permaculture practitioner, municipal green officer),
- materials (mulch, seedlings, compost bins),
- real-world audiences (community presentations, local media, parent volunteers).

Choose partners who align with your values and safeguarding rules. Keep collaboration simple: one visit, one mentoring session, or one shared event is enough for a pilot.

Step 9: Define 3–5 simple metrics and document change



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To support scaling and reporting, select **simple indicators** that are easy to collect.

Possible metrics for a pilot:

- participation and engagement (attendance, student roles taken)
- learning evidence (quality of design proposals, reflection depth)
- environmental indicators (shade added, biodiversity sightings, compost volume)
- wellbeing indicators (student feedback, time outdoors)
- community indicators (number of partners involved, families reached)

Document baseline and follow-up with photos, short surveys, and teacher notes.

Step 10: Plan the “next step” before you finish

End the pilot with a short team reflection:

- What worked well and why?
- What barriers appeared (time, materials, coordination)?
- What is the smallest improvement for next term?

Scaling should be gradual: deepen one scenario, expand to a second module, or involve one additional teacher.

8.3 Country guidance and examples

8.3.1 Spain

The Spanish partner school highlighted a key idea: PERMASCHOOL does not need to “compete” for space in the timetable. It can function as a competence-based learning pathway that helps teachers meet official goals through richer, more meaningful tasks, especially when schools already work with interdisciplinary projects and active methodologies.

A. Local needs that make PERMASCHOOL relevant

In Mediterranean contexts, climate conditions are not an abstract topic, they shape daily school life. Teachers reported a clear need to increase vegetation, shade, and biodiversity in outdoor areas, because high temperatures in late spring and early autumn reduce the use of the schoolyard and limit students’ contact with nature.

From a pedagogical perspective, this challenge becomes an authentic learning driver. Students can work on:

- designing shaded green areas using permaculture principles,
- planting native, climate-resilient species to support biodiversity,
- creating microhabitats that improve wellbeing,



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- exploring heat resilience and nature-based solutions,
- improving motivation through hands-on learning, and
- strengthening inclusion through collaborative roles where all learners can contribute.

B. Where PERMASCHOOL can “live” in the Spanish framework

Spanish schools often have structures that support cross-curricular work. Teachers described two particularly useful entry points:

1) Educational areas (àmbits educatius)

Where subjects can be grouped and planned together, PERMASCHOOL can become the shared programme for an area that combines, for example, Biology, Geography, Technology, Values Education, Arts, and Entrepreneurship.

2) School-designed optional subjects

Optional subjects such as an Interdisciplinary Project provide flexibility to run PERMASCHOOL scenarios without overloading the official curriculum. This format also fits well with competence-based assessment and student products (portfolios, presentations, design proposals).

C. Subject connections (examples that teachers already mapped)

To support internal validation, teachers recommend explicitly linking scenarios to official competencies, core knowledge, and evaluation criteria. In their mapping, PERMASCHOOL connects strongly with:

- **Biology & Geology** (ecosystems, soil, biodiversity, scientific inquiry)
- **Geography & History** (territory, climate, human–environment relations, sustainability impacts)
- **Technology / ICT** (design processes, prototyping, simulation, digital mapping)
- **Civic and Ethical Values** (dialogue, participation, SDGs, ecosocial challenges)
- **Language and Literature** (multimodal communication, argumentation, presentations)
- **Economy & Entrepreneurship** (sustainable models, circular economy, responsible innovation)
- **Visual Arts (EPVA)** (visual representation of ecological processes, identity and belonging)
- **Mathematics** (data modelling, graphs, variation, evidence-based reasoning)
- **Physical Education** (wellbeing outdoors, cooperative activities, care for shared spaces)

This breadth is not a problem, on the contrary, it helps schools select one or two host subjects and build collaboration gradually.

D. Pedagogical approaches that already match PERMASCHOOL

The Spanish partner school identified methods already used in their practice that align naturally with PERMASCHOOL:

- Project-based learning (student products + public sharing)
- Interdisciplinary projects (shared planning across departments)
- Outdoor education (learning in gardens, courtyards, nearby green spaces)
- Service-learning with local organisations and NGOs (real-world contribution)
- Intergenerational dialogue (learning with elders, local memory and place-based knowledge)

These approaches support active participation, creativity, critical thinking, and inclusive teamwork, key outcomes of PERMASCHOOL.

E. Time and institutional constraints (and how to work with them)

Teachers reported no explicit prohibition to introducing PERMASCHOOL content, but they highlighted predictable constraints:

- Alignment demands: schools must justify integration within existing competencies and areas.
- Rigid timetables: long continuous blocks are difficult to secure.
- Space and resources: practical work depends on what is available.
- Project maturation: permaculture needs continuity that does not always match short school cycles.

Practical responses that work well in Spain:

- Plan short pilots (3–5 sessions) inside an existing unit, then scale.
- Use a learning rhythm (weekly short routines + one longer action session per term).
- Start with micro-interventions (pots, planters, corner habitats) and expand gradually.
- Build student roles (eco-team, materials team, data team) to support maintenance.
- Document alignment with a one-page mapping and evidence portfolio.

F. Who benefits most (and why)

Teachers consider the curriculum adaptable for **ages 12–18**, but especially valuable for:

- Curriculum diversification groups (more practical, personalised learning pathways), and
- students in science-focused pathways from around ages 14–15, when systems thinking and inquiry tasks become more accessible.

PERMASCHOOL also supports engagement for less-motivated learners by giving them meaningful responsibilities and visible outcomes (a shaded corner, a pollinator area, a functioning compost).

G. Non-formal and community extensions

Spanish teachers emphasised that PERMASCHOOL can expand beyond formal lessons through:

- eco-clubs and ecological extracurricular activities (garden, compost, biodiversity monitoring),
- student sustainability delegates / eco-teams (campaigns and small interventions),
- service-learning projects improving neighbourhood or municipal green spaces,
- family workshops on weekends (planting and maintenance),
- summer workshops/camps, and
- participation in external initiatives such as Climate Detectives (ESERO/ESA).

These extensions help continuity, strengthen community participation, and reduce the risk that projects stop when a unit ends.

H. Best practices from the Spanish partner school (transferable models)

The partner school proposed two concrete initiatives that other schools can adapt:

Botanical Classroom (with municipal support)

A garden space provided by the town hall, used as a living classroom where students study local plant species and the value of green areas in cities.

AltaiActua (whole-school SDG project)

Each student group researches one SDG and shares results in a project fair. Learning is reinforced through a themed gymkhana and a student-run festival event. This model builds research skills, teamwork, creativity, and student agency.

I. A realistic “first term” plan for Spanish schools

To help schools start without overload, this is a high-success pathway:

1. Run Module 2 or Module 3 as a short pilot: observation + mapping + one priority problem.
2. Produce one visible output: a shade and biodiversity proposal (map + planting plan + budget/maintenance notes).
3. Implement one small action: pollinator corner, microhabitat, or planters.
4. Document learning evidence: photos + student reflections + a simple rubric.
5. Share results in a mini “project fair” (classroom or school-wide).

This approach fits the Spanish emphasis on competence-based learning and helps build confidence for scaling in the next term.

8.3.2 Greece

The Greek partner school described PERMASCHOOL as a strong match for cross-curricular learning, but also pointed to a very familiar reality: upper secondary timetables are tight and exam-driven. In this context, PERMASCHOOL works best when it is framed as a high-impact learning block that delivers mandatory content through applied, place-based activities, rather than as a large additional programme.

A. Local school realities and why PERMASCHOOL matters

Teachers identified several contextual factors that increase the relevance of PERMASCHOOL:

- Limited infrastructure (the school building is still under construction), which restricts some practical activities and requires flexibility.
- A student population with lower socio-economic backgrounds, where experiential programmes can broaden horizons, strengthen skills, and offer opportunities students may not access outside school.
- A locally degraded environment, making sustainability education more meaningful when it is connected to real challenges and visible improvement.

These realities strengthen the value of PERMASCHOOL as a learning approach that builds confidence and agency: students can see that their actions matter.

B. How PERMASCHOOL fits the Greek curriculum (as teachers mapped it)

The partner school provided a clear mapping of modules to subject areas. This mapping is useful not only for planning, but also for internal approval.

- **Module 1 – Foundations of Permaculture** → Biology, Environmental Science, Geography, Civic Education (ecosystems, sustainability, responsible citizenship)
- **Module 2 – Eco-System Dynamics** → Biology, Geography, and partly Chemistry (relationships, energy flow, climate, nutrient cycles)
- **Module 3 – Designing Sustainable Systems** → Technology, STEM, Art/Design, partly Home Economics, and project-based learning (design processes and sustainable solutions)
- **Module 4 – Applied Permaculture** → Biology, Agricultural Studies, Technology, Home Economics/Nutrition, Environmental Science (practical gardening, soil care, sustainable food production)

- **Module 5 – Community Engagement and Scenario-Based Activities** → Civic Education, Social Studies, Economics, project-based learning (community projects, circular economy, participation)

This breadth supports a practical strategy: choose one host subject (e.g., Biology or Civic Education) and use the garden/project work as evidence for competence-based learning.

C. Strong entry points already present in Greek schools

The partner school emphasised that PERMASCHOOL aligns with initiatives they already run:

- Cross-curricular and interdisciplinary projects combining Biology, Geography, Technology, and Civic Education.
- Annual participation in environmental conferences and nutrition programmes (including “**The Journey of Food**”), which provide an authentic context for modules on food systems and consumption.
- A developing school garden project, which serves as a natural pilot space for applied permaculture.

This means implementation does not need a “fresh start”; it can build on existing routines and institutional experience.

D. Teaching methods that fit naturally (and why they work)

Teachers described four methods already used that match PERMASCHOOL’s pedagogy:

- **Project-based learning:** students design and implement a tangible outcome (garden zones, compost system, water plan).
- **Inquiry-based learning:** students investigate ecological questions (soil health, biodiversity, microclimate, cycles).
- **Outdoor education:** learning becomes embodied and place-based; the garden becomes a living laboratory.
- **Collaborative learning:** teams share responsibility for planning, building, and maintenance, strengthening social skills and citizenship.

A helpful message for staffrooms: PERMASCHOOL is not a “new teaching style”—it is a coherent framework that strengthens what teachers already do.

E. Institutional constraints (and realistic implementation strategies)

The school highlighted a major limitation: time.

- Teachers must complete mandatory content within limited hours.
- High-stakes exams restrict flexibility and reduce space for extensive new material.

In this context, PERMASCHOOL works best through formats that respect workload:

- Short classroom pilots (3–5 lessons) embedded in mandatory curriculum units.
- Garden-based practical sessions that deliver science content through observation and experimentation.
- Intensive formats when weekly time is limited: a day trip, an outdoor field day, or a focused 3-day excursion/workshop.

This is also why the garden is an excellent anchor: it allows strong learning outcomes with a relatively small number of well-structured sessions.

F. Non-formal education: when “after school” is not realistic

Teachers explicitly noted that regular after-school clubs or weekly workshops may be difficult due to students’ heavy workload.

Instead, they recommend special events that feel worthwhile and feasible:

- a one-day “PERMASCHOOL Lab” (design + build + reflection),
- a short intensive camp or excursion (2–3 days),
- participation in conferences or community events where student work is showcased.

This approach respects student time while still enabling deeper experiential learning.

G. Adaptations teachers recommend (to reduce friction)

To align with national requirements and school capacity, teachers suggested:

- Adjusting terminology to match national curriculum language.
- Adapting assessment methods to local grading practices (rubrics and portfolios are ideal for competence-based evidence).
- Considering limited technological resources, offering low-tech alternatives for research, design, and documentation.

A practical rule: treat digital tools as *optional enhancers*. The learning can remain strong with paper mapping, field notes, photo documentation, and simple prototypes.

H. Who benefits most (and why)

Teachers identified ages **15–16** (first and second years of high school) as the strongest target group. At this age, students are ready to:

- understand ecological concepts at a deeper level,
- take responsibility in practical projects,
- work effectively in teams,

- engage in scenario-based discussions and civic participation.

I. Mini case-study: the school garden as a living laboratory

The partner school has begun implementing PERMASCHOOL primarily through a school garden project. Students aged 15–16 participate in designing, planting, and maintaining garden areas, applying modules on soil care and sustainable food production.

In the next phase, the school plans to expand by integrating scenario-based projects and community engagement, so students can collaborate on sustainable solutions that respond to local environmental challenges.

J. A realistic “first term” pathway for Greek schools

A high-success pathway that respects timetable constraints:

1. Start with the garden anchor (Module 4) and connect it to Module 2 (ecosystem dynamics).
2. Run a short classroom sequence: observation + inquiry question + small experiment (soil, water, biodiversity).
3. Produce one clear output: a garden improvement plan (zones, maintenance roles, seasonal calendar).
4. Implement one action (micro-plot, compost starter, pollinator corner).
5. Close with a short sharing moment (mini-poster session or school presentation).

This pathway keeps learning outcomes visible, integrates with mandatory content, and builds a foundation for a larger interdisciplinary project later.

8.3.3 Cyprus

How PERMASCHOOL fits the curriculum

The Cypriot partner school emphasised two realities at once: PERMASCHOOL is highly relevant for students and school communities, but Cyprus secondary education is centrally defined and timetable-constrained. This means PERMASCHOOL is most feasible when it is implemented within existing subjects and cross-thematic programmes, rather than as a new standalone subject.

In the partner school’s mapping, all modules can be applied through Biology, with additional strong links across Greek Language & Literature, Health Education, Geography, Chemistry, and Design & Technology/IT. PERMASCHOOL also aligns well with school sustainability initiatives such as gardens, composting, recycling, and design-based learning projects.



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A. Curriculum entry points by subject and module (as mapped by teachers)

The school provided a practical subject map that teachers can use as a starting point for national alignment:

- **All modules** → can be delivered through **Biology** (core host subject)
- **Module 1** → Greek Language & Literature, Health Education, Geography, Chemistry
- **Module 2** → Literature (Ecology in Literature), Health Education
- **Module 3** → IT / Design & Technology, Geography
- **Module 4** → Design & Technology, Health Education, Literature
- **Module 5** → Health Education, Literature

This mapping supports a realistic planning strategy: choose one host subject (often Biology) for timetable stability, and invite one supporting subject to contribute an output (e.g., Literature for narratives and reflection, Technology for prototyping).

B. Cross-curricular programmes that already provide a “home”

Teachers indicated that PERMASCHOOL can be integrated into programmes that are already running annually or cross-thematically, including:

- **Chrysoprasino Fylo Biology Project** (annual programme)
- Cross-thematic programmes on Health & Environmental Education (sustainable development, school gardens, composting, recycling)
- STEAM and design-based learning contexts (e.g., robotics, drones, 3D printing), and Arts–Science environmental projects

These are important enablers in Cyprus, because they allow schools to innovate without requiring formal curriculum reform.

C. Legal and institutional constraints (and what is still possible)

Teachers were clear that Cyprus secondary curriculum is centrally defined, with approval procedures and limited time for extra-curricular work. No new compulsory subject can be added without Ministry-level approval, and teachers must follow specific content and learning objectives.

However, the school also stressed that these constraints do not prevent PERMASCHOOL when it is framed as:

- project-based learning within existing subjects,
- cross-curricular / cross-thematic programmes, and
- voluntary initiatives during breaks or after school (when feasible).

The practical implication for educators is simple: focus on small pilots with clear evidence (learning products, short reflections, photos, rubrics).

D. Teaching methods that align strongly

The school's preferred methods match PERMASCHOOL's pedagogy closely:

- **Project-based learning** (design → implementation → sharing)
- **Inquiry-based learning** (questions, observation, experimentation)
- **Outdoor education** (garden-based learning and place-based tasks)

These methods are particularly valuable in exam-driven environments because they support motivation and competence development while still delivering required content.

E. Electives and non-formal spaces: what is realistic

The school reported no dedicated elective/optional subject slot for PERMASCHOOL. Implementation is most realistic:

- during class breaks, or
- as an extra-curricular activity for a small group (including students who benefit from practical, responsibility-based roles, e.g., students with disciplinary issues).

Even under these conditions, teachers emphasised that PERMASCHOOL is ideal for piloting in school gardens, especially where Modules 3 and 4 include concrete, real-space applications.

F. School needs and inclusion priorities

Teachers identified two key needs PERMASCHOOL can help address:

- Inclusion of migrant or marginalised students through collaborative, hands-on roles and meaningful participation.
- Environmental upgrade of the school (greener spaces, practical sustainability systems such as composting).

This is a strong rationale for framing PERMASCHOOL not only as environmental education, but also as an inclusive, wellbeing-supporting programme.

G. Age groups: how to reconcile different school priorities

In the partner feedback, two age ranges emerged as valuable, each for different reasons:

- Ages 11–14: strong fit for foundational learning, observation skills, and accessible project work (especially Modules 1–3, with simplified applications of Module 4).

- Ages 15–16: strong fit for more complex design choices, responsibility in garden projects, and scenario-based/community tasks (Modules 2–5).

A practical approach is to introduce PERMASCHOOL concepts in lower secondary (11–14) and deepen implementation through applied projects in middle secondary (15–16) when possible.

H. Adaptations teachers recommend to reduce barriers

To align with the national framework and ensure feasibility, teachers recommended:

- Reference to national standards (make alignment explicit in teacher documentation)
- Adjusting terminology to match national curriculum language
- Adapting assessment methods to local grading/evaluation practices
- Age adaptation (some activities were designed for older students; simplify for 11–14)
- Teacher preparation: training in permaculture principles, outdoor learning, and project-based pedagogy
- Providing ready-made tools/worksheets adapted to the Cypriot context

These adaptations are especially important in centrally defined systems where documentation and clarity support implementation.

I. Best practices and pilot examples from the partner school

As part of the **Chrysoprasino Fyllo 2025–2027** environmental education programme, the school shared concrete practices that can inspire other Cypriot schools:

- cultivating vegetables in the school garden,
- hydroponic basil cultivation,
- basil cultivation using the Click and Grow system,
- creating a spiral herb garden at the school entrance.

These practices demonstrate an effective implementation principle: start with visible, manageable interventions that build confidence and student ownership.

J. A realistic “first term” pathway for Cyprus

A high-success pathway that respects timetable constraints:

1. Choose **Biology** (or Health/Environmental Education) as the host subject.
2. Run a short sequence (3–5 lessons): observation → inquiry question → simple design proposal.
3. Implement one small garden-based action:
 - composting corner,
 - herb spiral / pollinator zone,

- small-scale hydroponics or container planting.
- 4. Document evidence: photos + short student reflections + a simple rubric.
- 5. Where possible, link to a cross-thematic programme (e.g., Chrysoprasino Fyllo) or a STEAM output (design/prototype).

This approach keeps PERMASCHOOL feasible in a centrally defined curriculum while producing visible outcomes that support scaling.

8.4 Adapting PERMASCHOOL to different age levels

PERMASCHOOL is designed primarily for secondary education, but schools in Spain, Greece, and Cyprus emphasised an important practical point: age adaptation is less about changing the topic and more about changing the level of complexity, responsibility, and evidence expected from students.

In other words, the same module can work across age groups if teachers adjust:

- the depth of concepts (from simple relationships to systems thinking),
- the type of task (from guided observation to independent design),
- the level of autonomy (from teacher-led routines to student-led stewardship), and
- the kind of evidence collected (from drawings and short reflections to portfolios and proposals).

A useful planning approach is to think in “developmental windows”. Partner schools highlighted that different ages offer different strengths:

- **Lower secondary** is ideal for building observation skills, ecological curiosity, and collaborative habits.
- **Middle secondary** is ideal for design thinking, experimentation, and responsibility in applied projects.
- **Upper secondary** is ideal for scenario-based work, community engagement, and complex problem-solving.

Below are practical guidelines for each stage.

Ages 12–14 (lower secondary)

At this stage, students are highly responsive to hands-on tasks and outdoor learning, but they benefit from structure and short cycles. The priority is to build ecological literacy and the habit of observing before acting.

Learning focus

- Basic permaculture concepts (care for people and place, cycles, diversity)
- Observation routines: “What do we notice? What is changing?”



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- Simple cause–effect thinking (sun/shade, water flow, living/non-living factors)
- Collaboration and shared responsibility through clear roles

What works well

- Short, guided investigations (biodiversity scavenger hunts, soil jar tests, microclimate checks)
- Simple mapping and visual thinking (schoolyard maps, symbol-based plans)
- Small prototypes and low-risk interventions (pots, seed trays, mini habitats)

Typical outputs / evidence

- Nature journals (drawings + short notes)
- Simple maps and labelled diagrams
- Photo documentation with captions
- Group posters or “how-to” guides

Best module fit

- Strong: Module 1 (foundations) and Module 2 (ecosystems)
- Good entry points from Module 3 (basic design) and selected elements of Module 4 (applied tasks)

Ages 15–16 (middle secondary)

Partner schools in Greece and Cyprus identified this as a particularly strong age group. Students can manage longer projects, connect evidence to decisions, and take responsibility for applied work. This is the ideal stage for treating the school garden (or any outdoor space) as a **living laboratory**.

Learning focus

- Systems thinking (relationships, feedback, unintended consequences)
- Inquiry: asking questions, testing ideas, interpreting results
- Design processes: defining a problem, generating options, choosing based on criteria
- Responsibility and stewardship (maintenance routines, team coordination)

What works well

- Small experiments linked to real design choices (soil improvement trials, water infiltration tests)
- Collaborative design tasks (zoning, planting plans, compost systems)
- Scenario-based activities that connect the school to wider community challenges

Typical outputs / evidence



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- Design proposals (maps + justification)
- Data snapshots (counts, graphs, simple monitoring logs)
- Prototypes or small interventions (micro-plot, compost starter, pollinator zone)
- Reflections on decisions and teamwork (short written or video)

Best module fit

- Strong: Modules 2–4 (ecosystems → design → applied permaculture)
- With support: Module 5 (community engagement) through a short scenario-based task or sharing event

Ages 17–18 (upper secondary)

Older students can handle complexity, debate trade-offs, and connect local action to broader systems (policy, economics, ethics). In exam-driven environments, this stage benefits from integrating PERMASCHOOL as an applied pathway for existing curriculum goals, especially in subjects connected to science, citizenship, economics, or entrepreneurship.

Learning focus

- Complex problem framing (multiple stakeholders and constraints)
- Critical thinking and evidence-based argumentation
- Community engagement and communication
- Sustainable entrepreneurship and circular economy thinking

What works well

- Scenario-based projects (e.g., redesigning a schoolyard for heat resilience under a budget)
- Community research and interviews (local environmental challenges, food systems, waste streams)
- Proposals that include feasibility (costs, maintenance, partnerships)

Typical outputs / evidence

- Policy-style briefs or proposals
- Presentations to real audiences (school leadership, municipality, families)
- Impact plans and simple metrics
- Portfolios documenting design decisions and learning growth

Best module fit

- Strong: Module 3 (design) and Module 5 (community scenarios)
- Advanced applications of Modules 1–2 to deepen conceptual understanding



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Differentiation and inclusion across all ages

Across partner contexts, teachers emphasised that PERMASCHOOL can support inclusion when roles and tasks are designed intentionally.

Practical strategies:

- Offer multiple role types (hands-on building, data collection, communication, artwork, leadership)
- Use visual supports (templates, symbol maps, step-by-step task cards)
- Create predictable routines (observation → plan → action → reflection)
- Allow varied evidence formats (written, oral, visual, photo/video)

This approach helps ensure that students with different language backgrounds, learning profiles, or motivation levels can participate meaningfully.

8.5 A checklist for school leaders and coordinators

Partner schools were clear that successful implementation depends as much on *coordination* as on pedagogy. Teachers can design excellent learning, but projects often stall when time, maintenance, permissions, or responsibilities are unclear.

This checklist is written for school leaders, PERMASCHOOL coordinators, and sustainability teams. It is organised as a practical pathway: before you start, while you run the pilot, and when you scale.

8.5.1 Before you start (set the conditions for success)

1) Name a coordinator and a small core team

Appoint one PERMASCHOOL coordinator (does not have to do everything, just keeps the overview).

Build a core team of 2–3 teachers from different areas (e.g., Biology + Civic Education + Technology/Arts).

2) Choose the host subject and the implementation format

Decide which subject will “carry” the timetable slot and (if needed) the grading.

Select a realistic format for your context:

- 3–5 lesson pilot inside a unit,
- project week / interdisciplinary block,
- garden-based sequence with short routines,
- intensive day trip or 2–3 day workshop (especially useful in exam-driven contexts).

3) Secure a minimum viable space

Identify at least one safe, manageable learning space:

a yard corner, raised bed, pots, planters, balcony, corridor window ledges, or a nearby park.

Clarify access rules (when students can use it, supervision, storage).

4) Do a basic safety and safeguarding check

Tool safety, supervision ratios, sun exposure/heat management, allergies, hygiene for soil/compost.

Clear risk assessment procedures (especially for trips or intensive workshops).

5) Agree on what “success” means for the pilot

Keep it simple: define one learning success and one practical success.

Learning success examples: students produce a design proposal using evidence; improve collaboration; deepen ecological understanding.

Practical success examples: a functioning compost corner; a pollinator zone; a shaded planting area; a monitored microhabitat.

6) Choose 2–3 assessment evidences (keep teacher workload realistic)

One group product (map/design/prototype)

One short reflection (written, oral, or video)

Optional: a small data log (biodiversity count, soil test notes, watering/maintenance schedule)

8.5.2 While you run the pilot (reduce friction and increase ownership)

7) Make roles explicit (especially student roles)

Define a few rotating roles so responsibility is shared and inclusive:

Garden stewards / maintenance team

Data and observation team

Materials and tools team

Communication team (photos, captions, poster-making)

This reduces teacher workload and strengthens student agency.

8) Plan continuity: who maintains what, and when?

Many projects fail during weekends and holidays. Decide early:



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watering routines,
 who checks the project during breaks,
 how materials are stored,
 what happens if a teacher is absent.

A simple rota (students + one adult contact) is often enough.

9) Communicate internally (avoid surprises)

Brief colleagues who share spaces (caretakers, cleaning staff, other teachers).
 Inform families when activities happen outdoors or involve trips.
 Keep leadership updated with short, practical updates (photos + one paragraph).

10) Use visible milestones to build momentum

Even a small pilot benefits from a “moment of sharing”:

a mini project fair,
 a gallery walk of maps and prototypes,
 a short presentation to another class or to school leadership.

Visibility increases support and makes scaling easier.

8.5.3 After the pilot (scale gradually and sustainably)

11) Hold a short debrief and decide the next smallest step

Use three questions:

What worked and why?
 What barriers appeared (time, space, coordination, resources)?
 What is the smallest improvement we can make next term?

Scaling works best when it is gradual: add one more scenario, involve one more teacher, or extend one project cycle.

12) Build a simple partnership plan

One partner interaction can increase authenticity and reduce teacher burden.

municipality (green spaces, trees, materials),
 local gardeners/farmers,
 NGOs,
 families and community volunteers.

Keep collaboration manageable: one visit, one mentoring session, or one shared event.



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13) Strengthen documentation for alignment and reporting

Create a small evidence package that makes the value clear:

- one-page curriculum mapping,
- photos before/after,
- student artefacts (maps, designs, prototypes),
- short teacher reflection,
- 3–5 simple metrics (participation, learning evidence, environmental indicators, community involvement).

This documentation supports continuity when staff changes and helps with eco-school, Erasmus+, or local reporting.

8.6 Documenting national alignment

In many schools, innovation succeeds when it becomes *visible* and *defensible*: visible to colleagues, families, and students, and defensible in curriculum language when leadership, inspectors, or ministries ask, “How does this fit?”. Partner schools across Spain, Greece, and Cyprus highlighted that documentation should be lightweight, consistent, and useful for teaching (not paperwork for its own sake). The goal is to capture enough evidence to:

- show alignment with national curriculum priorities,
- support assessment and feedback,
- secure permissions and continuity,
- communicate impact to the wider school community,
- make scaling easier in the next term.

8.6.1 The “minimum documentation set” (what to collect for any pilot)

For a 3–5 session pilot, the following is usually enough:

- One-page curriculum mapping (module → subject → outcomes → evidence)
- Implementation log (dates, sessions, what happened)
- Student evidence (photos + artefacts + short reflections)
- Teacher reflection (what worked, barriers, next step)
- 3–5 simple metrics (easy indicators to show change)

If you collect only these five items, you can already justify alignment and demonstrate progress.

8.6.2 One-page curriculum mapping template (copy/paste)

Use a single page to make alignment explicit. Keep it simple.



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A) Mapping table

PERMASCHOOL module / scenario: _____

Host subject(s): _____

Supporting subject(s) (optional): _____

| PERMASCHOOL focus | National curriculum language (competence / learning outcome / evaluation criterion) | Learning activity (what students do) | Evidence to collect (product / process) |
|--|---|--|---|
| (e.g., schoolyard observation & mapping) | (e.g., scientific inquiry; spatial reasoning; citizenship participation) | (field notes, mapping, discussion, design choices) | (map, photo evidence, short reflection, rubric) |

B) Assessment plan (keep it manageable)

Product evidence (1): _____

Process evidence (1): _____

Reflection (short): _____

C) Practical deliverable (one visible change)

What will be implemented? _____

Who maintains it (roles/rota)? _____

8.6.3 Implementation log (a simple format that saves time)

A log does not need to be long. Two lines per session are enough.

Session/date: _____ **Focus:** _____ **Outdoor/indoor:** _____

What students did: _____

What we noticed / evidence collected: _____

Next session plan: _____

This log is extremely helpful when teachers collaborate, when projects run across weeks, and when leadership asks for an overview.

8.6.4 Student evidence: what to collect and how to keep it light

Evidence should reflect both learning and action.

Recommended evidence types

Artefacts: maps, system diagrams, planting plans, prototypes, posters.

Observations/data: simple counts, monitoring tables, field notes, graphs.

Reflections: short written paragraphs, audio notes, video reflections, learning journals.

Process evidence: teamwork notes, role rotation logs, design decision justifications.

Low-effort collection routines

Create a shared folder per class or group.

Collect 3 photos per session: (1) learning in action, (2) the artefact, (3) the space/intervention.

Use a one-minute exit ticket: "What did we learn? What changed? What is our next decision?"

8.6.5 Metrics: 3–5 indicators that work in real schools

Metrics should be easy to collect and meaningful to your goals. Choose a small set from below.

Participation and engagement

attendance / participation rate in key sessions

number of students taking roles (stewards, data team, communication)

student self-reported engagement (1–5 scale)

Learning evidence

quality of design proposals (rubric score)

improvement in ecological reasoning (baseline vs follow-up short prompt)

reflection depth (simple rubric)

Environmental indicators

biodiversity sightings (simple species count before/after)

compost volume produced (approx.)

area of green/shaded space improved

survival rate of plantings after 4–6 weeks

Community and school culture

number of families involved



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number of partner interactions (municipality/NGO/expert)
 number of classes visiting/using the space

A practical suggestion: record a simple baseline (one photo + one quick count) and repeat it later. Even small improvements become visible.

8.6.6 Communicating alignment (so others can support you)

Different audiences need different documentation:

School leadership: one-page mapping + 5 photos + 3 metrics + next step.

Colleagues: a short “how we did it” note + resources/templates.

Families/community: a short story with student voices and before/after images.

External reporting (eco-school/Erasmus+/municipality): mapping + evidence package + reflection.

In centrally defined systems (e.g., Cyprus) and exam-driven contexts (e.g., upper secondary in Greece), this communication is especially important: it shows that PERMASCHOOL is not “extra”, but a structured pathway to achieve mandatory outcomes.

8.6.7 Ethics, safeguarding, and practical permissions

When documenting:

follow school policy on photo/video consent,
 avoid sharing identifiable student data publicly,
 store files securely (school-approved platforms),
 include a short risk/safety note for outdoor sessions or trips.

A small, consistent approach protects students and keeps the programme sustainable.