Interreg North Sea

Co-funded by the European Union

FREIIA

Høgskolen i Østfold

METHODOLOGY AND LEARNING DESIGN

TRAINING MODULE STUDENT ENTREPRENEURSHIP

REPORT 2.

WP4 .2

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TABLE OF CONTENTS

3. EXECUTIVE SUMMARY

4. INTRODUCTION

5. THEORETICAL & PEDAGOGICAL FOUNDATIONS

7. METHODOLOGICAL FRAMEWORK FOR THE TRAINING MODULE

11. LEARNING DESIGN OF THE MODULE

15. USE OF CASE BASED LEARNING

18. DISCUSSION

21. IMPLICATIONS AND RECOMMENDATIONS

24. CONCLUSION

25. APENDICES

EXECUTIVE SUMMARY

Report 2 of the FREIIA WP4.2 Training Module presents the methodological and pedagogical foundation for how students learn, collaborate, and develop solutions for sustainable and circular entrepreneurship on European islands. While Report 1 established the conceptual framework and purpose of the module, this report explains how the training module is designed and implemented in practice.

The report outlines the learning model that combines fieldwork, qualitative inquiry, co-creation workshops, AI-supported analysis, and design thinking. Together, these elements create an experiential and systems-oriented learning environment where students work directly with real island communities.

Students engage with local actors through the UNIC method for fieldwork, where interviews, observations, and contextual insight form the basis for problem framing. These insights are then analysed using AI tools that support pattern recognition and thematic synthesis. Workshops bring students and stakeholders together to co-create ideas, prototype solutions, and test concepts in real contexts.

The learning design emphasizes practical engagement, reflection, collaboration, and iterative development. Clearly defined roles for students, supervisors, local actors, and project partners ensure a coherent and well-supported learning process. The module also builds essential competencies in systems thinking, sustainable entrepreneurship, and cross-sector collaboration.

By the end of the report, readers gain:
- A structured overview of the methodological framework (fieldwork, workshops, AI-supported analysis, system innovation, design thinking)
- A clear understanding of how the pedagogical principles strengthen student learning and real community impact
- Insight into the roles of key actors involved in the learning process
- An explanation of how case-based learning is used without presenting specific case results (reserved for Report 3)

Report 2 provides the operational backbone of the training module and acts as a bridge to the following reports. Report 3 will build on this methodological foundation by presenting concrete case examples from the islands, demonstrating how the methods described here were applied in real-life learning contexts.

METHODOLOGY AND LEARNING DESIGN

This report is part of a series that collectively develops and documents the training module for student entrepreneurship within the FREIIA project. While Report 1 established the conceptual foundation, the purpose, theoretical perspectives, and overall module logic. This report takes a deeper look at how the training module is actually designed and implemented in practice.

Report 2 therefore focuses on methodology and learning design. It outlines the pedagogical principles guiding the students' work, including workshop methodology, design thinking, and system innovation. In addition, the report clarifies the roles of students, supervisors, local actors, and project partners, and explains how these actors collaborate throughout the learning process.

The report also presents concrete examples from WP4 activities, illustrating how the methodology is translated into practice within real island communities and living labs. In this way, Report 2 provides an operational framework that the subsequent reports will continue to build upon.

This report covers

The report is organised into the following chapters:

2. Theoretical and pedagogical foundations
3. Methodological framework
4. Learning design of the module
5. Roles in the learning environment
6. Use of case-based learning (owerview)
7. Discussion
8. Implications and recommendations
9. Conclusion

Figure 1 - Student and Stakeholders

Figure 2 - Students during WP4 Field Activities.

By the end of this report, readers will be able to:

- Understand the pedagogical principles behind the FREIIA training module
- See how methodological tools (workshops, fieldwork, AI, design thinking) are applied
- Recognise the roles of students, supervisors and local actors
- Understand how the learning design supports sustainable and circular entrepreneurship

Theoretical & Pedagogical Foundations

This chapter explains the theoretical and pedagogical principles that form the foundation of the WP4 module. The module is designed to provide students with practical skills, systems understanding, and the ability to co-create with real community stakeholders on the islands participating in the FREIIA project.

Design thinking as a Learning Framework

Design Thinking functions as an intuitive and practical framework for the students' learning process. The method is easy to understand for students with different backgrounds, while also encouraging creativity, exploration, and hands-on problem solving.

In WP4, Design Thinking is used particularly for:

- Empathy and insight: Students meet local actors, conduct interviews, and carry out field observations.
- Problem definition: A focus on understanding challenges before developing solutions.
- Ideation: Creative processes in workshops with local actors and supervisors.
- Iteration and prototyping: Developing concepts, testing them, and receiving feedback through several rounds.
- Visualization: Tools and models that make complex issues easier to communicate.

This makes the learning process practical, visual, and user-centered, fully aligned with WP4's goal of student-driven entrepreneurship in response to real societal challenges.

System Innovation Pedagogy

WP4 is also grounded in system innovation pedagogy, which provides students with tools to handle complex societal challenges. Innovation in island communities often involves interconnected factors such as seasonal economies, climate, infrastructure, transport, and local value creation.

System pedagogy includes:

- System mapping: Understanding relationships between actors, resources, challenges, and opportunities.
- Actor and stakeholder analysis: Identifying who influences and who is affected by the islands' challenges.
- Interdisciplinarity: Students develop a holistic understanding across sustainability, economy, culture, and governance.
- Tipping points and leverage points: Understanding where small actions can trigger significant changes.

This ensures that student work in WP4 is not limited to simple solutions, but instead focuses on understanding the islands' complex systems as a whole.

Co-creation & Participatory Methods

Co-creation is a core element of the WP4 module. Students do not work in isolation, but in close collaboration with local actors, public employees, businesses, organisations, and residents.

The pedagogical principles include:

- Shared knowledge: Students and local communities learn from each other and develop insights together.
- Equal roles: Local actors are viewed as experts on their own context, not as external informants.
- Dialogue & trust: The processes promote open communication and a shared understanding of challenges.
- Joint problem-solving: Both insight work and solution development take place collaboratively.

Through co-creation methods, students experience innovation as a social process, where relationships and dialogue are just as important as the ideas themselves.

Living Labs & Island Learning Environments

The module is designed as a form of "living lab," where islands function as open and real-life learning environments. In FREIIA, learning, experimentation, and societally relevant innovation are directly connected.

Why islands function as test arenas in FREIIA:

- Real challenges: Islands face concrete and urgent needs for change — particularly within climate, mobility, and tourism.
- Clear context: Limited resources, distinct seasonal variations, and defined geography make it easier to understand complete systems.
- Clear actor landscape: Island communities are manageable, with accessible and engaged stakeholders.
- High relevance: Students' proposals can have a tangible impact on local development processes.
- Experimental character: Islands act as open laboratories where new solutions can be tested with lower risk.

This makes islands ideal learning environments for teaching sustainability, innovation, and entrepreneurship.

Practical Learning & Reflective Activities

WP4 places strong emphasis on practical learning and continuous reflection as part of the students' development. This aspect of the pedagogy strengthens their ability for critical thinking, collaboration, and academic maturity.

This takes place through:
- Reflection rounds during workshops: Students assess what went well, what was challenging, and what they want to change for the next iteration.
- “Lessons learned” in groups: After each activity, learning points and areas for improvement are formulated.
- Ongoing dialogue: Supervisors follow the groups and ask questions that generate deeper insight.
- Meta-reflection: Students learn to reflect on their own learning process, not just the outcome.

This creates a learning model where experiences, mistakes, experimentation, and new understanding form the foundation for developing better solutions.

Figure 3 - Overview of the pedagogical foundations in the WP4 learning process.

Methodological Framework for the Training Module

This chapter presents the methodological pillars that form the foundation of the WP4 training module. The approach combines field-based qualitative research (the UNIC method), workshop methodology, design thinking, and tools from system innovation. Together, these methods provide a holistic learning process in which students explore real island challenges, develop insights, and co-create solutions with local stakeholders.

The UNIC Method (Fieldwork + AI)

The UNIC method ensures a structured and reliable approach to field-based data collection, followed by AI-supported analysis for pattern recognition and thematic structuring.

Observation and Interview Design

Students use:
- Semi-structured interview guides
- Observation notes
- Field journals
- Photos and situational descriptions

The interviews cover themes such as local context, challenges, collaboration patterns, barriers, and opportunities for development.

Data Collection in the Field

During fieldwork:

- interviews are conducted with a wide range of actors (business owners, municipality, civil society, tourism operators, residents)
- observations are made in relevant contexts to understand dynamics, seasonality, and systemic challenges
- data is structured and uploaded for systematic analysis

Use of AI (Pattern Analysis and Thematization)

Student use AI tools to:

- identify patterns, thematic clusters, and recurring problem areas
- sort insights based on grounded-theory-like logic
- formulate clear problem statements to be used in the workshops

AI does not replace student judgment; it supports their analytical and reflective work.

Figure 4 - Student conducting Interview with Local Stakeholder, while he is Working

Workshop Methodology

Workshops are the arena where students, local actors, and facilitators transform field-based insights into concrete development ideas. The methodology is structured, iterative, and practice-oriented, allowing space for creative exploration, co-creation, and reflection.

Structure of the Workshop Process

1. Problem Mapping (Discover/Insight Phase)

Students present findings from interviews and observations.

Insights are grouped, visualised, and prioritised together with local actors.

2. Ideation (Ideate)
Participants generate ideas using creative exercises such as post-it clustering, brainstorming, mapping, and group discussions.
3. Prototyping (Prototype)
Ideas are developed into sketches, concepts, simple models, or scenarios.
4. Testing and Feedback (Test)
Prototypes are tested in groups or presented to local actors, who provide feedback and additional insight.

Figure 5 - Workshop process: The four core phases used in the WP4 co-creation workshops — Discover, Ideate, Prototype, and Test.

Working Methods
The workshops rely on:
- post-its, whiteboards, and digital collaboration tools
- mapping activities (stakeholder maps, system maps, resource maps)
- facilitated group work with room for student-led exploration
- facilitators who guide process and structure
- local actors who participate as co-creators, not just informants

Figure 6 - Closing the workshop: a student expresses appreciation to a local stakeholder for their insights and collaboration.

Design Thinking in WP4
Design Thinking acts as a practical structure throughout the entire learning process. Each phase connects directly to the students' activities in WP4.

Empathise: Students meet stakeholders, listen to their experiences, and build understanding through interviews and observations.
Define: Based on UNIC data and AI-supported analysis, students define problem areas and needs to be brought into the workshops.
Ideate: In the workshops, students and local actors develop a wide range of ideas using creative methods.
Prototype: Ideas are concretised as concepts, sketches, models, or scenarios.
Test: Prototypes are tested and refined based on feedback from peers and local stakeholders.

This structure makes the process clear, collaborative, and feasible while creating local value.

System Innovation Approach

Island contexts often involve complex, interlinked challenges. Therefore, the methodological framework also includes tools from system innovation.

System Mapping
- resources
- process
- challenges
- interdependencies
- relationships across sectors

This provides insight into where interventions may have the greatest impact.

Stakeholder Analysis
- key actors
- roles
- relationships
- power dynamics
- collaboration patterns

This is central for understanding who must be involved in further development processes.

Identification of Tipping Points

Based on the field insight and workshop discussions, students identify:
- Leverage points where small interventions can produce larger systemic effects
- Critical barriers that inhibit development
- Potential entry points for innovation

Connection to WP1

This systems-based insight provides concrete data and practice-based testing for WP1's development of a tipping mechanism.
The students' analytical work thereby becomes directly relevant to FREIIA's overall governance model.

Learning Design of The Module

The learning module is organized as a sequence of connected steps that mirror the full innovation process carried out by the students. Each step provides the foundation for the next and ensures continuity and progression.

Figure 7 - Students Engaging in the different Stages of the Learning Module

Structure of the Learning Module

Preparation

Introduction to module goals, roles, and learning expectations.
Review of local context and island-specific needs.
Training in qualitative methods, the UNIC method, and ethical guidelines.
Development of interview guides, focus areas, and logistics.

Fieldwork

Semi-structured interviews with local stakeholders.
Observation of local environments, services, infrastructure, and user patterns.
Data collection through photos, notes, dictaphone recordings, and conversations.
Identification of innovation gaps and needs.

Analysis

Systematisation of data (coding, pattern recognition, thematic analysis)
AI-supported insight development
Formulation of problem statements and design briefs

Workshop

Gathering students and local stakeholders.
Presentation of findings and challenge areas.
Idea development and concept creation (ideation, clustering, prioritisation).
Collaboration across disciplines, cultures, and sectors.
Prioritisation of concepts to be further developed

Presentation & Reflection

Presentation of concepts to local stakeholders
Discussion and feedback loops
Individual and group-based reflection
“Lessons learned” and linkage to learning outcomes

Practical Learning Activities

The module is grounded in active, situated, and practice-based learning. Students learn by doing and by collaborating in real-life, complex settings.

Case Work form the Islands

Each island functions as a concrete case with real challenges such as housing, seasonal economy, mobility, collaboration and sustainable tourism.

Group Work

Student teams collaborate on research, analysis, and solution development, strengthening communication, project management, and cross-disiplinary teamwork.

Problem-Solving

Students apply design thinking and systems thinking to define challenges and develop concepts and prototypes.

Reflection Circles

Short, structured reflection sessions conducted after major activities:

- What did we learn?

- What surprised us?

- What should we adjust moving forward?

Digital Tools and AI Integration

Digital and technical tools play a central role in fieldwork, documentation, analysis, and project coordination.

ChatGPT - OpenAI

- Pattern recognition and analysis of interview data
- Thematization and problem formulation
- Support for idea development and concept drafting

Canva, Miro, Padlet or similar

- Visual documentation and co-creation
- Mapping Stakeholders, need and ideas
- Creating presentations, prototypes, and work boards
- Real-time collaboration across institutions and countries

Microsoft teams

- Videoconferencing, coordination and group communication
- Document sharing, field notes and reflection logs
- Efficient collaboration when teams are in different locations

Diktafon

- Recording interviews and conversations during fieldwork
- Ensures accurate capture of quotes and details
- Improves transcription quality and AI-supported analysis
- Useful for capturing immediate reflections and observations on the go

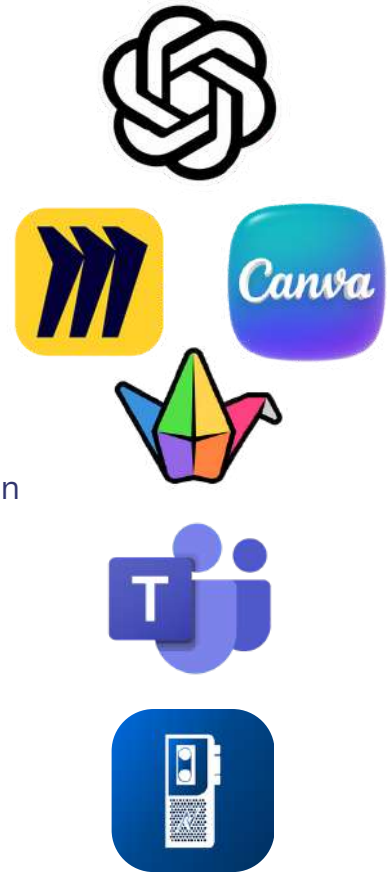


Figure 8 - Digital tools used in the learning module, including AI, visual collaboration platforms, communication tools, and audio recording

Reflection and Assessment

Reflection is integrated throughout the learning design and is essential for both academic development and personal growth.

Log Writing

Students document experiences, observations, decisions, and learning points. Logs form the basis for individual assessment and meta-reflection.

Group Reflections

Structured discussions where students reflect on collaboration, roles, challenges, and group dynamics.

"Lessons Learned"

Summaries after major activities to clarify key insights, improvement areas, and learning needs.

This creates a continuous learning loop that strengthens competence over time.

Roles in the Training Module

The training module relies on clearly defined roles to ensure an effective and collaborative learning process. Each group contributes distinct competencies and perspectives, forming a coherent ecosystem around the learning design.

Students

Discoverers, co-creators, and problem-solvers

Students are the central actors in the learning module. They work as young entrepreneurs and innovation agents, actively engaging with real community challenges.

Their responsibilities include:

- Conducting fieldwork, interviews, and observations
- Analysing qualitative data and identifying innovation gaps
- Participating in co-creation workshops with stakeholders
- Developing solution proposals, prototypes, and concepts
- Reflecting on processes, collaboration, and learning outcomes

Students contribute creativity, curiosity, and fresh perspectives — essential in discovering new opportunities in local communities.

Figure 9 - Students working together during fieldwork, reflecting on local insights and preparing for Interviews.

Supervisors / Lecturers / Project Leaders

Facilitators and methodological guides

Supervisors play a key role in structuring the learning process and ensuring methodological precision.

Their responsibilities include:

- Preparing students for fieldwork, methods, and stakeholder engagement
- Facilitating workshops, group processes, and reflection sessions
- Ensuring ethical, safe, and constructive collaboration with communities
- Guiding students in the use of qualitative methods, AI tools, and design processes
- Providing ongoing feedback and academic support

Supervisors function as boundary-spanners, helping students connect theory, practice, and community collaboration.

Figure 10 - The student project leaders who, over three years, have played a key role in coordinating activities, supporting, and linking the learning module with local community engagement.

Local Actors

Problem-owners, context-holders, and co-creators

Local actors provide the real-world foundation of the module. They bring insights into community challenges, local knowledge, and practical experience.

Their responsibilities include:

- Contributing real cases, needs, and development challenges
- Engaging in interviews, discussions, and co-creation sessions
- Evaluating and giving feedback on student proposals
- Sharing knowledge about local systems, networks, and constraints
- Acting as partners in exploring feasible and sustainable solutions

Local actors ensure that student work remains grounded, relevant, and connected to real community needs.

Figure 11 - Local actors contributing contextual knowledge and lived experience, helping students understand community needs and shape relevant solutions.

Project Partners

Resource providers and bridge-builders between islands and academia

Project partners support the overall FREIIA methodology and ensure cross-border collaboration.

Their responsibilities include:

- Providing frameworks, tools, and resources for fieldwork and workshops
- Ensuring alignment between student activities and the FREIIA work packages
- Facilitating contact between universities, local communities, and stakeholders
- Supporting evaluation, documentation, and learning sharing across islands

Project partners connect the educational activities to the broader governance and innovation model of FREIIA.

Figure 12 - Project partners from the FREIIA consortium gathered during a cross-island meeting.

Use of Case-Based Learning

Case-based learning is one of the core pedagogical structures of the training module. By working with authentic challenges from the participating islands, students are able to connect theoretical perspectives, methodological tools, and innovation processes to real-world contexts. This form of experiential learning is practical, collaborative, and directly relevant to sustainability transitions in small communities.

Within WP4, the cases function as the engine of the learning process: they guide the fieldwork, shape the data analysis, and provide the foundation for co-creation workshops. Each case is anchored in a real challenge or identified need from the island community, and students collaborate closely with local actors throughout the entire learning cycle.

How the Cases are used in the Learning Design

The case process is fully integrated into the module's methodology and follows a set of recurring elements across the islands. This report presents the structure only—not the specific case content.

Fieldwork in the Local Community

The process begins with students visiting the island where they meet relevant stakeholders, observe local dynamics, and gather qualitative data.

This includes:

- contextual understanding through guided observation
- interviews (UNIC method) with residents, business owners, NGOs, and municipal staff
- documentation of challenges, needs, and visible patterns in the community

The fieldwork forms the foundation for later analysis and problem definition.

Qualitative Research and Analysis

After collecting data, students work systematically to analyse the interviews and observations. AI tools tested within WP4 are used for:

- pattern recognition
- clustering and thematic coding
- insight synthesis
- validation of findings in the group

This combination of student-led analysis and AI-supported insight development creates a robust and transparent analytical foundation.

System Mapping

Once the insights are identified, students visualise the island's structures through:

- stakeholder maps
- system maps showing relationships and flows
- identification of innovation barriers and drivers
- locating "tipping mechanisms" and potential intervention points

This gives students a holistic view of the island as an interconnected ecosystem—crucial for designing sustainable solutions.

Ideating and Prototyping

Based on the validated problem statements, the students continue their work through structured workshops. Here they apply:

- design thinking (Empathise → Define → Ideate → Prototype → Test)
- the Double Diamond process (Discover → Define → Develop → Deliver)
- creative co-creation methods (post-its, sketches, visualisations, scenarios)

Students develop concepts rooted in local needs while considering feasibility, sustainability, and long-term relevance.

Collaboration with local actors/stakeholders
Local actors are engaged throughout the entire case cycle as active partners. Their roles include:
- ownership of challenges
- contributing local knowledge
- validating collected insights
- participating in workshops
- giving feedback on prototypes and student concepts

This co-creation principle is essential in WP4 and ensures relevance, legitimacy, and real value for the communities.

Why the Cases are not Presented in this Report

This report focuses on the module's methodology and learning design—how the process is structured and facilitated. The concrete case descriptions and student-developed concepts are therefore not included here.

This separation is intentional for three reasons:
1. Methodological clarity
Report 2 explains the process.
Report 3 presents the content and real examples.

2. Avoiding overlap between reports
Keeping the cases out of Report 2 prevents duplication and maintains a clean distinction between theory/method and empirical examples.

3. Ensuring progression across the report series
Report 1 = overall concept
Report 2 = methodology and learning design
Report 3 = case-based learning examples (coming next)
Report 4 = evaluation and learning outcomes
Report 5 = implementation and long-term use

Report 2 therefore serves as the structural foundation, while Report 3 shows how the methodology works in practice.

Transition to Report 3: Case-Based Learning Examples

Report 3 will provide:
- the concrete cases from each island
- an overview of the challenges investigated
- how students applied the methodology step-by-step
- examples of concepts and prototypes developed
- reflections from both students and local stakeholders

This makes Report 3 an empirical extension of the methodological framework established in this report.

Discussion

This chapter discusses the strengths and weaknesses of the methodology developed in FREIIA WP4, as well as the pedagogical implications and the ways in which the learning design supports sustainable and circular entrepreneurship.

Strengths of the Methodology

The WP4 methodology combines fieldwork, qualitative analysis, design thinking, AI-supported insight development, and co-creation into a coherent process.

This provides several key strengths:

Authentic learning situations

Students work with real communities and real challenges. This increases motivation and creates strong links between theory and practice.

Cross-disciplinary and cross-sector collaboration

Students learn to collaborate with residents, municipalities, entrepreneurs, NGOs, and other stakeholders. This trains their ability to navigate complex innovation systems.

Iterative insight development

The loop of fieldwork → AI-assisted analysis → co-creation workshop → prototyping creates a deep and reflective learning cycle.

Transferable and scalable structure

The Input–Process–Output model makes the methodology adaptable to other islands, municipalities, or educational settings.

Using islands as living labs

The distinct boundaries, resource constraints, and compact actor networks of islands create ideal conditions for experimentation, testing, and rapid feedback.

Weaknesses and Challenges

At the same time, the methodology has constraints that are important to acknowledge:

Time limitations

Fieldwork and workshops often occur within tight schedules. Without clear structure, this can lead to superficial insights.

Variation in local engagement

Local stakeholders have differing levels of capacity, time, and interest, which affects the quality of the co-creation process.

High demands on student maturity

The process requires students to handle ambiguity, emotional encounters, unexpected findings, and complex social dynamics.

Limited implementation capacity

Students deliver concepts—not final solutions. This may create a mismatch between local expectations and the project's educational purpose.

AI-supported analysis requires critical thinking

Without guidance, students may over-rely on AI outputs. Findings must be triangulated with field data and validated through reflection.

What works well in Island Settings and Living Labs

Several aspects of island-based living labs have proven particularly effective:

Clear system boundaries

Because island systems are small and contained, students can more easily understand the full picture of challenges such as housing, tourism flows, transport, waste systems, and demographics.

Close actor proximity

Short distances and strong local networks make it easy to involve many voices and gather rapid feedback.

Fast cycles of testing and refinement

Ideas can be quickly explored, discussed, and iterated within a single workshop day.

Strong sense of local ownership

Islands often have a strong identity and engaged residents. This increases relevance and commitment during co-creation processes.

Pedagogical implications

The methodology has several implications for how the training module should be taught and facilitated:

Need for structured facilitation

Students need guidance and boundaries to navigate complex problem-solving and iterative analytical processes.

Combination of experience and metareflection

Field experiences must be processed through logs, group discussions, and facilitated reflection to become meaningful learning.

Emphasis on relational competence

Co-creation requires listening skills, empathy, stakeholder dialogue, and the ability to ask good questions.

Clear definition of roles

Students, supervisors, and local actors all need clarity about expectations, responsibilities, and limitations.

AI as assisted—not automated—learning

AI should enhance analysis and pattern recognition while still requiring students to interpret, critique, and validate the insights.

How the Learning Design supports Sustainable and Circular Entrepreneurship

The learning design is particularly well suited for fostering competence in sustainability and circular economy because it:

Places students in the middle of real sustainability challenges

Housing shortages, seasonal economies, resource limitations, waste systems, and nature conservation create a rich context for problem-solving.

Uses design thinking to operationalise sustainability

Empathise → Define → Ideate → Prototype → Test turns complex sustainability challenges into structured and actionable learning processes.

Strengthens systems thinking

Students map systems, stakeholders, and interconnections, which builds understanding of long-term impacts and circular flows.

Trains social innovation skills

Many island challenges relate to collaboration, governance, engagement, and capacity—key elements of sustainable entrepreneurship.

Builds ownership and responsibility
Working with real communities fosters a sense of accountability that cannot be achieved through classroom simulations alone.

Implications and Recommendations

This chapter summaries the implications of the WP4 activities for the further development of the training module, outlines what should be improved in the next iteration, clarifies which competencies Report 3 will build upon, and provides recommendations for scaling and future refinement of the model.

Implications for the Next Iteration of the Module

Experiences from fieldwork, workshop execution, and cross-island learning processes highlight several key implications:

1. Need for a clearer structure in the learning sequence
Although students achieve strong learning outcomes, findings show that transitions between fieldwork, analysis, and concept development should be more explicitly structured (before–during–after field activities).
2. Better integration of methods into a unified framework
Fieldwork, design thinking, systems innovation, and AI each function well, but learning is strengthened when they are combined into one coherent methodological framework.
3. Roles of facilitators and local actors require clearer definitions
Ownership, expectations, and responsibility between students, supervisors, and local stakeholders must be more clearly defined to ensure continuity and predictability.
4. AI is highly valuable—but requires pedagogical framing
Students use AI efficiently and creatively, but structured guidance is needed to support critical evaluation and validation of AI-generated insights.
5. Reflection must be further embedded into the practical stages
Students request stronger support for reflection, particularly regarding their role in governance processes, power dynamics in small communities, and sustainability considerations.

Recommendations for Improving the Module

Based on the implications, the following recommendations are proposed:

1. Develop a standardised workshop methodology
Including:
- a clear step-by-step structure (Discover → Define → Develop → Deliver)
- templates for insight mapping, problem framing, and prototyping
- suggested exercises for cross-sector and cross-disciplinary collaboration

2. Establish clear role descriptions
For:
- students as active co-creators and entrepreneurs-in-training
- supervisors as facilitators, method supporters, and boundary-spanners
- local actors as context owners and co-design partners
These should be part of the module introduction.

3. Integrate AI as a pedagogical component
This should include:
- introductory AI training
- guidelines for critical assessment of AI insights
- routines for validating findings through stakeholder dialogue

4. Strengthen reflection before, during, and after fieldwork
By implementing:
- individual reflection logs
- group reflection sessions with supervisors
- meta-reflection on learning processes and the student role in innovation governance

5. Create a reusable repository of tools and templates
Such as:
- interview guides
- insight templates
- workshop structures
- prototyping tools
- pitch formats
This will support consistency across islands and future cohorts.

What Report 3 Will Build On (Competencies)
Report 3 will build on the competencies developed through the methodological and pedagogical framework presented in Report 2.

Practical Skills
- fieldwork and semi-structured interviewing
- qualitative analysis supported by AI tools
- participation and facilitation in co-creation workshops

Analytical Competencies
- problem formulation
- pattern recognition across qualitative data
- systems thinking and stakeholder mapping

Entrepreneurial Competencies
- concept development
- prototyping
- collaborating with local actors
- assessing sustainability and feasibility
Report 3 will showcase concrete cases that demonstrate how these competencies were applied across the islands.

Areas That Require Further Development

The following areas are not yet fully developed and should be prioritised in the next phase:
- A dedicated assessment system that aligns learning outcomes, methods, and evaluation.
- A guideline for ethical fieldwork, tailored to small and vulnerable island communities.
- Standarised data protocols for qualitative collection, handling, and use.
- Improved support for interdisciplinary student groups, who often have different expectations and methodological backgrounds.

Scaling Potential of the Model

The training module demonstrates strong potential for scaling due to its flexible and transferable structure.

1. Contextual flexibility

It can be adapted to small communities, rural areas, tourism destinations, coastal regions, or other geographically bounded contexts.

2. Standardisable methods

Fieldwork, AI-supported analysis, and co-creation workshops can be easily adopted by other universities or project partners.

3. Transferable competencies

Skills in design thinking, systems innovation, stakeholder collaboration, and sustainable entrepreneurship align with numerous educational programmes.

4. Vertical and horizontal scaling possibilities

- Vertical scaling: Integration into formal curricula, practice courses, or innovation programmes.
- Horizontal scaling: Expansion to other European islands, remote areas, or cross-border regional partnerships.

Implications: need for clearer structure, integrated methods, defined roles, strengthened AI pedagogy, and deeper reflection.
Recommendations: develop workshop methodology, formalise roles, integrate AI, strengthen reflection, and create reusable tools.
Report 3: builds on practical, analytical, and entrepreneurial skills developed in Report 2.
Scaling: the model is flexible, transferable, and suitable for broad implementation.

Conclusion

This report has demonstrated how the methodological foundation and learning design of the FREIIA Training Module enable a structured, practice-oriented, and context-sensitive approach to student entrepreneurship. The methodology presented here is not merely a collection of tools, but an integrated process that strengthens students' ability to work with sustainable and circular entrepreneurship in real island communities.

The combination of fieldwork, qualitative inquiry, AI-supported analysis, co-creation workshops, and reflective learning creates a robust learning pathway where students engage deeply with local challenges. This learning design ensures that students do not operate at a theoretical distance but work directly with the complexities, tensions, and opportunities identified across the FREIIA islands.

The methodology plays a crucial role in enabling sustainable and circular entrepreneurship by:
- grounding learning in real community needs and lived experiences
- supporting systems-oriented problem framing through qualitative data and AI insights
- fostering creativity and collaboration in co-creation sessions with local actors
- encouraging iterative development, testing, and reflection
- strengthening students' capacity to contribute to long-term transitions in small and vulnerable communities

The result is a learning environment where students can act as young entrepreneurs, facilitators, and change agents — not only generating ideas but contributing meaningfully to local governance and innovation capacity.

Finally, this report serves as a bridge to the next two reports in the series. Report 3 will build directly on the methodological principles outlined here by presenting concrete case-based learning examples from the islands — showing how the methods were applied in practice, what the students learned, and what kinds of concepts emerged.
Report 4 will then evaluate learning outcomes, identify impacts, and offer recommendations for future implementation and scalability.

Together, these reports form a consistent and progressively detailed training module that strengthens student-driven innovation and supports sustainable development across the FREIIA island communities.

APENDICES

The following appendices provide supporting material used in the design, execution, and evaluation of the student entrepreneurship module

Apendix 1: Example Workshop Agenda

This appendix contains a sample workshop agenda used in WP4 activities. It illustrates the structure of a typical co-creation session between students and local stakeholders.

Workshop Agenda

Workshop Theme:
Develop concrete, actionable ideas that can strengthen island communities – with solutions that could realistically start today.
Participants:
Students, local stakeholders, facilitators from partner universities.
Duration:
4–5 hours (adjustable)

1. Welcome & Introduction
Time: 10 min
Purpose:
- Open the workshop and introduce goals
- Explain the overall process
- Set creative ground rules
- Be active – Be open – Say "yes, and..." – Share your perspective

2. Presentation of Key Challenges
Time: 10 min
Purpose: Establish shared understanding based on interview and field data.
Topics:
- Population decline
- Seasonal economy
- Transport barriers

3. Warm-Up Exercise – Idea Generation Game
Time: 5–7 min
Task: "How many uses can you find for a book?"
Purpose: Activate creative thinking.

4. Brainstorming – Silent Round (Round 1)
Time: 10 min
Rules:
- No talking
- No AI
- Write/draw as many ideas as possible
- Goal: Generate volume and variety.

5. Brainstorming – Group Round (Round 2)
Time: 10–15 min
Tasks:
- Share all ideas
- Cluster and group them
- Merge overlapping solutions
- Add new ideas based on inspiration in the group

6. Break
Time: 5–10 min

7. Decision Matrix
Time: 20–30 min
Method:
- Each participant nominates one idea (not necessarily their own)
- Draw a 2×2 matrix (Impact vs. Feasibility)
- Place ideas collaboratively
Output:
- A shortlist of high-potential ideas to refine further.

8. Café Round – Rotating Feedback
Time: 20–25 min
Method:
- Facilitators stay at their tables
- All others rotate
- Facilitators present the shortlisted ideas
- Participants give feedback, improvements, and alternatives
Output:
- Strengthened concepts ready for development.

9. Venture Model Canvas (FREIIA)
Time: 25–35 min
Groups complete the FREIIA Venture Model sections:
- Problem & opportunity
- Your solution
- Target group
- What already exists
- Who implements it
- Business model / funding
- Expected impacts
- Next steps
- Risks & mitigation

10. Pitch Session
Time: 10–15 min
Each group presents their refined solution.

11. Break
Time: 5 min

12. Final Group Discussion
Time: 15–20 min

Guiding questions:
- Which ideas show the highest potential?
- Can ideas be combined?
- What resources are required?
- What should the next steps be?
- 13. Closing & Thank You

Time: 5 min
Wrap-up, appreciation, and next steps.

Apendix 2: Interview Guide

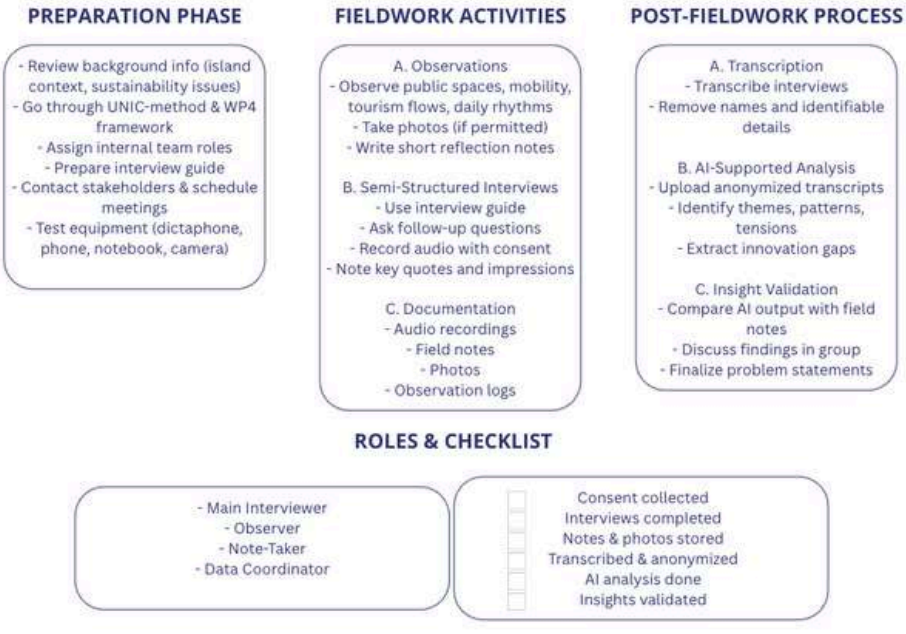
Semi-structured interview guide used by students during fieldwork.

Interview guide

1. What is your role in the island community?
2. How would you describe the island community and its current state?
3. What do you think are the best aspects of Hvaler?
4. What are the major challenges the island community faces in terms of innovative development and sustainable growth?
5. What initiatives has the island community undertaken in the past to address these challenges?
6. How does the island community collaborate to promote innovative development and sustainable growth?
7. How do you think the island community can improve its capacity for development?
8. How can you and your organization contribute to enhancing the island community's capacity for sustainable growth?
9. How can the island community better collaborate with surrounding communities and regions to achieve common goals?

Apendix 3: FIELDWORK PROTOCOL – OVERVIEW

Fieldwork setup used during island visits, including observation focus and data collection procedures.



Appendix 4: Roles and Responsibility Matrix

RACI-style matrix clarifying responsibilities between students, supervisors, partners and local actors.

Task	Students	Supervisors	Local Actors	Project Partners
Conduct interviews	R	A / C	C	C
Workshop preparation	C	R / A	C	C
Concept development	R	A	C	C
Stakeholder engagement	C	C	R	A

(R = Responsible, A = Accountable, C = Consulted, I = Informed)

Structure of the Other Reports

CONSEPT AND FRAMEWORK FOR THE TRAINING MODULE

CASE-BASED LEARNING EXAMPLES: ISLANDS AS LEARNING ARENAS

EVALUATION AND LEARNING OUTCOMES

INTEGRATION AND FUTURE IMPLEMENTATION