



Come ThinkAgain

Certification based Education
Training System

CETS course design report

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
CAD	Computer-Aided Design
CETS	Certification based Education Training System
CTA	ComeThinkAgain
CT	Computational Thinking
EE	Entrepreneurship Education
EQF	European Qualifications Framework
EACEA	European Education and Culture Executive Agency
ECTS	European Credit Transfer and Accumulation System
GDPR	General Data Protection Regulation
GenAI	Generative AI
GS	Green Skills
HE	Higher Education
LMS	Learning Management System
LTI	Learning Tools Interoperability
MOOC	Massive Open Online Course
OER	Open Educational Resources
SCORM	Sharable Content Object Reference Model
SDG	Sustainable Development Goals
VET	Vocational Education and Training
VLE	Virtual Learning Environment
WCAG	Web Content Accessibility Guidelines
WP	Work Package
XAPI	Experience API



EXECUTIVE SUMMARY

This report presents the course design for the ComeThinkAgain-CETS (micro-Certification based Education Training System) program, developed within the framework of the ComeThinkAgain initiative. It provides a blueprint for implementing modular, micro-credentialed courses that equip educators and learners across Europe with essential competences for the digital and green transitions. At its core, the CTA-CETS program is structured around three educational pillars: Computational Thinking (CT), Entrepreneurship Education (EE), and Green Skills (GS). Each pillar is developed across primary, secondary, and vocational education levels, ensuring a coherent progression of learning experiences adapted to different age groups and contexts. CT is framed as both a problem-solving approach and a form of computational empowerment, enabling learners to critically engage with technology, in line with the [DigComp](#) framework. EE draws on the EntreComp framework, nurturing creativity, initiative, resilience, and ethical responsibility in entrepreneurial projects. GS is guided by the GreenComp framework, embedding sustainability competences across the curriculum and preparing learners to act as responsible citizens in addressing ecological and societal challenges. The pedagogical concept underpinning CTA-CETS is grounded in learner-centered approaches, such as project-based and problem-based learning, design thinking, and experiential methods. Each module is designed for a workload of 25–30 hours (= 1 ECTS) and is delivered flexibly through blended and online formats. Importantly, no prerequisites are required, ensuring inclusivity and accessibility for diverse groups of learners and educators. Technologically, the program is supported by Moodle, which provides robust infrastructure for competence-based learning, micro-credential recognition, and interoperability with European frameworks such as EQF and Europass.



1. INTRODUCTION

1.1. Objectives

This document outlines the course design for the ComeThinkAgain-CETS (micro-Certification based Education Training System) program. It is a blueprint for implementing CTA-CETS modules within a technology-supported learning environment, aiming to deliver engaging, micro-credential educational experiences aligned with the European Council's guidance on digital education and certification.

The report is part of the ComeThinkAgain (CTA) project that aims to develop and implement a standardized training system for educators across Europe so the educators can be trained with the skills to teach essential competences like Computational Thinking, Green Skills, Entrepreneurial Education, and Social Responsibility. The CTA partnership has defined the following goals:

- Raise awareness and understanding of educational needs and best practices related to the teaching of Computational Thinking (CT), Entrepreneurship Education (EE), and Green Skills (GS).
- Develop a high-quality educational curriculum for teachers at Higher Education (HE) and Vocational Education and Training (VET) trainers by combining different methods of education.
- Develop the CTA-CETS providing several blended courses based on OERs and training material developed during the project and also digitally-signed credentials as proof of learning outcomes.
- Test and validate with teachers at HE and VET trainers across Europe the MOOC and blended learning course.

This deliverable is the final result of Task 4.2 "Course Design" that defines the learning experiences per category of target learners leading to micro-credentials and didactical approaches to be used in the CTA-CETS.

1.2. Methodology

The development of the CTA-CETS course design followed a multi-phase methodology aimed at ensuring pedagogical relevance and technological feasibility. The foundation of the process was built upon the educational materials defined in other Work Packages (WP) of the ComeThinkAgain project, which established the conceptual and didactic content across the three core learning domains: Computational Thinking, Entrepreneurship Education, and Green Skills. Drawing on the pedagogical concepts outlined in WP2 – Delivery 2.2, the course design puts emphasis on learner-centered methods such as project-based learning, hands-on learning and design-thinking. Accessibility and adaptability across different educational contexts is also supported through a blended mix of e-learning formats. To define the technical and user requirements of the ComeThinkAgain platform a registry was created among project partners where all participated in the platform's specifications. The course structure is modular and aligned with European micro-credential standards, ensuring each learning experience has clearly defined outcomes, transparent assessment criteria, and credentialing pathways.



1.3. Structure

The structure of this report is the following: Section 2 provides a detailed overview of the CTA-CETS course structure, including the conceptual model underpinning the educational material and how it is adapted across Primary, Secondary, and VET educational levels. It introduces the three core educational pillars – CT, EE, and GS – and briefly describes how these are implemented through a series of basic and interdisciplinary modules. Section 3 focuses on the technological infrastructure on which the course delivery is based, including an overview of Moodle – as the project’s selected Learning Management System (LMS) – and a discussion on some key technical specifications offered by the ComeThinkAgain Moodle. The last section concludes the report by summarizing key insights.



2. COURSE OVERVIEW

The CTA-CETS course structure has been conceived as a modular framework that delivers micro-credentialed learning experiences across different educational levels, while maintaining a strong focus on interdisciplinary and real-world relevance. At its foundation lie three educational pillars—Computational Thinking (CT), Entrepreneurship Education (EE), and Green Skills (GS)—that are interwoven throughout the program. The structure combines basic modules, in which learners acquire the core competences of each pillar (pilot cycle 1), with interdisciplinary modules that integrate these competences into project-based challenges (pilot cycle 2). Each module has an indicative workload of 25 to 30 hours (= 1 ECTS), ensuring that the modules are both substantial enough to foster meaningful competence development and compact enough to remain accessible within the micro-credential format. Delivery is flexible, combining online and blended learning formats with opportunities for synchronous interaction, hands-on practice, and self-paced study. In keeping with the inclusive mission of the ComeThinkAgain initiative, no prerequisites are required for learners to participate. This open approach allows a wide range of participants—from primary/secondary education teachers to VET trainers—to access the modules regardless of prior knowledge or background. The pedagogical concept underpinning the design builds on constructionism, problem-based and project-based learning, and cooperative and self-regulated learning, defined in Deliver 2.1. These methods ensure that learners are not passive recipients of knowledge but active participants who construct meaning by engaging in authentic tasks. Courses are adapted across primary, secondary, and vocational education levels, each progression offering age-appropriate depth and context-specific application. In this way, the CTA-CETS framework promotes both theoretical understanding and practical competence, preparing learners not only to master individual skills but also to apply them in ways that generate sustainable and entrepreneurial value in their communities and professional fields. Figure 1 illustrates the structure of the CTA-CETS course across the different topics and levels of education.

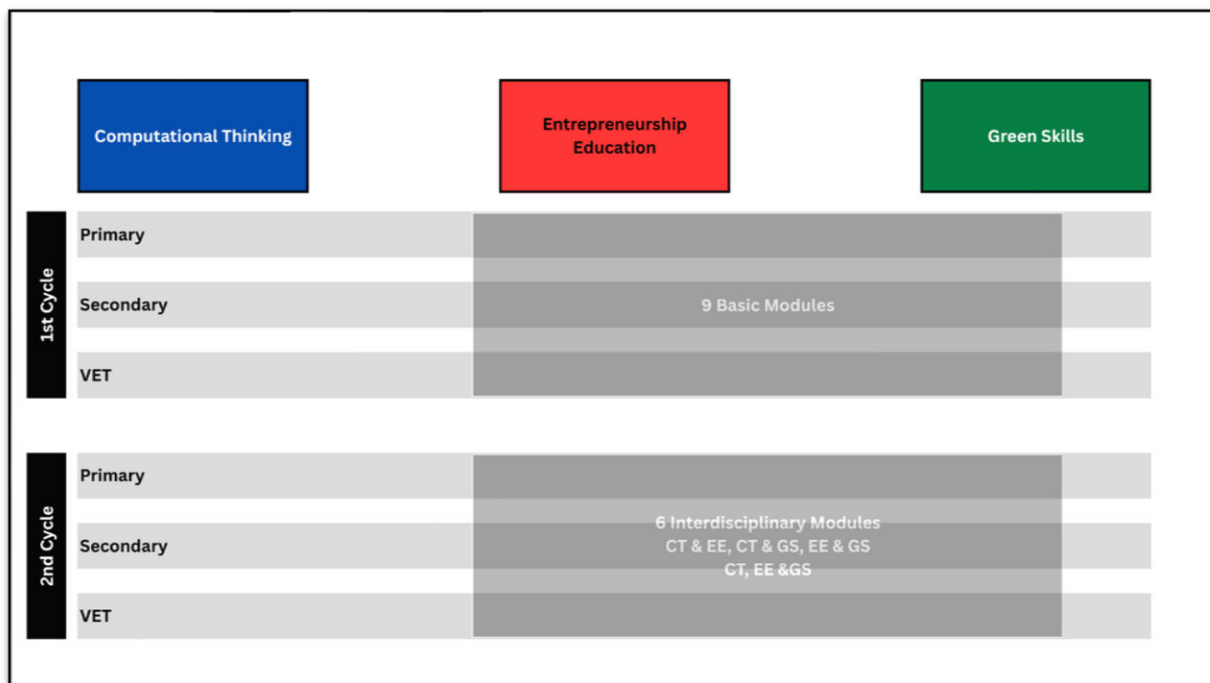


Figure 1: ComeThinkAgain Course Structure



2.1. Computational Thinking

Computational Thinking (CT) within the CTA-CETS framework is understood as a broad, cross-disciplinary competence that empowers learners to define, analyze, and solve problems for instance through processes of decomposition, abstraction, pattern recognition, and algorithmic thinking. While CT is closely associated with computer science, in this program it is deliberately framed more broadly as a form of computational empowerment that extends beyond coding into everyday problem-solving and critical engagement with digital technologies.

2.1.1. Primary Education

The CT module for primary education introduces educators to the essential principles of CT and demonstrates how these can be meaningfully embedded in the early years of schooling. The module emphasizes that CT is not limited to coding or computer science, but is better understood as a general problem-solving competence that supports learners in approaching challenges with strategies such as decomposition, abstraction, pattern recognition, and algorithmic thinking. Participants explore how these concepts can be fostered in young children through age-appropriate, creative, unplugged and interdisciplinary activities that connect CT with subjects like science and social studies. The focus is on helping teachers expand their pedagogical repertoire so that computational ideas are introduced playfully and in ways that resonate with children’s everyday experiences. By the end of the module, educators will be able to: 1) Understand and apply CT concepts (e.g., decomposition, abstraction, pattern recognition, algorithmic thinking); 2) expand their repertoire of teaching methods for CT; 3) integrate and promote problem-solving and CT activities in their own teaching; 4) identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning; 5) develop and implement interdisciplinary CT projects; 6) reflect on their teaching practice and improve CT integration in education.

Table 1: Overview of Course 1 in “CT in primary education”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
☒ Distance learning ☐ Workshop in person ☒ Online Session	☐ Distance learning ☒ Workshop in person ☐ Online Session	☒ Distance learning ☐ Workshop in person ☐ Online Session	☐ Distance learning ☐ Workshop in person ☒ Online Session
<ul style="list-style-type: none"> • Pre-Test • Introduction to CT (literature study and reflective tasks) 	<ul style="list-style-type: none"> • Link to distance learning (warm-up activity) • Input “CT concepts” • Deepening CT knowledge (stationary exercises) • Input “teaching methods” • Analyzing CT 	<ul style="list-style-type: none"> • Planning own CT task • Proof of performance 	<ul style="list-style-type: none"> • Presentation, feedback and evaluation created CT task (Distance Learning 2)



	tasks		
Goal(s): 1	Goal(s): 1, 2, 3	Goal(s): 1, 2, 3	Goal(s): 1, 2, 3
2-4h	4-6h (half day)	2-4h	1h

Table 2: Overview of Course 2 in “CT in primary education”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.5	Session No.6	Session No.7	Session No.8
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Deepening CT knowledge (literature study with matching exercises) • Brainstorming real world example for interdisciplinary CT learning scenario 	<ul style="list-style-type: none"> • Repetition of acquired knowledge so far (warm-up activity) • Input “CT in everyday life & other subjects” • Interdisciplinary teaching methods (for CT) • CT in interdisciplinary learning settings (exercises, discussions, ...) 	<ul style="list-style-type: none"> • Preparing practical project • Implementing and documenting practical project 	<ul style="list-style-type: none"> • Presentation and evaluation of practical project • Wrap-up of the module • Certification exam/ post-test? • Interviews
Goal(s): 1, 4	Goal(s): 2, 4, 5	Goal(s): 1, 2, 3, 4, 5, 6	Goal(s): 6
2-4h	4-6h (half day)	2-4h	1h +1h

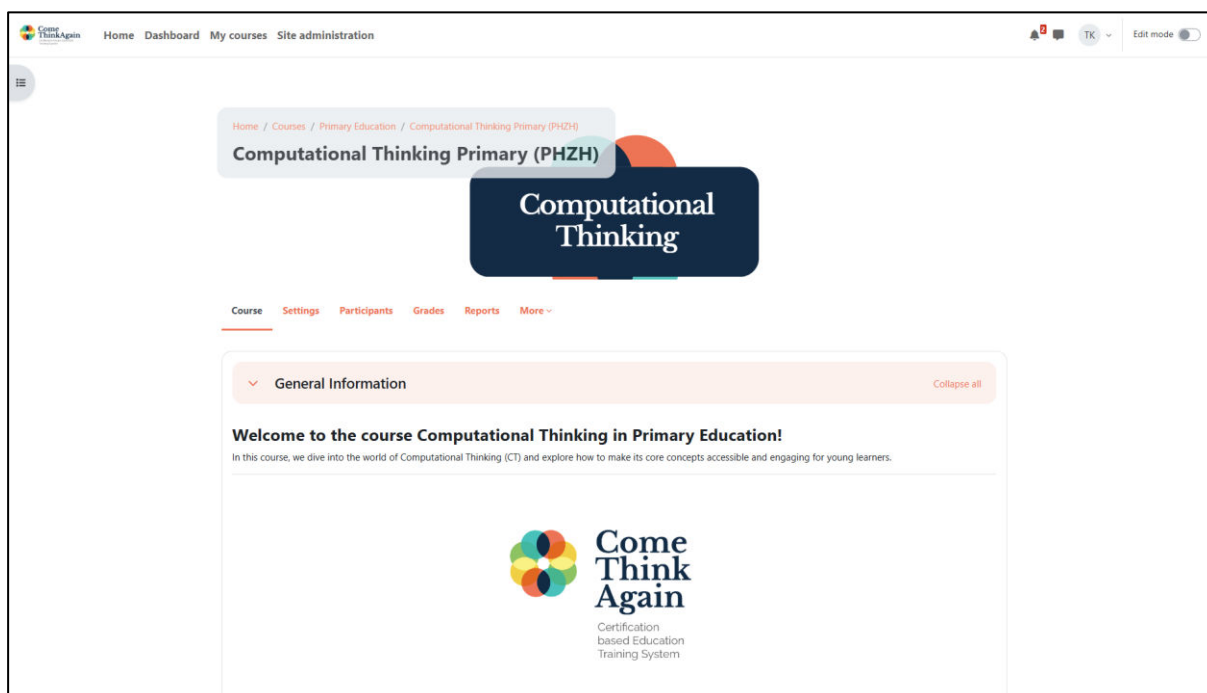


Figure 2: The “Computational Thinking in Primary Education” course in Moodle

2.1.2. Secondary Education

At the secondary education level, the CT module is designed to deepen teachers’ understanding of CT concepts and equip them with strategies to embed these into subject teaching and interdisciplinary learning. At this stage, CT is positioned not only as a problem-solving approach but also as a pathway to engage with advanced tools such as robotics, artificial intelligence, and maker-based learning environments. The module introduces educators to the Computational Thinking Pedagogical Framework, which emphasizes unplugged activities, tinkering, making, and remixing as key approaches for fostering engagement. Through this, participants learn to design, prototype, and program robots, integrate AI-assisted tasks, and reflect critically on inclusive maker pedagogies and the ethical dimensions of emerging technologies. The learning outcomes for this module emphasize both conceptual and applied dimensions. Participants are expected to understand and apply the principles of CT across different teaching contexts, to design and evaluate lesson plans that embed making, robotics, and AI, and to cultivate higher-order problem-solving, digital literacy, and AI literacy as part of their practice. They also develop the capacity to use GenAI tools for lesson planning and instructional creativity, to integrate robotics and programming into their classrooms, and to promote reflective practices that support continuous improvement of teaching methodologies. By achieving these outcomes, teachers gain the confidence to help secondary learners connect computational ideas with real-world challenges, enhancing their ability to navigate and contribute to an increasingly digital and technologically mediated society.

Table 3: Overview of Course in “CT in secondary education”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4	Session No.5
☐ Distance	☐ Distance	☐ Distance	☐ Distance	☐ Distance



learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
Introduction block: <ul style="list-style-type: none"> Ice-breaker Pre-test Overview of the module Skillseeker Guide 	Unplugged Activity: <ul style="list-style-type: none"> Sketch-your-Robot Pair & Share Share with us! Additional resource: Social robot co-design canvas	Guest Talk: <ul style="list-style-type: none"> Robotics & AI in Secondary Education [OR] Equivalent content video/discussion 	Tinkering Activity: <ul style="list-style-type: none"> Dissect-a-robot: analyze real components Use GenAI to identify and describe parts 	Learner's Manual: <ul style="list-style-type: none"> Intro to Distance Learning sub-modules
<i>[Obj 1]</i> Understand the structure, goals, and expectations of this course. <i>[Obj 2]</i> Engage in an onboarding experience that introduces core concepts and learning tools.	<i>[Obj 3]</i> Explore Computational Thinking through unplugged and co-design exercises. <i>[Obj 4]</i> Introduce creative CT ideation and collaborative reflection.	<i>[Obj 5]</i> Understand real-world applications of robotics and AI in education. <i>[Obj 6]</i> Reflect on future-ready teaching practices.	<i>[Obj 7]</i> Use GenAI tools to analyze and identify real-world robotic components. <i>[Obj 8]</i> Practice decomposition and component-level CT skills.	<i>[Obj 9]</i> Navigate the asynchronous learning modules and understand expectations.
1 h	2 h	0.5 h	2 - 3 h	0.5 h

Session No.6	Session No.7	Session No.8	Session No.9	Session No.10
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
Making:	Robot	<ul style="list-style-type: none"> Define and 	CT Lesson	Peer Feedback



<ul style="list-style-type: none"> • Design with Tinkercad • 3D Printing Basics • Use GenAI in iterative design 	<p>Programming with VexCode VR</p> <p>Task: Complete one virtual activity to explore basic algorithms and programming.</p>	<p>explore Computational Thinking (CT) in your subject area.</p> <ul style="list-style-type: none"> • Examine practices such as decomposition and pattern recognition • Explore inclusive maker pedagogies • Explore readings and CT-related podcasts (e.g., NotebookLM). 	<p>Plan Design:</p> <p>Draft a structured CT lesson plan using AI tools.</p> <ul style="list-style-type: none"> • Identify approaches (unplugged, tinkering, etc.) • Combine unplugged, tinkering, making, AI and robotics elements into a draft, short lesson plan. 	<p>& Revision</p> <p><i>Participant will:</i></p> <ul style="list-style-type: none"> • Share & Analyze class plans in peer groups • Peer-review another participant's plan
<p><i>[Obj 10]</i> Begin designing a robot using Tinkercad and learning about 3D modeling</p> <p><i>[Obj 11]</i> Understand the basics of 3D printing and how digital models are translated into physical objects.</p>	<p><i>[Obj 13]</i> Apply basic algorithmic thinking through visual programming.</p> <p><i>[Obj 14]</i> Practice programming logic using accessible online tools.</p>	<p><i>[Obj 15]</i> Apply Computational Thinking (CT) to their own subject area.</p> <p><i>[Obj 16]</i> Analyze CT practices through media & reflection.</p> <p><i>[Obj 17]</i> Differentiate</p>	<p><i>[Obj19]</i> Draft a CT-integrated lesson plan using AI tools and maker principles.</p> <p><i>[Obj20]</i> Select and justify appropriate pedagogical approaches.</p> <p><i>[Obj21]</i> Use</p>	<p><i>[Obj 22]</i> Share and reflect on drafted CT lesson plans with peers.</p> <p><i>[Obj 23]</i> Provide and receive constructive feedback.</p> <p><i>[Obj 24]</i> Reflect on CT applications and inclusive</p>



[Obj 12] Apply principles of iterative design through digital prototyping using GenAI		between CT components [Obj 18] Reflect on inclusion in CT/Maker Education	AI tools to support lesson planning & enhance instructional creativity.	practices in teaching.
2 - 3 h	2 h	3 h	2 - 3 h	2 -3 h

Session No.11	Session No.12	Session No.13	Session No.14
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
Recap + QA + Today's Goals Making: <ul style="list-style-type: none"> • Read a connection diagram for a robot. • Use an AI tool (e.g., ChatGPT) to explain the diagram in your own words. • Program basic Arduino behaviors (e.g., control a sensor or motor). • Use GPT to understand, 	Afternoon Workshop Session: <ul style="list-style-type: none"> • Post-Test • Assessment/Certification • Participate in a short interview to provide course feedback (1:1 or group). 	[optional activity] Remixing: <ul style="list-style-type: none"> • Remix a sample robot design using CAD software or existing Arduino sketches. • Prototype or simulate your remix in Tinkercad. • Use an AI tool (e.g., ChatGPT) to generate or extend code blocks based on your modified design. 	Final Submission & Reflection: <ul style="list-style-type: none"> • Refine your curriculum and teaching methods based on feedback and self-evaluation. • Submit your CT-integrated lesson plan and robot activity portfolio. • Document your reflections on implementation, including what worked, what didn't,



<p>validate, and extend your code (e.g., add state-based behaviors).</p> <ul style="list-style-type: none"> • Reflect on your experience and post your insights in Moodle (AI-supported if desired). 			<p>and how CT principles were applied.</p>
<p><i>[Obj 25]</i> Learn to wire and program a basic robot using Arduino and sensors.</p> <p><i>[Obj 26]</i> Interpret and apply a robot connection diagram to build a basic circuit.</p> <p><i>[Obj 27]</i> Use AI tools to understand, debug, and enhance Arduino code.</p> <p><i>[Obj 28]</i> Reflect on the programming and AI-assisted design process to improve learning and teaching practice.</p>	<p><i>[Obj 29]</i> Complete certification course requirement to assess your progress.</p> <p><i>[Obj 30]</i> Participate in a reflective interview to share your learning journey.</p> <p><i>[Obj 31]</i> Provide feedback on the course for future improvements.</p>	<p><i>[Obj 32]</i> Remix and simulate robot designs using TinkerCAD or existing sketches.</p> <p><i>[Obj 33]</i> Integrate AI-generated code into a working robot prototype.</p> <p><i>[Obj 34]</i> Apply design thinking to modify existing robotics solutions creatively.</p>	<p><i>[Obj 35]</i> Reflect on your teaching methods and how CT principles were applied.</p> <p><i>[Obj 36]</i> Demonstrate the ability to iteratively refine teaching resources based on feedback and implementation experience.</p>
<p>3 - 4 h</p>	<p>3 h</p>	<p>2 - 3 h</p>	<p>2 h</p>

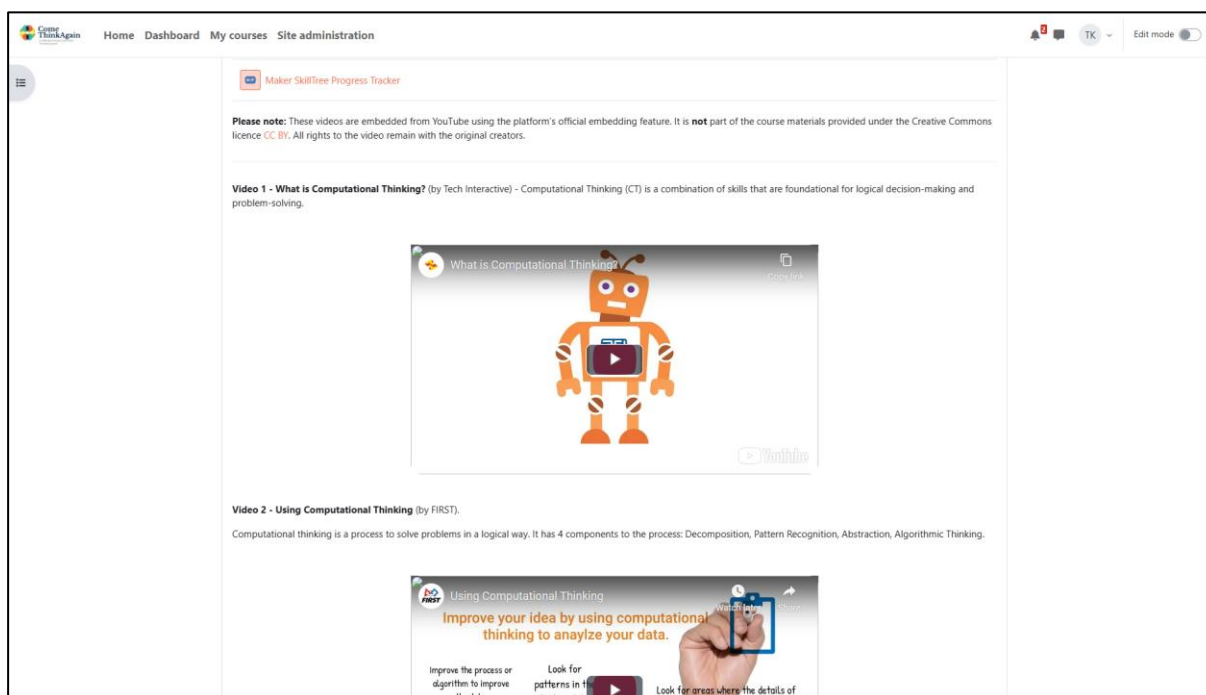


Figure 3: The “Computational Thinking in Secondary Education” course in Moodle

2.1.3.VET

Within vocational education and training, the CT module is designed to provide learners with both theoretical grounding and practical application of CT in professional contexts. The course introduces the key elements of CT—abstraction, decomposition, pattern recognition, and algorithmic thinking—while highlighting their relevance to everyday tasks and workplace problem-solving. Participants are encouraged to see CT as a competence that not only strengthens logical and higher-order thinking but also supports digital literacy and participation in a society shaped by data and automation. A strong emphasis is placed on empowerment, enabling learners to recognize how CT is already embedded in their daily lives and to identify opportunities to apply it meaningfully in vocational settings. The learning outcomes for this module reflect both conceptual understanding and applied skills. Participants are expected to demonstrate knowledge of fundamental CT processes, to understand the workings of computers and robots through topics such as bits, bytes, and binary codes, and to build confidence in reading and writing pseudocode. They also acquire practical experience in coding and physical computing through microcontrollers such as the micro:bit, where they learn to program simple tasks and apply computational methods to real-world scenarios. Importantly, the module integrates artificial intelligence by training learners to create and edit code with the assistance of large language models, and to critically review and refine AI-generated solutions. By achieving these outcomes, participants not only develop a robust foundation in computational skills but also gain the ability to integrate CT practices into vocational domains. This ensures that learners are equipped with the digital competences and problem-solving mindset needed to contribute effectively to Europe’s evolving labour market.

Table 4: Overview of Course in “CT in VET”

Bold + ☒ = planned mode / ☒ = possible alternative mode



Session No.1	Session No.2	Session No.3	Session No.4
<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Pre-Test has to be taken before the first session • Introduction to the course and CT • Icebreaker activity 	<ul style="list-style-type: none"> • Interactive Lessons on moodle for: <ul style="list-style-type: none"> ○ Abstraction ○ Pattern ○ Recognition ○ Decomposition • Exercises and Quizzes for each lesson 	<ul style="list-style-type: none"> • Theoretical part about: Bits, Bytes, Binary Code/Tree, Basics of algorithm • Practical part: Unplugged Exercises 	<ul style="list-style-type: none"> • Interactive Lessons on moodle for: <ul style="list-style-type: none"> ○ Basic coding knowledge ○ Algorithm ○ Dijkstra ○ AI and it's proper use • Exercises and Quizzes for each lesson
Goal(s): 1, 2	Goal(s): 1, 2, 3	Goal(s): 4, 5	Goal(s): 1, 5
1.5 h	4 h	3 h	4-6 h

Session No.5	Session No.6	Session No.7	Session No.8
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Introduction on the use of microcontroller • Introduction to coding with Python editor • Coding exercises 	<ul style="list-style-type: none"> • Doing exercises on the micro:bit with instructions on moodle • Using AI in coding -> lesson and exercises • Homework exercise: creating own code 	<ul style="list-style-type: none"> • Presentation of own code • Co-Creation Workshop with the VET Trainers • Homework exercise: Brainstorming about Integration/Changes 	<ul style="list-style-type: none"> • Feedback session • Post-Test • Certification exam • Questionnaire • Interviews



Goal(s): 3, 4, 5	Goal(s): 1, 3, 4, 5, 6	Goal(s): 5, 6	Goal(s): None
3 h	4-6 h	3 h	3 h

2.2. Entrepreneurship Education

2.2.1. Primary Education

Entrepreneurship Education (EE) is anchored in the EntreComp framework, which defines entrepreneurship as the capacity to act upon opportunities and ideas to generate value for others. Within the CTA-CETS structure, this competence area is developed progressively across educational levels, with a strong emphasis on applied and practice-oriented methods.

In primary education, the EE module introduces teachers to methods of supporting children’s creativity, collaboration, and capacity for value creation through the process of business ideation. The module is structured around the idea that entrepreneurship at this age is not about running businesses but about nurturing an entrepreneurial mindset, where children learn to recognize opportunities, generate ideas, and translate them into simple projects with meaning for their peers and community. Teachers are introduced to central business concepts such as value, value creation, and pitching, and they practice how to present these ideas to children in accessible and age-appropriate ways. By engaging with methods such as project-based learning, design thinking, and business model canvases adapted for ethical and sustainable purposes, educators gain the tools to help children link imagination with structured planning. The learning outcomes emphasize that participants develop the ability to understand basic business concepts e.g., agile development, identify and cultivate opportunities for entrepreneurial initiatives, and support children in applying creative thinking to problem-solving with playful approaches (e.g., using LEGO). Importantly, the module highlights perseverance and motivation as central qualities, both for teachers guiding learning and for pupils engaging in entrepreneurial activities. By the end of the module, educators are prepared to implement small-scale entrepreneurial projects—such as idea generation exercises, classroom enterprises, or collaborative challenges—that stimulate curiosity, resilience, and social responsibility among primary learners.

Table 5: Overview of Course in “EE in primary education” (Learning entrepreneurship by doing)

Bold + = planned mode / = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session



<p>Pre-Test</p> <p>Overview of the module:</p> <ul style="list-style-type: none"> Description text in Moodle <p>Short video lecture:</p> <ul style="list-style-type: none"> Introduction to central business concepts needed in the course (business idea, value and value creation, pitching) Reflection task: How easy was it to understand the concepts; What felt complex to explain to children and why; What feels applicable in my own teaching <p>Reading task:</p> <ul style="list-style-type: none"> Reading a scientific article (or parts of it) about the value of business ideating with children to support learning Reflection task: How easy was it to understand the concepts; What felt complex to explain to children and why; What 	<p>Warm-up: presenting myself to others</p> <p>Sharing with the group: Sharing reflection highlights between participants</p> <p>Brief lecture: Business ideating phases</p> <p>Try it out:</p> <ul style="list-style-type: none"> Try out business ideating in a group of 2-3 <p>Reflection:</p> <ul style="list-style-type: none"> What did you learn? How the method could be applied in classroom? <ul style="list-style-type: none"> Lessons learned when trying it out Challenges, potential solutions 	<p>Reading task: get familiar with different versions of Business Model Canvas; particularly with ethical and sustainable versions</p> <p>Group work: Continue with your business planning - fill in the lean canvas</p> <p>Reflection task (individual work):</p> <ul style="list-style-type: none"> Challenges in business ideating and how those reflect to using the method with children Teaching plan: Plan for how to go the same process through with my own students <p>Peer review (individual work): Peer</p>	<p>Group work: Pitching the business ideas</p> <p>Reflective discussion together with all participants</p> <ul style="list-style-type: none"> How to do this with children in education context Sharing experiences
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feels applicable in my own teaching <ul style="list-style-type: none"> Familiarizing with existing materials/pedagogical models/methods on how to do business ideating with children <p>Prepare to share learning/reflection highlights with other students when meeting face-to-face</p>		reviewing other participant's reflection task <ul style="list-style-type: none"> Compare the identified challenges Comment the teaching plan <p>Group work: Preparing for pitching</p>	
Goal(s): 1,7	Goal(s): 2,3,5,6	Goal(s): 1,3,5,7,8	Goal(s): 5,6,7,8
4 h	3-5 h	6 h	1 h

Table 6: Overview of Course 2 in “EE in primary education” (How to teach entrepreneurship)

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.5	Session No.6	Session No.7	Session No.8
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<p>Self-study on entrepreneurship education:</p> <ul style="list-style-type: none"> How EE is done in other countries What is 	<p>Sharing with the group: Best methods for classroom application</p> <p>Brief lecture: What is Design Thinking, how it can be used with children</p> <p>Try it out:</p> <ul style="list-style-type: none"> Try out Design 	<p>Trying it out independently with the teacher's own class</p> <ul style="list-style-type: none"> Writing a plan Implementation in classroom <ul style="list-style-type: none"> Consider 	<p>Reflective discussion: Sharing the experiences with other</p>



<p>central to focus on in EE</p> <ul style="list-style-type: none"> • What else can be done in addition to business ideating • Read D2.1 and specifically Entrecomp and other relevant models, check what else is useful to read • Choose the most interesting /useful sounding ones from classroom application perspective and prepare to share about them and discuss with other students when you meet 	<p>Thinking in a group in the context of ethical and sustainable innovations</p> <ul style="list-style-type: none"> • Discuss how the method could be applied in classroom <ul style="list-style-type: none"> ◦ Lessons learned when trying it out ◦ Challenges, potential solutions <p>Brief lecture: What is agile product development and why is this approach used, what does it teach to children</p> <p>Try it out in a group: Each participant is given a role: Scrum Master, Marketing, Product Owner (teacher), etc.</p> <p>Task 1:</p> <ul style="list-style-type: none"> • You need to build a space station on the moon: What is needed to be done? (greenhouse, rover, sleeping quarters, etc.) • What do you learn from this phase for entrepreneurship? What else? <p>Task 2:</p> <ul style="list-style-type: none"> • A new mission requires travelling to another planet: What is needed to be done? (they now need a rocket, but also need to continue building the rest) • What do you learn from this phase for 	<p>possibilities for interdisciplinary or cross-curricular integration (arts, language learning, ...)</p> <ul style="list-style-type: none"> • Reporting: Reflection on lessons learned and challenges in the learning process <p>Peer review (individual work): Peer reviewing other participant's report</p> <ul style="list-style-type: none"> • Comment and compare the lessons learned and identified challenges 	<p>participants</p> <p>Post-Test</p> <p>Certification exam</p> <p>Interviews</p>
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	entrepreneurship? What else? Task 3: <ul style="list-style-type: none"> • The whole mission is cancelled: everything must be packed up and returned to Earth. What is needed to be done? • What do you learn from this phase for entrepreneurship? What else? Reflection: <ul style="list-style-type: none"> • What did you learn from each phase? • How the method could be applied in classroom? <ul style="list-style-type: none"> ○ Lessons learned when trying it out ○ Challenges, potential solutions 		
Goal(s): 1,8	Goal(s): 1, 2, 3, 4, 5, 6, 7, 8	Goal(s): 7, 8	Goal(s): 7
4 h	3-6 h	6 h	1,5 h

2.2.2. Secondary Education

In secondary education, the EE module is designed to cultivate an entrepreneurial mindset among teachers and to equip them with methods that can inspire their students to act upon opportunities, take initiative, and transform ideas into structured projects. At this level, entrepreneurship is framed as a competence that goes beyond creativity to include resource mobilization, risk management, and long-term planning. Participants explore how to integrate entrepreneurial thinking into their teaching practices through approaches such as project-based and problem-based learning, design thinking, and mini-enterprises, thereby creating opportunities for students to experience entrepreneurship in practical and collaborative settings. The learning outcomes for this module reflect the shift from ideation to implementation. Teachers are expected to support learners in identifying opportunities and developing innovative solutions to real-world problems, while also fostering creativity, initiative, and resilience. They learn to guide students in planning and managing entrepreneurial projects, in mobilizing others and working effectively in teams, and in assessing risks and uncertainties inherent in



entrepreneurial activity. Teachers are also encouraged to reflect on their own strengths and weaknesses, building self-efficacy and perseverance that they can model for their students. By the end of the module, educators are prepared to implement activities that simulate entrepreneurial processes—from opportunity recognition to pitching and project execution—so that secondary school students gain authentic experiences of entrepreneurship as a dynamic and socially relevant competence.

Table 7: Overview of Course in “EE in secondary education”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4	Session No.5
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Pre-Test • Basics of entrepreneurship, • essential characteristics, • first steps towards a business plan • Practical Task: Develop a business idea 	<ul style="list-style-type: none"> • Team building, • Identifying real-world problems, • Ideation • Practical Task: Pitch your business idea • Peer Review 	<ul style="list-style-type: none"> • Product details, features, • USP, benefits for target group, • Target group analysis & personas • Practical Task: Write a Product / Service Description 	<ul style="list-style-type: none"> • Market research, • Competition analysis, • Market size, • Trends, Barriers to market entry, • SWOT analysis, etc. • Practical Task: Conduct A SWOT Analysis 	<ul style="list-style-type: none"> • Introduction BMC framework • Practical Task: Create A Business Model Canvas • Peer Review
Goal(s): 1, 2, 3, 4	Goal(s): 1, 2, 3, 4	Goal(s): 3, 4	Goal(s): 3, 4, 5	Goal(s): 3, 4
2-4 h	2-4 h	3 h	3 h	2 h

Session No.6	Session No.7	Session No.8	Session No.9	Session No.10
<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person



☒ Online Session	☒ Online Session	☒ Online Session	☒ Online Session	☒ Online Session
<ul style="list-style-type: none"> Revenue/costs, Break-even, Planning & financing terms Practical Task: Financial Overview & Break-even Analysis 	<ul style="list-style-type: none"> Marketing basics, Marketing strategies, Communicating a business idea Practical Task: Develop a marketing plan 	<ul style="list-style-type: none"> Preparation of business idea presentation Practical Task: Final Pitch Submission 	<ul style="list-style-type: none"> Live presentation 	<ul style="list-style-type: none"> Reflection Knowledge-Transfer Session: How to use the knowledge in practice? Post-Test Certification exam Questionnaire Interviews
Goal(s): 3, 4, 5	Goal(s): 3, 4	Goal(s): 1, 2, 3, 4, 5, 6	Goal(s): 1, 2, 3, 4, 5, 6	Goal(s): 1, 2, 3, 4, 5, 6
3 h	3-4 h	1 h	1-2 h	2-4 h

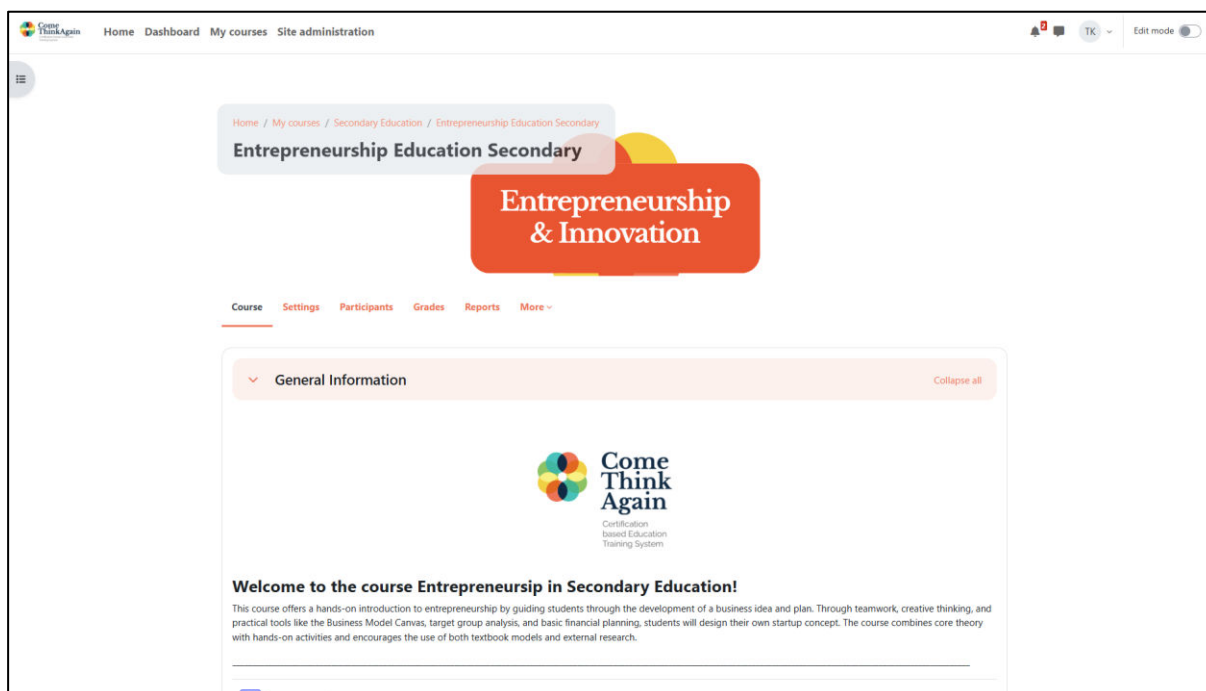


Figure 4: The “Entrepreneurship Education in Secondary Education” course in Moodle

2.2.3.VET

At the vocational education and training stage, the EE module places strong emphasis on connecting entrepreneurial thinking with concrete professional practice. Rather than treating entrepreneurship as an abstract set of concepts, the module equips learners with the mindset, competences, and tools required to transform ideas into viable businesses and sustainable projects. It follows the complete entrepreneurial journey, beginning with cultivating an entrepreneurial mindset and the generation of innovative ideas, moving



into the development of business models and strategic planning, and culminating in the crafting of a compelling pitch. In this way, entrepreneurship is framed as a practical and adaptable skillset that complements vocational expertise and strengthens employability. The learning outcomes highlight the development of initiative, resilience, and the ability to act under conditions of uncertainty. Participants are expected to support VET learners in spotting opportunities in their own fields, converting personal interests into viable business ideas, and develop the capacity to plan, market and and pitch ideas with confidence. Essential business skills such as financial planning, customer outreach, and storytelling are combined with key values of leadership, teamwork, and ethical responsibility, ensuring that entrepreneurial activities are carried out in a socially responsible and sustainable manner. Pedagogically, the module relies on experiential learning methods such as project-based learning, lean startup exercises, branding workshops, customer persona development, legal case studies, and pitching simulations. By embedding these approaches into VET, the module ensures that learners gain authentic, hands-on experience of what it means to design, test, and launch entrepreneurial projects. Through this, vocational learners not only strengthen their professional competences but also acquire the entrepreneurial mindset necessary to create value, innovate, and adapt in a rapidly changing world of work.

Table 8: Overview of Course 1 in “EE in VET”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Pre-Test • What is entrepreneurial thinking • Quiz • Traits of entrepreneurs • Self-assessment activity • Matching Activity – Traits & Real-World Scenarios • From passion to business idea • Are you an Entrepreneur? Self-assessment activity • Passion to idea mapping • Matching activity 	<ul style="list-style-type: none"> • Identifying unmet needs • Questions for discussion • Self-Assessment Quiz: Identifying Unmet Needs 	<ul style="list-style-type: none"> • Revenue streams & budgeting basics • Marketing channels • Revenue model • Legal & ethical topics • Go-to-market plan • Go-to-market plan – Worksheet and peer-review 	<ul style="list-style-type: none"> • Lean Startup principles • Quiz • Planning & strategy essentials • Quiz • Goal-setting activity • Develop & revise a Lean Canvas • Lean Canvas practical exercise • Quiz • Reflection questions in forum
Goal(s): 1,2,3,4	Goal(s): 1,2,3,4,5	Goal(s): 6,7,8,10	Goal(s): 4, 6, 7, 8,



			9,10
2 h	3 h	2 h	3 h

Table 9: Overview of Course 2 in “EE in VET”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.5	Session No.6	Session No.7	Session No.8
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Brand identity and Innovation • Create a brand board - Workshop • Social media & outreach • Value delivery • Create a brand board • Develop a customer persona - Workshop 	<ul style="list-style-type: none"> • Legal forms for entrepreneurs • Business legal structure checklist – Workshop • Ethical decision-making in business • Ethics case studies - Workshop 	<ul style="list-style-type: none"> • Crafting a Compelling Business Story Using Hero’s Journey • Reflection questions in forum • Develop your personal pitch - Workshop 	<ul style="list-style-type: none"> • Post-Test • Certification exam • Interviews
Goal(s): 3, 4, 5, 6, 7	Goal(s): 6, 7, 8, 9,10	Goal(s): 1, 4, 5, 6, 7, 8,10	Goal(s): 1, 4, 6, 7, 8, 9, 10
3 h	3 h	3-4 h	4 h

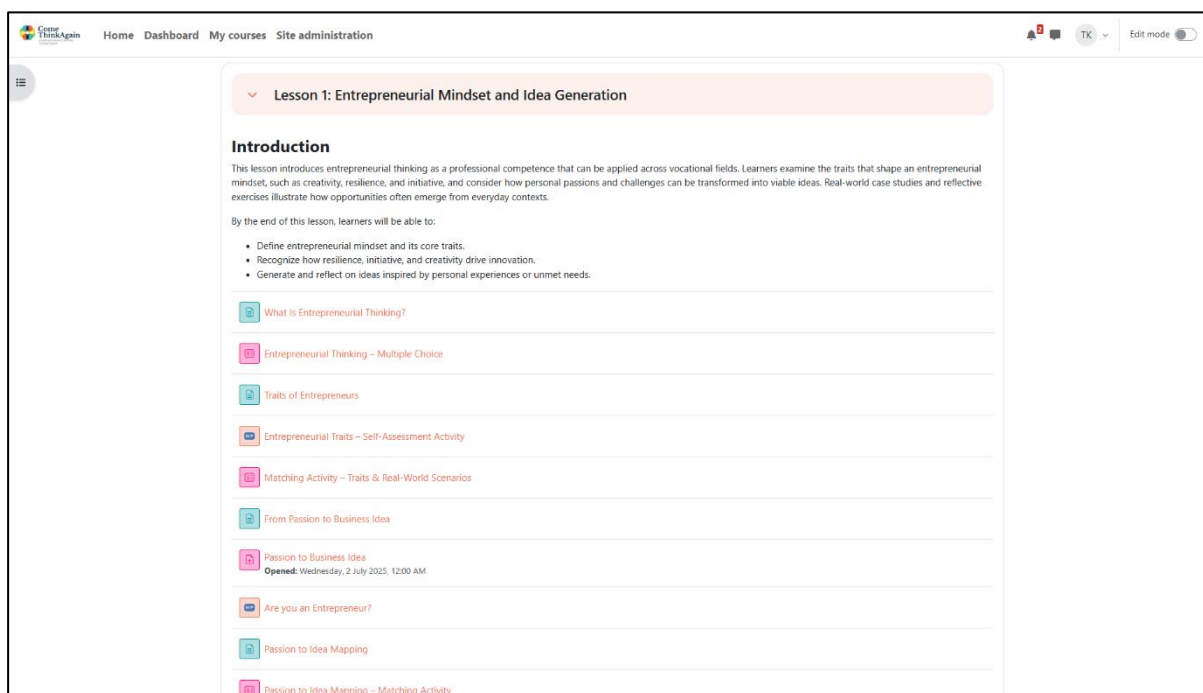


Figure 5: The “Entrepreneurship Education in VET” course in Moodle

2.3. Green Skills

Green Skills (GS) represent a transversal competence pillar that ensures sustainability, ethical awareness, and environmental responsibility are embedded throughout the CTA-CETS curriculum. While GS overlaps with certain aspects of entrepreneurial education, such as ethical and sustainable thinking, it also extends into the practical ability to design, implement, and evaluate actions that support the green transition in both education and industry.

In primary and secondary education, the GS modules introduce teachers to GreenComp, the European sustainability competence framework, and provide them with the knowledge, methods, and tools necessary to foster sustainability competencies in learners at these levels.

The modules also support teachers in encouraging learners to engage critically and creatively with sustainability issues from environmental, social and economic perspectives. While the distance learning part, which provides the basics, is identical for both educational levels, specific tasks and selected learning materials are adapted in on-site workshops to ensure age-appropriateness and contextual relevance for either primary or secondary education.

At these levels, sustainability is presented as a set of knowledge, skills and attitudes that learners can relate to their experiences at school and in their communities, as well as to everyday actions. Furthermore, sustainability competencies are not only framed as awareness of ecological issues, but also as the ability to analyse systems, envisage alternative futures and take meaningful action in line with the Sustainable Development Goals (SDGs).

The module emphasises the four interconnected competence areas of GreenComp: embodying sustainability values; embracing complexity in sustainability; envisioning sustainable futures; and acting for sustainability. It demonstrates how these areas can be integrated into the classroom setting in ways that are appropriate for pupils' age and learning level.



Teachers are encouraged to reflect on their own values and practices by participating in a sustainability challenge. They examine how sustainability is represented in national curricula and identify ways to strengthen its presence across subjects. They also design lesson plans linked to the Sustainable Development Goals, exploring measures that can be easily implemented alongside those requiring long-term effort and collaboration.

By the end of the course, educators will be able to design and implement classroom activities that foster sustainability competences such as systems thinking, futures literacy and collective action. Practical strategies such as storytelling, arts- based methods, design thinking and playful activities help to translate these objectives into meaningful learning experiences.

The module supports teachers in guiding learners to recognise the significance of their everyday choices, encouraging them to take small yet effective steps towards environmental awareness and agency. It combines a focus on participants' attitudes and behaviours with practical teaching methods and resources. This ensures that green skills are effectively and authentically integrated into the classroom.

Table 10: Overview of Course in “GS in primary and secondary education”

Bold + ☒ = planned mode / ☐ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Welcome • Project overview • Pre-test • Warm-up activity • Learning objectives • Module overview • Using the Moodle course • Introduction to Phase 1 	<ul style="list-style-type: none"> • Learning content: Introduction to GreenComp framework • Sustainability challenge • GreenComp knowledge quiz 	<ul style="list-style-type: none"> • Welcome and Introduction • Recap: The GreenComp framework • Introducing the term sustainability • Sustainability competences in national curricula • Why Individual Actions Matter • Sustainability Challenge • Educational Initiatives and Best Practice • Conclusion and next steps 	<ul style="list-style-type: none"> • Learning content: Agenda 2030/SDGs • Planning a lesson in the context of a selected SDG • SDG knowledge quiz
Goal(s): 4	Goal(s): 1, 2, 4, 5	Goal(s): 1, 2, 3, 4, 5, 7	Goal(s): 2, 3, 4, 5, 6, 7
1 h	4-6 h	4 h	4-6 h



Session No.5	Session No.6	Session No.7
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<ul style="list-style-type: none"> • Welcome and Introduction • Progress report on sustainability challenge • Revisiting the SDGs playfully • Presentation and discussion of SDG-based lesson plans • Spotlight: Envisioning sustainable futures (GreenComp) • Conclusion and next steps 	<ul style="list-style-type: none"> • Vision board 	<ul style="list-style-type: none"> • Welcome and Introduction • Recap: development of future scenarios • Final report on sustainability challenge • Presentation and discussion of vision boards • "My promise" poster • Certification exam • Post test
Goal(s): 1, 2, 4, 5, 6, 7	Goal(s): 1, 2, 3, 4, 5, 6, 7, 8	Goal(s): 1, 2, 3, 4, 5, 6, 7, 8
4 h	4-6 h	4 h

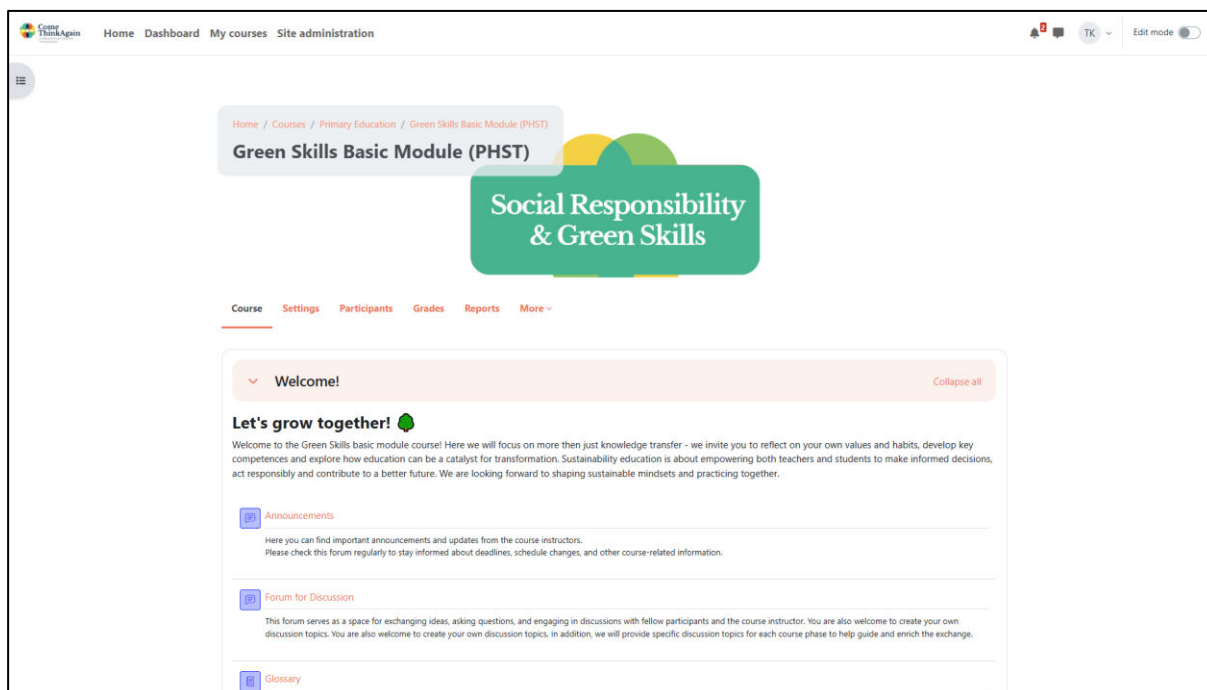


Figure 6: The “Green Skills” course in Moodle



3. TECHNOLOGICAL INFRASTRUCTURE

Moodle (Modular Object-Oriented Dynamic Learning Environment) has been selected as the learning management system (LMS) for the implementation and deployment of the ComeThinkAgain-CETS. As one of the most widely used open-source LMS platforms globally, Moodle is particularly well-suited for educational institutions that require flexibility, scalability, and customizability—all of which align closely with the pedagogical and technical requirements identified during the CTA-CETS design process (Al-Hamad, 2022). Moodle supports a variety of learning modalities including face-to-face, blended, flipped, hybrid, and fully online delivery formats. This aligns with the project's goal of offering adaptive and inclusive learning experiences for diverse learner groups across different educational contexts. One of Moodle's core strengths is its modular architecture (Abdillah et al., 2024), which enables the integration of a wide range of activity types and learning tools, such as assignments, quizzes, wikis, discussion forums, glossaries, and interactive lessons. This allows course designers to construct dynamic and engaging learning paths that align with constructionist and collaborative pedagogical approaches promoted in CTA-CETS.

A significant advantage of Moodle is its strong support for competency-based learning and micro-credentialing. Educators can define learning outcomes and link them directly to activities and assessments. Learner progress can be tracked through detailed analytics and visualized via dashboards, which not only support formative feedback but also facilitate the issuance of badges or formal micro-credentials in line with European policy frameworks. This feature is essential for the modular, stackable credential structure envisioned in the CTA-CETS. Moodle also offers robust role management and access control, allowing administrators to assign differentiated roles such as learner, teacher, facilitator, course creator, and manager. This enables a clear separation of responsibilities within the system, supporting both pedagogical and technical facilitation processes defined in Task T4.2. Moreover, Moodle's multilingual support enhances accessibility and inclusivity for diverse user groups across participating countries. From a technical perspective, Moodle is compatible with open standards such as SCORM, xAPI, and LTI, enabling integration with external learning tools, simulations, or analytics platforms. It is also compliant with international data protection and privacy standards, including GDPR, ensuring responsible handling of user data. Its mobile-optimized design and the availability of a dedicated mobile app further improve access and flexibility for learners engaging on different devices or in asynchronous environments.

The decision to adopt Moodle followed a comparative evaluation of several Virtual Learning Environment (VLE) candidates (as documented in the requirements analysis in appendix 1), based on criteria including ease of use, administrative overhead, user support availability, plugin ecosystem, technical documentation, and alignment with pedagogical goals. Moodle emerged as the preferred platform due to its balance of pedagogical sophistication and technical reliability, making it a strong foundation for the long-term deployment and evolution of the CTA-CETS.

To ensure successful implementation and user experience across institutions, a set of functional and non-functional requirements was defined through a desk research and brain-storming among project partners. These requirements address the needs of multiple user roles, including learners, educators, and administrators. Key features identified include support for synchronous and asynchronous learning, collaborative tools for social interaction, integration with assessment and certification modules, accessibility compliance (e.g. WCAG standards), and mobile responsiveness. The platform must also support technical roles such as system administrators and facilitators, offering dashboards for monitoring engagement and learner progress. Additional technical specifications—such as compatibility with SCORM/xAPI formats, LTI support, and analytics/reporting tools—are detailed in the accompanying user requirements registry



and technical spreadsheet. These serve as the operational baseline for configuring Moodle and any related systems during deployment.

In addition to addressing immediate pedagogical needs, the infrastructure has been designed with interoperability and long-term adaptability at its core. Moodle's compliance with widely adopted standards such as SCORM, xAPI, and LTI enables seamless integration with diverse educational technologies, from external simulation environments to institutional identity management systems and third-party certification providers (Cobing, 2025). This guarantees that CTA-CETS will not remain an isolated solution but can interconnect with national and European digital learning ecosystems, ensuring smooth exchange of data and recognition of credentials across platforms. Future compatibility is reinforced by Moodle's vibrant open-source developer community, which continuously updates the platform, develops new plugins, and aligns with international standards. This creates a robust and future-proof environment that safeguards the investment in CTA-CETS and allows for scaling across institutions and countries without compromising flexibility or sustainability.

Security, data protection, and ethical assurance are equally integral to the CTA-CETS design. Since modules issue digital credentials tied to learner identities, the system must guarantee secure and transparent handling of personal information. Moodle's GDPR compliance is reinforced through role-based authentication, encrypted data transfer, and privacy-by-design configuration of course modules. Audit trails and logging functions allow educators to monitor how learner data is accessed and processed, ensuring accountability and integrity in all learning and assessment activities. These measures provide the necessary safeguards to maintain the trust of learners and uphold the credibility of credentialing processes.

Accessibility and inclusivity are also guiding principles in the CTA-CETS design (Tresipunt, 2025). While Moodle meets WCAG standards, the system is configured to extend these features through inclusive pedagogical practices. This includes multilingual interfaces, culturally sensitive course content, and adaptable navigation to support neurodiverse learners. The platform's mobile optimization and offline functionality ensure that course materials and assessments are accessible to learners in low-bandwidth or mobile-first environments. For educators, this translates into designing modules that offer multiple pathways to learning: for example, combining written resources with video lectures, discussion forums with peer assessment, or quizzes with reflective assignments. Such approaches ensure that learners can engage with the material in ways that best suit their needs and contexts.

Moodle serves not only as a learning management system but as the enabling infrastructure of CTA-CETS. It supports the structuring of courses into modular units, competency-based assessment aligned with clearly defined learning outcomes, and the issuing of micro-credentials and digital badges. Learners benefit from transparent dashboards that visualize their progress, while educators gain access to tools for designing, delivering, and evaluating engaging and adaptive learning experiences. By providing a shared and sustainable environment for modular learning, Moodle ensures that the CTA-CETS can deliver high-quality micro-credential education aligned with European Council priorities on digital education, certification, and lifelong learning.



4. CONCLUSION

The design of the ComeThinkAgain-CETS program provides a comprehensive blueprint for integrating future-oriented competences into European education through micro-credentialed, modular training. By aligning with the European Council's priorities on digital education, certification, and lifelong learning, the framework ensures that learners and educators alike are empowered to acquire and apply skills that respond to the evolving social, environmental, and technological landscape.

The three educational pillars—Computational Thinking, Entrepreneurship Education, and Green Skills—form the backbone of this course design. Each is developed across primary, secondary, and vocational education, ensuring progression, age-appropriateness, and contextual relevance. CT is presented not only as a technical skillset but also as a form of empowerment, enabling learners to apply problem-solving approaches in both academic and vocational settings, building on DigComp. EE builds on the EntreComp framework, fostering creativity, resilience, and value creation while grounding these in ethical and sustainable practices. GS, guided by the GreenComp framework, cut across all learning stages, embedding sustainability as a transversal competence and preparing learners to contribute actively to the green transition. The pedagogical design emphasizes active and learner-centered methods, including project-based and problem-based learning, design thinking, and experiential activities. These approaches ensure that learners are not passive recipients of information but engaged participants in constructing knowledge and applying competences to authentic challenges. Importantly, the structure recognizes the diversity of European educational contexts by combining flexibility with coherence: modules can be adapted to local curricula and priorities while maintaining shared learning outcomes and credentialing standards.

The adoption of Moodle as the technological infrastructure underlines the program's commitment to accessibility, scalability, and interoperability. Its capacity for competency-based assessment and micro-credential recognition provides the technical foundation for issuing portable, stackable credentials that are aligned with European frameworks such as Europass and EQF. This not only validates the achievements of learners but also ensures their recognition across educational systems and labor markets.



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Appendices

User requirements registry

User Requirements Registry					
#	Short Description	Type of User	I Need to (do some task)	Priority	Comment(s)
1	Users must be able to participate in a mixed learning format combining online and in-person sessions	Learner			
2	Users should be able have collaborative and social learning experiences, including group activities, online forums etc.	Learner			Same/similar to requirement 19?
3	Users should have access to teaching material such as videos, documents, simulations etc.	Learner			
4	Users should be able to gain access to materials in their preferred language.	Learner			
5	Users are expected to complete the necessary modules to earn certifications, which include micro-certifications for individual modules and comprehensive certification for entire training segments.				Same/similar as requirement 24?
6	allowing users to select and complete individual micro-modules, enabling a personalized learning journey.	Learner			
7	the user should have mechanisms for performance measurement, continuous feedback, and progress tracking to monitor learning outcomes effectively.	Learner			
8	within the CoP: allow users and experts to interact, fostering knowledge exchange and networking	Learner/Teacher			

9	Users have access to learning content that is tailored to the needs of specific target groups, such as teachers in higher education and trainers in vocational education.				Same/similar to requirement 23?
10	quality assurance	Teacher/Admin			
11	Technical Scalability and User-Friendliness				Those scalability and user-friendliness are 2 different requirements, also with different user types.
12	Learning paths for users to hide/unlock content only after successful completion of previous lessons	Teacher/Admin	Restrict learners from trying to do content that is not appropriate so far	Essential	
13	Compatibility with standards to import/export content, results and statistics	Admin		Essential	
14	<ul style="list-style-type: none"> • Create, export, restore learning material in SCORM format <ul style="list-style-type: none"> ◦ Interactive elements (quiz, gamification, ...) ◦ Interoperability with project partner's LMS solutions 	Teacher/Content creator		Essential	
15	<ul style="list-style-type: none"> • Create and reuse courses <ul style="list-style-type: none"> ◦ lessons ◦ scheduling 	Teacher/Admin		Essential	

16	Run lessons with X concurrent users			Essential	
17	<ul style="list-style-type: none"> • Collaboration features <ul style="list-style-type: none"> ◦ through LMS or external solution 	Teacher/Learner		Nice to Have	
18	<ul style="list-style-type: none"> • Collect learning statistics <ul style="list-style-type: none"> ◦ Progress tracking ◦ Grading 	Teacher		Essential	
19	<ul style="list-style-type: none"> • Survey/questionnaire <ul style="list-style-type: none"> ◦ through LMS or external solution? 	Teacher/Learner		Essential	
20	<ul style="list-style-type: none"> • Digital certification <ul style="list-style-type: none"> ◦ Examinations ◦ Issue a digital proof of attendance ◦ Issuing a digital certification of success ◦ If possible, align with Europass https://europass.europa.eu/en/stakeholders/european-digital-credentials <ul style="list-style-type: none"> ▪ MicroHE metadata standard ◦ through LMS or external solution 	Teacher/Certification issuer		Essential	
21	Modular system, so content can be configured to be in a certain module (or more), and modules can be contained in several courses	Teacher/Content creator		Essential	
22	Certificates can be configured to be comprised of certain modules, certificates can be comprised of several certificates	Teacher/Certification issuer		Essential	
23	possibility to develop content offline and upload to the online platform	content designer		Nice to Have	
24	possibility to download courses, modules, lessons as a single/editable unit	content designer		Essential	

25	quick user authentication with well-known means, no lengthy user creation	everyone		Essential	
26	learning content visible/accessible without login	learner		Essential	

Module Plan *CT Primary Education*

Module Title: <Fostering CT in Primary Education>

Duration: 30 hours (1 ECTS)

Target group: Primary teacher Secondary teacher VET trainer

Module Description:

This module introduces the concept of Computational Thinking (CT), explores how it can be effectively fostered in primary education, and shows how interdisciplinary settings can support its development. CT is a crucial skill for navigating in a digitalized world and helps children solve problems in diverse areas—not just in computer science. Participants will gain a solid understanding of CT concepts and skills, engage in practical activities including basic programming, and develop didactic and pedagogical strategies for classroom implementation. The module also supports learners in designing interdisciplinary learning scenarios that integrate CT in meaningful and age-appropriate ways.

Competences

Computational Thinking	Entrepreneurship	Green Skills
<input checked="" type="checkbox"/> Algorithmic Thinking (AT)	<input type="checkbox"/> Spotting opportunities	<input type="checkbox"/> Systems-Thinking
<input checked="" type="checkbox"/> Decomposition	<input type="checkbox"/> Mobilizing others	<input type="checkbox"/> Critical Thinking
<input checked="" type="checkbox"/> Pattern Recognition	<input type="checkbox"/> Creativity	<input type="checkbox"/> Problem-solving
<input checked="" type="checkbox"/> Abstraction	<input type="checkbox"/> Taking the initiative	<input type="checkbox"/> Futures Literacy
<input checked="" type="checkbox"/> Modeling & Simulation	<input type="checkbox"/> Vision	<input type="checkbox"/> Valuing sustainability
<input type="checkbox"/> Generalisation	<input type="checkbox"/> Planning and management	<input type="checkbox"/> Political Agency
<input checked="" type="checkbox"/> Logical Thinking	<input type="checkbox"/> Valuing ideas	<input type="checkbox"/> Collective Action
<input type="checkbox"/> System Thinking (ST)	<input type="checkbox"/> Coping with uncertainty, ambiguity and risk	<input type="checkbox"/> Supporting Fairness
<input type="checkbox"/> CT Empowerment	<input type="checkbox"/> Ethical and sustainable thinking	<input type="checkbox"/> Promoting Nature
<input checked="" type="checkbox"/> CT Participation	<input type="checkbox"/> Working with others	<input type="checkbox"/> Adaptability
<input type="checkbox"/> Higher-Order Thinking Skills	<input type="checkbox"/> Self-awareness and self-efficacy	<input type="checkbox"/> Exploratory Thinking
<input type="checkbox"/> Higher-Order Problem-solving	<input type="checkbox"/> Learning through experience	<input type="checkbox"/> Individual Initiative
<input type="checkbox"/> Digital Literacy	<input type="checkbox"/> Motivation and perseverance	<input type="checkbox"/> Interpersonal/collaborative competence
<input type="checkbox"/> Data Literacy	<input type="checkbox"/> Guerrilla Skills	<input type="checkbox"/> Intrapersonal competences
<input type="checkbox"/> AI Literacy	<input type="checkbox"/> Mobilizing resources	

<input type="checkbox"/> Computational Mathematics <input type="checkbox"/> Computational Making <input type="checkbox"/> Computing (Programming)	<input type="checkbox"/> Demand for quality and efficiency <input type="checkbox"/> Financial and economic literacy	
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Learning Goals (Outcome?/Objectives?)

The participants can ...

- 1. understand CT concepts (e.g., decomposition, abstraction, pattern recognition, algorithmic thinking).**
 - a) apply CT concepts
 - b) Sub-goal
- 2. expand their repertoire of teaching methods for CT.**
 - a) ...
- 3. integrate and promote problem-solving and CT activities in their own teaching.**
 - a) ...
- 4. identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning.**
 - a) ...
- 5. develop and implement interdisciplinary CT projects.**
 - a) ...
- 6. reflect on their teaching practice and improve CT integration in education.**
 - a) ...

Required prior knowledge

None

Learning Methods

Computational Thinking	Entrepreneurship	Green Skills
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Unplugged activities<input type="checkbox"/> Play-based learning<input checked="" type="checkbox"/> Storytelling<input type="checkbox"/> Making<input type="checkbox"/> Robotics<input type="checkbox"/> Game-based methods<input checked="" type="checkbox"/> Coding/computing or programming<input checked="" type="checkbox"/> Project-based learning<input type="checkbox"/> Code visualization	<ul style="list-style-type: none"><input type="checkbox"/> Problem-based learning<input type="checkbox"/> Project-based learning<input type="checkbox"/> Entrepreneurial hackathons<input type="checkbox"/> Design-based learning<input type="checkbox"/> Making<input type="checkbox"/> Work-based learning models<input type="checkbox"/> Providing role models<input type="checkbox"/> Mentoring<input type="checkbox"/> Guest lectures and workshops<input type="checkbox"/> learning by doing<input type="checkbox"/> internships in start-ups<input type="checkbox"/> Mini-enterprises	<ul style="list-style-type: none"><input type="checkbox"/> Storytelling<input type="checkbox"/> Project-based learning<input type="checkbox"/> Problem-based learning<input type="checkbox"/> Game-based learning<input type="checkbox"/> Competition-based methods<input type="checkbox"/> Reflective-methods<input type="checkbox"/> Making and design-based methods<input type="checkbox"/> Field trips<input type="checkbox"/> Outdoor education<input type="checkbox"/> Arts-based and creative learning methods

Overview of Course 1 (CT in CS context)

Bold + ☑ = planned mode / ☐ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> - Pre-Test - Explanation of the module - Introduction to CT (literature study and reflective tasks) 	<ul style="list-style-type: none"> - Link to distance learning (warm-up activity) - Input “CT concepts” - Deepening CT knowledge (stationary exercises) - Input “teaching methods” - Analyzing CT tasks 	<ul style="list-style-type: none"> - Planning own CT task - Proof of performance 	<ul style="list-style-type: none"> - Presentation, feedback and evaluation created CT task (Distance Learning 2)
Goal(s): 1	Goal(s): 1, 2, 3	Goal(s): 1, 2, 3	Goal(s): 1, 2, 3
2-4h	4-6h (half day)	2-4h	1h

Overview of Course 2 (CT in interdisciplinary context and process)

Session No.5	Session No.6	Session No.7	Session No.8
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> - Deepening CT knowledge (literature study with matching exercises) - Brainstorming real world example for interdisciplinary CT learning scenario 	<ul style="list-style-type: none"> - Repetition of acquired knowledge so far (warm-up activity) - Input “CT in everyday life & other subjects” - Interdisciplinary teaching methods (for CT) - CT in interdisciplinary learning settings (exercises, discussions, ...) 	<ul style="list-style-type: none"> - Preparing practical project - Implementing and documenting practical project 	<ul style="list-style-type: none"> - Presentation and evaluation of practical project - Wrap-up of the module - Certification exam/ post-test? - Interviews
Goal(s): 1, 4	Goal(s): 2, 4, 5	Goal(s): 1, 2, 3, 4, 5, 6	Goal(s): 6
2-4h	4-6h (half day)	2-4h	1h +1h

Session description

Session No. 1: Distance Learning 1

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Pre-Test	<input checked="" type="checkbox"/> Online Test	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	-	The participants solve the Pre-Test before they start working on the actual module content. The pre-test has to be completed by all participants, before they can start working on the content.	-	Pre-Test LINK:
Video explanation of module/project	<input checked="" type="checkbox"/> video	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	-	At the beginning of the course, participants are introduced to the overall structure and key content areas of the module. This provides a clear roadmap of what to expect, including the main topics, learning objectives, and the progression of activities.	-	Self-made video LINK:
Literature Study	<input checked="" type="checkbox"/> literature review	1h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1	The participants read a paper to get an overview of CT. The paper serves as a meta-study that brings together various perspectives on Computational Thinking (CT). It provides an overview of key definitions, highlights the importance of CT and summarizes the current state of research and practice. Throughout the paper, connections to education are repeatedly emphasized, underlining CT's relevance for teaching and learning.	-	PDF of paper
Scratch-Game	<input checked="" type="checkbox"/> exercise	1h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1, 1a	The participants dive deeper into the CT concept of abstraction by playing and analyzing a scratch game. First, they look at three games and choose one that they liked best. They play the chosen game and apply abstraction by breaking the game down into small steps. This process is documented in a flowchart that the participants draw on a paper. They will keep the paper and bring it to the first workshop.	Unplugged activities Game-based methods	Links to Scratch-games Example of flowchart

Reflective questions	<input checked="" type="checkbox"/> exercise	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1	The participants try to make a connection between the scratch game and the fundamental CT concepts they learned about in the literature.		Reflective questions
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Session No. 2: Workshop 1

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Welcome	<input checked="" type="checkbox"/> input	10 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	-	<ul style="list-style-type: none"> Welcome participants Instructors introduce themselves Explaining agenda for Workshop 1 	-	PPT
CT Bingo	<input checked="" type="checkbox"/> activity	10 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	4	The participants get a CT-Bingo sheet each. They walk around in the room and have to find a person for each description in the fields. The person who first fills a row or column is the winner.	Unplugged activities Game-based methods	Bingo sheets
Follow-up of distance learning 1	<input checked="" type="checkbox"/> exercise	10 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	-			
Input CT	<input checked="" type="checkbox"/> input	20 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants learn about/repeat CT frameworks/ definition	Computational Thinking <ul style="list-style-type: none"> Definitions Frameworks (DigComp) Curricula integration Examples for activities = link to stationary exercises 		PPT
Stationary exercises	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> ...	60 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants deepen their CT knowledge	<ul style="list-style-type: none"> 4 stations with activities (on top 4) <ul style="list-style-type: none"> >> algorithmisation >> abstraction >> pattern recognition >> decomposition The participants work in pairs. During 15 min they work on a respective task. When 	Double-decker method: participants solve tasks their students could as well	Materials for stationary exercises

					<p>the time is up, they switch to the next station.</p> <ul style="list-style-type: none"> • Reflection task: After the stationary exercises the participants reflect on the task and note what connections the specific tasks had with CT • Plenary discussion on content (what CT aspects were fostered in the four tasks?) and meta-level (how was working on the tasks? Where could students have difficulties? Etc.) 	<p>Reflecting on tasks =</p> <p>a) bridging to input on methods and b) supporting participants for implementing tasks in class.</p>	
Break		30 min.			Somewhere in between the stationary exercises		
Input CT methods	<input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> ...	20 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants learn about methods to teach CT	<p>CT and programming methods</p> <ul style="list-style-type: none"> • Making • Unplugged • Remising • Game Design • Show examples • List: what to look for when fostering CT in class 	Showing examples helps to understand and differ between methods.	ppt
Analyzing CT tasks	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> ...	60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants analyze CT tasks	<ul style="list-style-type: none"> • Every group gets some CT tasks (e.g. Bebras) and analyzes them on CT background (top 4) • Summary in plenary: every group presents one of their tasks. In plenary all participants discuss the analysis and add their comments • Discussion on over all findings/learnings 	<p>Through analyzing the participants learn how CT tasks are constructed and are therefore capable of creating their own tasks.</p> <p>→ support participants with struggles</p> <p>→ there are easy and more difficult tasks</p>	CT tasks (different levels of difficulty)
Wrap-up	<input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> wrap-up	5 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	-	<ul style="list-style-type: none"> • Summarize lessons learnt today • Explain Distance Learning 2 • Info for Online Session • Answer questions 	Giving the participants an outlook so they know what to expect next.	
		Total: 4h20' incl. break					

Session No. 3: Distance Learning 2

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Planning a practical project	<input checked="" type="checkbox"/> project work	2h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	<p>integrate and promote problem-solving tasks/CT in their own teaching.</p> <p>understand and apply CT concepts (e.g., decomposition, abstraction, pattern recognition, algorithmic thinking).</p>	<ul style="list-style-type: none"> The participants got to know the top 4 (algorithmization, abstraction, pattern recognition and decomposition) in Workshop 1. They now plan a CT example for other CT concepts. They need to review additional literature, websites and other resources to do so. 	<ul style="list-style-type: none"> Connect to real-life problems Make connection to Top 4 from Workshop 1 	<p>Templates from Top 4 stations as examples</p> <p>Guiding questions</p> <p>Overview of skills and techniques</p>
Developing a station: Proof of performance	<input checked="" type="checkbox"/> project work	2h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	<ol style="list-style-type: none"> integrate and promote problem-solving tasks/CT in their own teaching. understand and apply CT concepts (e.g., decomposition, abstraction, pattern recognition, algorithmic thinking). expand their repertoire of teaching methods for CT. reflect on their teaching practice and improve CT integration in education. 	<ul style="list-style-type: none"> The participants create a Computational Thinking project based on one of the presented skills/techniques. The stations from the first in-person event serve as a template for this. 	<p><Considerations for differentiation, inclusivity, etc.></p>	

Session No. 4: Online Live Session 1

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Introduction	<input checked="" type="checkbox"/> input	5 min.	<input checked="" type="checkbox"/> plenary	The participants get an overview of the structure of this online live session	The lecturer starts the online session by welcoming all participants and provides a quick overview of the agenda for the online live session. -> speed dating in breakout raum	1. Give time for questions	2. PPT with agenda
Presentation of Distance Learning 2	<input checked="" type="checkbox"/> input	20 min.	<input checked="" type="checkbox"/> plenary	<Specific learning outcome>	<Detailed task description, tools, and resources>	<Considerations for differentiation, inclusivity, etc.>	3. Links to all stations
...							

Session No. 5: Distance Learning 3

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
In-depth literature study	<input checked="" type="checkbox"/> literature review	90 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants expand their understanding of CT and its principles, building on the initial literature review.	The participants read the following 3 papers: <ul style="list-style-type: none"> • Shute et al., 2017 • Kormaz et al., 2016 • Denning & Tedre, 2019 	Maybe mark one paper as an optional study or add some more papers for further study.	Papers in pdf format
Generating a video	<input checked="" type="checkbox"/> exercise	90 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants use CT as a process for video production The participants deepen	<ul style="list-style-type: none"> • The participants generate a short video of their answers to reflective questions on the papers. • They upload their videos on a shared platform and view other participants' videos. 	Provide a guide on how to create a video. Some reflective questions should be on the content some should foster	Reflective questions Guide for video production

				their CT knowledge		transfer to classroom implementation	Sharing platform for videos
Brainstorming	<input checked="" type="checkbox"/> exercise	20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants start to widen their perspective on an interdisciplinary level	<ul style="list-style-type: none"> The participants select a real-world example (e.g., planning a party) and describe the process and its connection to CT (top 4) of it >> how??? 	Give an example so they know what to brainstorm.	
...							

Session No. 6: Workshop 2

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
CS unplugged	<input checked="" type="checkbox"/> exercise	20'	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	<p>The participants expand their repertoire of teaching methods for CT.</p> <p>The participants identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning.</p>	<ul style="list-style-type: none"> The participants play a CS Unplugged game (e.g. Hula Hoop) By playing the game, they get to know the teaching method of CS unplugged and can establish a connection between the Unplugged game and CT concepts 	The CS Unplugged game serves as a relatable example from real-world context	Verbal instruction to the game
Reflection on distance learning 3	<input checked="" type="checkbox"/> discussion <input type="checkbox"/> exercise <input type="checkbox"/> ...	30'	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning.	-	<Considerations for differentiation, inclusivity, etc.>	<Worksheets, devices, physical material, ...>

CT interdisciplinary	<input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> ...	10'	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants develop and implement interdisciplinary CT projects (e.g., Making, storytelling, game design).	<ul style="list-style-type: none"> The participants get an input about CT in everyday life The input also includes an overview of teaching methods for CT with a focus on project work and OER 	Emphasize why project work and OER is mentioned	PowerPoint presentation/slides
Hack the curricula	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> ...	45'	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning.	<ul style="list-style-type: none"> The participants first analyze the the curriculum and identify possibilities for integrating CT in other subjects. They get an overview of how CT could be integrated in a subject (e.g. Science and social studies, music...) 	<Considerations for differentiation, inclusivity, etc.>	Curriculum Overview of CT integration in an example subject
Pause							
CT in other subject	<input checked="" type="checkbox"/> discussion <input type="checkbox"/> exercise <input type="checkbox"/> ...	10'	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning.	Discussion: CT in other subjects	<Considerations for differentiation, inclusivity, etc.>	<Worksheets, devices, physical material, ...>
Brainstorming interdisciplinary Ideas	<input checked="" type="checkbox"/> brainstorming <input type="checkbox"/> exercise <input type="checkbox"/> ...	1h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants develop and implement interdisciplinary CT projects (e.g., Making,	<ul style="list-style-type: none"> The participants start brainstorming ideas for distance learning 4 	Provide examples Provide curricula Provide template for brainstorming	<Worksheets, devices, physical material, ...>

				<p>storytelling, game design).</p> <p>The participants identify opportunities for cooperation across subjects to foster integrative and interdisciplinary learning.</p>			
...							

Session No. 7: Distance Learning 4

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Practical project part 2	<input checked="" type="checkbox"/> practical exercise	2h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants implement CT in an interdisciplinary setting in class	<ul style="list-style-type: none"> • The participants design a lesson plan for a CT session in another subject or they extend their practical project (part 1) with interdisciplinary/integrative aspects • They prepare all necessary resources for the implementation • They implement their lesson plan in class 	<p>Offer resources and planning templates for designing the lesson.</p> <p>Also offer help at any time in the process (via email or online-call)</p>	Empty lesson plans as templates (free use)
Proof of performance	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> ...	3h	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	The participants reflect on their implementation	<ul style="list-style-type: none"> • The participants document the implementation (take pictures etc.) how? • Additionally, they add a self-reflection video (max.3min.) on how the implementation went, what they would do differently etc. • They upload their video and planning documents where? 	Offer a list of reflective questions the participants can use for reflection.	List of reflection questions
...							

Session No. 8: Closing Session

Task Title	Task Type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Welcome	<input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> start	10 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	-	<ul style="list-style-type: none"> The instructor welcomes the participants and explains the agenda of today's closing session Make link to Distance Learning 4 and give a short feedback (overall) on the reviewed proofs of performance. 		ppt
evaluation	<input type="checkbox"/> input <input checked="" type="checkbox"/> evaluation	1h	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants present their practical project.	<p>The participants present their practical project to each other. Method: bazaar, bar-camp,...</p> <p>Summarizing feedback and learnings from the practical implementation (e.g. With mentimeter, post-its, etc.)</p>	Provide some criteria the participants could give each other feedback on	Criteria for peer feedback
ending	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	The participants reflect on their learnings.	<p>The participants gather their learnings from the module (individually > in pairs > in plenary) and discuss about options for improvement and how they are going to keep working on CT. They also rate the module and give the instructor feedback.</p> <p>Method: digital pinboard, Post-its, ...</p>	Do not use same method as summarizing learnings from practical project	
Certification exam	<input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> exam	45 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	Goals 1-6	What is the content here?		Exam
Post-Test	<input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> online-test	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	??	What is the content here?		Online-test
Interviews	<input type="checkbox"/> input <input type="checkbox"/> exercise	15-20 min. / person	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer	??	Todo		Questionnaire

	<input checked="" type="checkbox"/> interview		<input type="checkbox"/> group				
			<input type="checkbox"/> plenary				

Assessment Plan

Assessment Type	Duration	Learning Goal/Objective/Outcome	Description	Weight (%)	Deadline
Task 1	[Hours]		[Brief description]	[Weight]	[Date]
Task 2	[Hours]		[Brief description]	[Weight]	[Date]
Final Task	[Hours]		[Brief description]	[Weight]	[Date]

Final Checklist (for reviewer):

Default modules must be in English (including videos, examples, links, etc.).	
Include knowledge transfer session (online/offline) with trainers/teachers: how would you apply the content to your subject/target groups.	
The structure is according to template (e.g., suitable number of competences, learning methods, ...).	
Representation in examples and roles that reflect diverse identities and backgrounds.	
Use the template for slides, handouts, activities, etc. (or other sources – discussion with Inmark!). Watermark for videos?	
A separate information for educators, offering pedagogical background and implementation guidance in class (see “Learning methods/pedagogical transfer” within template). Suggestions for diverse learner needs and contexts (e.g., low-/high-tech environments).	
If possible, use one more hands-on/practical learning method (e.g., making, outdoor learning,...).	
If possible, connect to real-life examples (grounded in the everyday lives of the target group to enhance relevance).	
Where appropriate, integration of analogue and digital formats to enrich learning experiences.	
Use of different media types e.g., (not all must be included): <ul style="list-style-type: none">• Videos: Explainer videos, interviews, screencasts (potentially with interactive elements).• Audio: Podcasts, narrated presentations, spoken instructions.• Texts: PDFs, interactive texts, articles, downloadable resources.• Images & Graphics: Infographics, diagrams, animated explanations.• Interactive Content: H5P modules, simulations, coding sandboxes (e.g., for programming courses), quizzes, exercises, reflection questions, peer feedback, forums, discussions boards,...• Submissions: any kind of files	

Use of gender-sensitive language, visuals, and examples: Ensure inclusive representation and actively avoid stereotypes.	
Be aware of copyright issues (pictures/videos, licences, etc.; use CC-by if possible).	
Develop questions for pre/post-tests.	
References to European competences frameworks (see D2.1) e.g., GreenComp, DigComp and possible local extensions done by pilot countries (e.g., national curricula, frameworks).	
Include a general slides/video of the project ComeThinkAgain (same for all). (e.g., Inmark).	

Module Plan [Computational Making for Secondary Teachers]

Module Title: Computational Making for Secondary Teachers

Duration: 30 hours (1 ECTS)

Target group: Primary teacher Secondary teacher VET trainer.

Module Description: This hybrid professional development module equips secondary school teachers with practical and inclusive, creative strategies to integrate Computational Thinking (CT) into their teaching practice.

Drawing from the Computational Thinking Pedagogical Framework (CTPF), which includes unplugged activities, tinkering, making, and remixing, the course emphasizes Robotics and Artificial Intelligence (AI) tools, and hands-on maker-based learning approaches.

Participants will explore practical ways to develop CT competences across subjects, and reflect on their own instructional designs.

Competences

Computational Thinking	Entrepreneurship	Green Skills
<input checked="" type="checkbox"/> Algorithmic Thinking (AT)	<input type="checkbox"/> Spotting opportunities	<input type="checkbox"/> Systems-Thinking
<input checked="" type="checkbox"/> Decomposition	<input type="checkbox"/> Mobilizing others	<input type="checkbox"/> Critical Thinking
<input type="checkbox"/> Pattern Recognition	<input type="checkbox"/> Creativity	<input type="checkbox"/> Problem-solving
<input type="checkbox"/> Abstraction	<input type="checkbox"/> Taking the initiative	<input type="checkbox"/> Futures Literacy
<input checked="" type="checkbox"/> Modeling & Simulation	<input type="checkbox"/> Vision	<input type="checkbox"/> Valuing sustainability
<input checked="" type="checkbox"/> Generalisation	<input type="checkbox"/> Planning and management	<input type="checkbox"/> Political Agency
<input checked="" type="checkbox"/> Logical Thinking	<input type="checkbox"/> Valuing ideas	<input type="checkbox"/> Collective Action
<input checked="" type="checkbox"/> System Thinking (ST)	<input type="checkbox"/> Coping with uncertainty, ambiguity and risk	<input type="checkbox"/> Supporting Fairness
<input checked="" type="checkbox"/> CT Empowerment	<input type="checkbox"/> Ethical and sustainable thinking	<input type="checkbox"/> Promoting Nature
<input checked="" type="checkbox"/> CT Participation	<input type="checkbox"/> Working with others	<input type="checkbox"/> Adaptability
<input checked="" type="checkbox"/> Higher-Order Thinking Skills	<input type="checkbox"/> Self-awareness and self-efficacy	<input type="checkbox"/> Exploratory Thinking
<input checked="" type="checkbox"/> Higher-Order Problem-solving	<input type="checkbox"/> Learning through experience	<input type="checkbox"/> Individual Initiative
<input checked="" type="checkbox"/> Digital Literacy	<input type="checkbox"/> Motivation and perseverance	<input type="checkbox"/> Interpersonal/collaborative competence
<input type="checkbox"/> Data Literacy	<input type="checkbox"/> Guerrilla Skills	<input type="checkbox"/> Intrapersonal competences
<input checked="" type="checkbox"/> AI Literacy	<input type="checkbox"/> Mobilizing resources	

<input type="checkbox"/> Computational Mathematics <input checked="" type="checkbox"/> Computational Making <input checked="" type="checkbox"/> Computing (Programming)	<input type="checkbox"/> Demand for quality and efficiency <input type="checkbox"/> Financial and economic literacy	
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Learning Goals (Outcome?/Objectives?)

The participants can ...

1. Understand and apply the principles of Computational Thinking Pedagogical Framework (CTPF):
 - a) Unplugged
 - b) Tinkering
 - c) Making
 - d) Remixing
2. Design, prototype, and program a basic robot using CT & Making strategies.
3. Augment CT education experience using Robotics & AI tools
4. Develop and evaluate a lesson plan embedding CT, Making and AI principles.

Required prior knowledge

None

Learning Methods

Computational Thinking	Entrepreneurship	Green Skills
<input checked="" type="checkbox"/> Unplugged activities <input type="checkbox"/> Play-based learning <input type="checkbox"/> Storytelling <input checked="" type="checkbox"/> Making <input checked="" type="checkbox"/> Robotics <input checked="" type="checkbox"/> Game-based methods <input checked="" type="checkbox"/> Coding/computing or programming <input checked="" type="checkbox"/> Project-based learning <input checked="" type="checkbox"/> Code visualization	<input type="checkbox"/> Problem-based learning <input type="checkbox"/> Project-based learning <input type="checkbox"/> Entrepreneurial hackathons <input type="checkbox"/> Design-based learning <input type="checkbox"/> Making <input type="checkbox"/> Work-based learning models <input type="checkbox"/> Providing role models <input type="checkbox"/> Mentoring <input type="checkbox"/> Guest lectures and workshops	<input type="checkbox"/> Storytelling <input type="checkbox"/> Project-based learning <input type="checkbox"/> Problem-based learning <input type="checkbox"/> Game-based learning <input type="checkbox"/> Competition-based methods <input type="checkbox"/> Reflective-methods <input type="checkbox"/> Making and design-based methods <input type="checkbox"/> Field trips <input type="checkbox"/> Outdoor education

	<input type="checkbox"/> learning by doing <input type="checkbox"/> internships in start-ups <input type="checkbox"/> Mini-enterprises	<input type="checkbox"/> Arts-based and creative learning methods
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Overview of Course

Bold + ☒ = planned mode / ☒ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4	Session No.5
<input type="checkbox"/> Distance learning	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Distance learning
☒ Workshop in person	☒ Workshop in person	☒ Workshop in person	☒ Workshop in person	☒ Workshop in person
☒ Online Session	☒ Online Session	☒ Online Session	☒ Online Session	☒ Online Session
Introduction block:	Unplugged Activity:	Guest Talk:	Tinkering Activity:	Learner's Manual:
<ul style="list-style-type: none"> Ice-breaker Pre-Test Overview of the module Skillseeker Guide 	<ul style="list-style-type: none"> Sketch-your-Robot Pair & Share Share with us! Additional resource: Social robot co-design canvas	<ul style="list-style-type: none"> Robotics & AI in Secondary Education [OR] Equivalent content video/discussion 	<ul style="list-style-type: none"> Dissect-a-robot: analyze real components Use GenAI to identify and describe parts 	<ul style="list-style-type: none"> Intro to Distance Learning sub-modules
[G1] Understand the structure, goals, and expectations of this course.	[G3] Explore Computational Thinking through unplugged and co-design exercises.	[G5] Understand real-world applications of robotics and AI in education.	[G7] Use GenAI tools to analyze and identify real-world robotic components.	[G9] Navigate the asynchronous learning modules and understand expectations.
[G2] Engage in an onboarding experience that introduces core concepts and learning tools.	[G4] Introduce creative CT ideation and collaborative reflection.	[G6] Reflect on future-ready teaching practices.	[G8] Practice decomposition and component-level CT skills.	
1 h	2 h	0.5 h	2 - 3 h	0.5 h

Session No.6	Session No.7	Session No.8	Session No.9	Session No.10
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<p>Making:</p> <ul style="list-style-type: none"> Design with Tinkercad 3D Printing Basics Use GenAI in iterative design 	<p>Robot Programming with VexCode VR</p> <p>Task: Complete one virtual activity to explore basic algorithms and programming.</p>	<ul style="list-style-type: none"> Define and explore Computational Thinking (CT) in your subject area. Examine practices such as decomposition and pattern recognition. Explore inclusive maker pedagogies. Explore readings and CT-related podcasts (e.g., NotebookLM). 	<p>CT Lesson Plan Design:</p> <p>Draft a structured CT lesson plan using AI tools.</p> <ul style="list-style-type: none"> Identify approaches (unplugged, tinkering, etc.) Combine unplugged, tinkering, making, AI and robotics elements into a draft, short lesson plan. 	<p>Peer Feedback & Revision</p> <p><i>Participant will:</i></p> <ul style="list-style-type: none"> Share & Analyze class plans in peer groups Peer-review another participant's plan
<p>[G10] Begin designing a robot using Tinkercad and learning about 3D modeling</p> <p>[G11] Understand the basics of 3D printing and how digital models are translated into physical objects.</p> <p>[G12] Apply principles of iterative design through digital prototyping using GenAI</p>	<p>[G13] Apply basic algorithmic thinking through visual programming.</p> <p>[G14] Practice programming logic using accessible online tools.</p>	<p>[G15] Apply Computational Thinking (CT) to their own subject area.</p> <p>[G16] Analyze CT practices through media & reflection.</p> <p>[G17] Differentiate between CT components</p> <p>[G18] Reflect on inclusion in CT/Maker Education</p>	<p>[G19] Draft a CT-integrated lesson plan using AI tools and maker principles.</p> <p>[G20] Select and justify appropriate pedagogical approaches.</p> <p>[G21] Use AI tools to support lesson planning & enhance instructional creativity.</p>	<p>[G22] Share and reflect on drafted CT lesson plans with peers.</p> <p>[G23] Provide and receive constructive feedback.</p> <p>[G24] Reflect on CT applications and inclusive practices in teaching.</p>
2 - 3 h	2 h	3 h	2 - 3 h	2 - 3 h

Session No.11	Session No.12	Session No.13	Session No.14
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<p>Recap + QA + Today's Goals</p> <p>Making:</p> <ul style="list-style-type: none"> • Read a connection diagram for a robot. • Use GPT to explain the diagram in your own words. • Program basic Arduino behaviors (e.g., control a sensor or motor). • Use GPT to understand, validate, and extend your code (e.g., add state-based behaviors). • Reflect on your experience and post your insights in Moodle (AI-supported if desired). 	<p>Afternoon Workshop Session:</p> <ul style="list-style-type: none"> • Post-Test • Assessment/Certification • Participate in a short interview to provide course feedback (1:1 or group). 	<p>[optional activity] Remixing:</p> <ul style="list-style-type: none"> • Remix a sample robot design using CAD software or existing Arduino sketches. • Prototype or simulate your remix in Tinkercad. • Use an AI tool (e.g., ChatGPT) to generate or extend code blocks based on your modified design. 	<p>Final Submission & Reflection:</p> <ul style="list-style-type: none"> • Refine your curriculum and teaching methods based on feedback and self-evaluation. • Submit your CT-integrated lesson plan and robot activity portfolio. • Document your reflections on implementation, including what worked, what didn't, and how CT principles were applied.
<p>[G25] Learn to wire and program a basic robot using Arduino and sensors.</p> <p>[G26] Interpret and apply a robot connection diagram to build a basic circuit.</p> <p>[G27] Use AI tools to understand, debug, and enhance Arduino code.</p> <p>[G28] Reflect on the programming and AI-assisted design process to improve learning and teaching practice.</p>	<p>[G29] Complete certification course requirement to assess your progress.</p> <p>[G30] Participate in a reflective interview to share your learning journey.</p> <p>[G31] Provide feedback on the course for future improvements.</p>	<p>[G32] Remix and simulate robot designs using TinkerCAD or existing sketches.</p> <p>[G33] Integrate AI-generated code into a working robot prototype.</p> <p>[G34] Apply design thinking to modify existing robotics solutions creatively.</p>	<p>[G35] Reflect on your teaching methods and how CT principles were applied.</p> <p>[G36] Demonstrate the ability to iteratively refine teaching resources based on feedback and implementation experience.</p>
3 - 4 h	3 h	2 - 3 h	2 h

Session description

Session No. 1: Introduction

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Ice-Breaker	<input checked="" type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G2	<ul style="list-style-type: none"> Facilitators & Participant introduces themselves Activity example: Quick round of introductions using a prompt (e.g., "If you were a robot, what would your task be?") 	Social learning, community building.	Slides (optional)
Overview of Module	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G1	<ul style="list-style-type: none"> Facilitator walks through agenda, outcomes, session structure, and information in Moodle. Open floor for questions or expectations. 	Guided framing, learner-centered clarification	Presentation slides, Moodle
Pre-Test	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G2	<ul style="list-style-type: none"> Explore participants' understanding of CT concepts 	Baseline diagnostic	Online Form via Moodle
SkillTree Guide	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	10 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G1	<ul style="list-style-type: none"> Introduce participants to MakerSkillTree guide Explain how the SkillTree will be used to track your learning today. 	Visual goal-setting, Reflection.	Digital SkillTree guide in Moodle

Session No. 2: Unplugged – Workshop 1

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Sketch your Robot	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G3	<ul style="list-style-type: none"> Facilitator show 1-slide with instructions Participants sketch a conceptual robot, list features and one ethical/social issue. 	Creative expression, iterative design thinking.	Sketch paper, pen/pencils
Share with a fellow colleague	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	10 - 15 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G4	<ul style="list-style-type: none"> Team up: Pairs (2) Discuss similarities and differences between your robot sketches 	Engagement	Your robot sketches
Share with us!	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	20 - 30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G4	<ul style="list-style-type: none"> Share with class, 1 similarity, 1 difference, 1 thing that stood out from the activity or discussion. 	Public speaking	Droid-cam for presentation to class
[optional] Design Canvas	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	X min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G3	<ul style="list-style-type: none"> Social Robot Co-Design Canvas via Moodle https://github.com/minjaaxelsson/social_robot_co-design_canvases 05: Environment of the robot 06: Form of the robot 07: Interaction of the robot 08: Behaviour of the robot 		Moodle

Session No. 3: AI & Robotics in Education Information Session

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Guest Talk in-person	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	15 - 30 mins.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G5, G6	<ul style="list-style-type: none"> • Guest Talk by Expert/lecturer • Questions-Answers (QA) – encourage everyone to ask a question 		An AI/Robotics Expert Speaker
Videos in Moodle	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	15 – 30 mins.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G5, G6	<ul style="list-style-type: none"> • Supplementary videos via Moodle; • Afterwards, share your thoughts or ask questions in the Forum 		Online Videos

Session No. 4: Tinkering – Workshop 1

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Dissect-a-robot	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	40 - 60 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G8	<ul style="list-style-type: none"> • Dissect a robot and analyze real components by understanding the structure and function of each robot part 	Hands-on exploration; Decomposition	Robot kits or photos via Moodle
GenAI tools	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	40 - 60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G7	<ul style="list-style-type: none"> • Use GenAI tools to analyse & identify parts, discuss their function and relevance to the robot's design 	AI-supported inquiry.	Device with internet and ChatGPT/Gemini

Session No. 5: Learner's Manual – Workshop 1

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Wrap up & Intro to Distance Learning	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	15 – 30 mins	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G9	<ul style="list-style-type: none"> Reflect on key learning and outline expectations for future Sessions 	Reflective summary.	Slides/ instructions for next steps.

Session No. 6: Making Part 1 – Workshop 1

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Design with Tinkercad	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 - 60 min.	<input checked="" type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G10	<ul style="list-style-type: none"> Explore and use Tinkercad to create 3D models, learning how to design basic structures and objects. Participants begin prototyping their design in Tinkercad. Focus on expression not perfection. 	Maker-centered learning	Laptop with internet connection, Tinkercad logins
3D Printing Basics	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 - 60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G11	<ul style="list-style-type: none"> Introduce the fundamentals of 3D printing, and how to prepare 3D models for printing. 	Maker-centered learning	3D Printers
Use GenAI in iterative design	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G12	<ul style="list-style-type: none"> Apply GenAI tools to refine your 3D models, using AI to suggest improvements and iterate on your models 	AI-supported inquiry	Device with internet and ChatGPT/Gemini

Session No. 7: Robot Programming

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Robot Programming with VexCode VR	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G13, G14	<ul style="list-style-type: none"> Participants will use VEXcode VR to complete a virtual activity, learning basic programming and algorithms by controlling a virtual robot. Complete at least 1 activity: https://vr.vex.com/ 	Algorithm, Programming	Laptop with internet and browser. Educator account with vr.vex
	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> 		

Session No. 8: Distance Learning 1

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
CT in field	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	45- 60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G15, G17, G18	<ul style="list-style-type: none"> Define and explore Computational Thinking (CT) in your subject area. Explore CT practices (e.g., decomposition, pattern recognition). Explore inclusive maker pedagogies. 	Inquiry-based exploration.	Research papers; podcast/audio links, guiding questions.
Research with Notebook LM	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	45 - 60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G16, G18	<ul style="list-style-type: none"> Explore readings and CT-related podcasts (e.g., NotebookLM) 	Inquiry-based exploration.	Research papers; NotebookLM
	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	45 - 60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> 		

Session No. 9: Distance Learning 2

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
CT Lesson Plan Design with AI	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 - 120 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G19, G20, G21	<p>Draft a short, structured lesson plan that integrates Computational Thinking (CT) principles with hands-on strategies such as unplugged activities, tinkering, making, robotics, and AI.</p> <p>Using AI tools like ChatGPT or Gemini to help:</p> <ul style="list-style-type: none"> • Structure your lesson plan • Choose an appropriate pedagogical approach (e.g., unplugged, tinkering, robotics) • Generate or refine activity ideas 	Design & Project-Based Learning, AI-Supported Design, Reflective Practice	Lesson template; AI tools.
	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		•		

Session No. 10: Online Session

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Lesson Plan Sharing	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	30 - 60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G22	<ul style="list-style-type: none"> Teachers briefly present their lesson plan and the approaches used. They receive general group comments with questions or suggestions from the class. 	Collaborative presentation and feedback.	Participants' draft lesson plans (screen-shared or uploaded beforehand).
Peer Review	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	30 - 40 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G22, G23	<ul style="list-style-type: none"> In breakout rooms (pairs), teachers will peer-review each other's lesson plan using guiding questions or a rubric. 	Peer coaching	Review lesson plans using a simple rubric or guiding questions
Reflection & Revision Time	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G24	<ul style="list-style-type: none"> [Optional] Quiet time for participants to revise their plan. [Optional] Q&A with facilitator/s. 	Iterative improvement.	

Session No. 11: Making part 2 - Workshop 2 (part 1)

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Recap + QA + Today's Goals	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	10 – 15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G2	<ul style="list-style-type: none"> Facilitator leads a brief recap and introduces the robotics tasks. Brief QA on things covered so far. 	Guided instruction	Slide deck or whiteboard.
Activity 1	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 - 40 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G26	<ul style="list-style-type: none"> Read a connection diagram for a robot. Feed the diagram to GPT and ask it to explain what the components do. Validate your understanding by checking against class resources. 	AI-supported inquiry; interpretive reasoning.	Arduino diagrams; ChatGPT/ Gemini access; printed/annotated worksheets
Activity 2	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 - 40 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G25	<ul style="list-style-type: none"> Program basic Arduino behaviors (e.g., blink LED, read sensor, control motor). Use GPT to understand what the code does or to generate variations. Validate your setup via simulation (e.g., TinkerCAD Circuits) or hardware test. 	Learning by doing; scaffolded troubleshooting	Arduino kit or TinkerCAD; sample starter code; ChatGPT/Gemini
Activity 3	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	20 - 40 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G27	<ul style="list-style-type: none"> Use GPT to add state-based behavior to your program. Example prompt: "<i>What additional sensor behavior or decision-making can I add?</i>" Share what you learned from the AI. Add a short reflection in Moodle (feel free to use AI to help draft it). 	Reflective practice; AI-assisted prototyping	ChatGPT/Gemini; Moodle journal or forum
Demo & Feedback	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input checked="" type="checkbox"/> presentation	40 - 60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G28	<ul style="list-style-type: none"> [Informal] Participants present what they built and explain their robot's behavior. Group discussion: What worked? What changed? How could it be used in class? 	Peer feedback, collaborative design reflection	Projector or shared screen, demo setup

Session No. 12: Workshop 2 (part 2)

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Post Test	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> Participants complete post-test 	Progress evaluation, learning validation	LMS quiz
Assessment & Certification	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G29	Assessment & Certification ...	Assessment	LMS activity portal
Final Interview	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	15 - 25 min. (per group/pair)	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G30, G31	1:1 or small group interviews with facilitator(s) to reflect on: what was learned, what changed, classroom application, feedback to improve the program.	Reflection, Verbal feedback	Recording devices

Session No. 13: Workshop 2 (part 3) or Distance/Online Activity

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Select Base Design	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	20 – 30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G32	<ul style="list-style-type: none"> Choose a robot design (e.g. open source CAD files or an Arduino experiment design). Review how it works and what could be modified. ... 	Reverse engineering, critical analysis	Shared folder of remixable files
Remix & Modify	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	40 - 60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	G32, G33	<ul style="list-style-type: none"> Modify the robot design to serve a new function or improve usability (e.g., using ChatGPT to generate code blocks) Edit the CAD model or Arduino logic. 	Design-based learning; creative adaptation	TinkerCAD; Arduino IDE or TinkerCAD Circuits; modification checklist
Use AI to Enhance Code/Design	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion	15 - 30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G33, G34	<ul style="list-style-type: none"> Use ChatGPT or Gemini to suggest improvements, extend behavior, or debug. (e.g., using ChatGPT to generate code blocks) Compare the AI's suggestions with your own ideas. 	AI-assisted co-creation; iterative design	ChatGPT or Gemini access; sample prompts
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion	10 - 20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	G34	<ul style="list-style-type: none"> Respond to: What did you change? Why? How could students remix as a creative CT task? ... 	Reflective design thinking	Journal prompt, discussion forum, or worksheet

Session No. 14: Final Submission & Reflection

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Finalise & Submit Portfolio	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion	45 - 60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G36	<ul style="list-style-type: none"> Participants submit their CT-integrated lesson plan, robot activity prototype/design, and any documentation or media. ... 	Project-based learning; summative assessment	LMS upload, submission checklist
Written Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	G35	<ul style="list-style-type: none"> Teachers respond to prompts about takeaways, intended applications, and support needs. Respond to prompts such as: <ul style="list-style-type: none"> – What CT strategies worked well? – What didn't work as expected? – What would you change next time? – How did feedback shape your plan 	Reflective practice; self-evaluation	Moodle Forum, journal entry

Assessment Plan

Assessment Type	Duration	Learning Goal/Objective/Outcome	Description	Weight (%)	Deadline
Task 1: Lesson Plan	5h	Apply CT pedagogy to a real-world classroom scenario	[Brief description]		
Task 2: Programming a Robot	5h	Implement CT practically using Arduino and AI tools	[Brief description]		
Final Task: Peer Presentation & Reflection	2h	Share insights and growth in a peer-reviewed setting	[Brief description]		

Resources:

- TinkerCAD
- Arduino IDE + hardware kits
- ChatGPT or other GenAI tools
- Podcast/audio materials (NotebookLM, CT podcasts)
- CT unplugged resources, e.g., CS Unplugged

Final Checklist (for reviewer):

You can find the review of the module in the “Review” folder: <https://cloud.comethinkagain.eu/f/25032>

Category	Element	Notes	✓
1. Content & Formatting	Default modules in English	Includes videos, examples, links	<input type="checkbox"/>
	Use template for materials	Slides, handouts, activities (coordinate with Inmark if needed) watermark for videos?	<input type="checkbox"/>
	General slides/video about the project (Come-ThinkAgain)	Same for all modules (e.g., produced with Inmark)	<input type="checkbox"/>
	Representation of diverse identities	Inclusive roles and examples	<input type="checkbox"/>
	Real-life examples	Grounded in the everyday lives of the target group	<input type="checkbox"/>
	Gender-sensitive language & visuals	Avoid stereotypes, use inclusive images	<input type="checkbox"/>
	Copyright compliance	Use open licences (e.g., CC-BY) wherever possible	<input type="checkbox"/>
2. Pedagogical Framing & Inclusion	Separate info for educators	Pedagogical background, classroom implementation guidance	<input type="checkbox"/>
	“Learning methods/pedagogical transfer” section in template	Align with template structure	<input type="checkbox"/>
	Address diverse learner needs & contexts	E.g., low-/high-tech environments	<input type="checkbox"/>
	Reference to competence frameworks	e.g., DigComp, GreenComp, national curricula	<input type="checkbox"/>
3. Media Types	Videos	Explainers, screencasts, interviews, interactive elements	<input type="checkbox"/>
Select as appropriate; not all media			

Category	Element	Notes	✓
types are required.			
	Audio	Podcasts, spoken instructions, narrated presentations	<input type="checkbox"/>
	Texts	PDFs, interactive texts, articles, downloadable resources	<input type="checkbox"/>
	Images & Graphics	Infographics, diagrams, animations	<input type="checkbox"/>
	Interactive content	H5P, simulations, coding sandboxes, quizzes, reflections, peer feedback, forums	<input type="checkbox"/>
	Submissions	Support for file uploads	<input type="checkbox"/>
4. Application & Learning Design	Knowledge transfer session (online/offline)	For trainers/teachers: how to apply content to subjects/target groups	<input type="checkbox"/>
	At least one practical learning method	E.g., making, outdoor learning	<input type="checkbox"/>
	Blend digital and analogue formats	To enrich learning experiences	<input type="checkbox"/>
5. Quality Assurance	Align with template structure	Suitable number of competences, learning methods, etc.	<input type="checkbox"/>
	Develop pre-/post-test questions	For learning assessment	<input type="checkbox"/>

Module Plan [*Computational Thinking for VET*]

Module Title: CT VET

Duration: 30 hours (1 ECTS)

Target group: Primary teacher Secondary teacher VET trainer

Module Description:

This course will teach the participants the basics of Computational Thinking (Abstraction, Pattern Recognition, Decomposition, Algorithm) and the basics of coding with a microcontroller to in-cooperate the gained knowledge. In the first section of the module the participants will learn the theoretical basics and in the second half they will get to program with the micro:bit and use AI to help them generate and debug code.

Competences

Computational Thinking	Entrepreneurship	Green Skills
<input checked="" type="checkbox"/> Algorithmic Thinking (AT)	<input type="checkbox"/> Spotting opportunities	<input type="checkbox"/> Systems-Thinking
<input checked="" type="checkbox"/> Decomposition	<input type="checkbox"/> Mobilizing others	<input type="checkbox"/> Critical Thinking
<input checked="" type="checkbox"/> Pattern Recognition	<input type="checkbox"/> Creativity	<input type="checkbox"/> Problem-solving
<input checked="" type="checkbox"/> Abstraction	<input type="checkbox"/> Taking the initiative	<input type="checkbox"/> Futures Literacy
<input type="checkbox"/> Modeling & Simulation	<input type="checkbox"/> Vision	<input type="checkbox"/> Valuing sustainability
<input checked="" type="checkbox"/> Generalisation	<input type="checkbox"/> Planning and management	<input type="checkbox"/> Political Agency
<input checked="" type="checkbox"/> Logical Thinking	<input type="checkbox"/> Valuing ideas	<input type="checkbox"/> Collective Action
<input checked="" type="checkbox"/> System Thinking (ST)	<input type="checkbox"/> Coping with uncertainty, ambiguity and risk	<input type="checkbox"/> Supporting Fairness
<input checked="" type="checkbox"/> CT Empowerment	<input type="checkbox"/> Ethical and sustainable thinking	<input type="checkbox"/> Promoting Nature
<input checked="" type="checkbox"/> CT Participation	<input type="checkbox"/> Working with others	<input type="checkbox"/> Adaptability
<input checked="" type="checkbox"/> Higher-Order Thinking Skills	<input type="checkbox"/> Self-awareness and self-efficacy	<input type="checkbox"/> Exploratory Thinking
<input checked="" type="checkbox"/> Higher-Order Problem-solving	<input type="checkbox"/> Learning through experience	<input type="checkbox"/> Individual Initiative
<input checked="" type="checkbox"/> Digital Literacy	<input type="checkbox"/> Motivation and perseverance	<input type="checkbox"/> Interpersonal/collaborative competence
<input checked="" type="checkbox"/> Data Literacy	<input type="checkbox"/> Guerrilla Skills	<input type="checkbox"/> Intrapersonal competences
<input checked="" type="checkbox"/> AI Literacy	<input type="checkbox"/> Mobilizing resources	
<input checked="" type="checkbox"/> Computational Mathematics	<input type="checkbox"/> Demand for quality and efficiency	
<input checked="" type="checkbox"/> Computational Making	<input type="checkbox"/> Financial and economic literacy	

Learning Goals

The participants can ...

1. **Gain a base knowledge about the key features of Computational Thinking: *Pattern Recognition, Abstraction, Decomposition* and *Algorithm*, and what their relevance in today's society are.**
 - a) Identify processes in their daily lives that use CT skills.
 - b) Understand the basics of Data Literacy and how to recognise patterns in data visualizations. (***Data Literacy***)
2. **Know how CT impacts their daily lives and how they can integrate it and use it. (*CT Empowerment, CT Participation*)**
 - a) Find ways to incorporate CT into their daily schedule and what effects it has on their tasks.
3. **Strengthen their problem-solving and critical thinking skills. (*Logical Thinking, Higher-Order Thinking Skills, Higher-Order Problem-solving, Generalisation*)**
 - a) [Sub-goal]
 - b) ...
4. **Understand the basic workings behind computers and robots through learning about bits, bytes and binary codes. (*Algorithmic Thinking, Digital literacy, System Thinking, Computational Mathematics*)**
 - a) [Sub-goal]
 - b) ...
5. **Learn the basics about programming and physical computing with the help of a Mirco:bit in a fun and interesting environment. (*Computing, Programming, Computational Making*)**
 - a) Know what the basic commands in coding are and how to use if/else statements and loops.
 - b) Being able to use their gained knowledge in a real-life setting
6. **Create and edit code with the help of LLM and critically review the answers given by the AI. (*AI Literacy*)**

Required prior knowledge

None

Learning Methods

Computational Thinking	Entrepreneurship	Green Skills
<input checked="" type="checkbox"/> Unplugged activities <input checked="" type="checkbox"/> Play-based learning <input checked="" type="checkbox"/> Storytelling <input checked="" type="checkbox"/> Making <input checked="" type="checkbox"/> Robotics <input checked="" type="checkbox"/> Game-based methods <input checked="" type="checkbox"/> Coding/computing or programming <input checked="" type="checkbox"/> Project-based learning <input checked="" type="checkbox"/> Code visualization	<input type="checkbox"/> Problem-based learning <input type="checkbox"/> Project-based learning <input type="checkbox"/> Entrepreneurial hackathons <input type="checkbox"/> Design-based learning <input type="checkbox"/> Making <input type="checkbox"/> Work-based learning models <input type="checkbox"/> Providing role models <input type="checkbox"/> Mentoring <input type="checkbox"/> Guest lectures and workshops <input type="checkbox"/> learning by doing <input type="checkbox"/> internships in start-ups <input type="checkbox"/> Mini-enterprises	<input type="checkbox"/> Storytelling <input type="checkbox"/> Project-based learning <input type="checkbox"/> Problem-based learning <input type="checkbox"/> Game-based learning <input type="checkbox"/> Competition-based methods <input type="checkbox"/> Reflective-methods <input type="checkbox"/> Making and design-based methods <input type="checkbox"/> Field trips <input type="checkbox"/> Outdoor education <input type="checkbox"/> Arts-based and creative learning methods

Overview of Course

Bold + ☒ = planned mode / ☒ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
<ul style="list-style-type: none"> - Pre-Test has to be taken before the first session - Introduction to the course and CT - Icebreaker activity 	<ul style="list-style-type: none"> - Interactive Lessons on moodle for: Abstraction Pattern Recognition Decomposition - Exercises and Quizzes for each lesson 	<ul style="list-style-type: none"> - Theoretical part about: Bits, Bytes, Binary Code/Tree, Basics of algorithm - Practical part: Unplugged Exercises 	<ul style="list-style-type: none"> - Interactive Lessons on moodle for: Basic coding knowledge Algorithm Dijkstra AI and it's proper use - Exercises and Quizzes for each lesson
Goal(s): 1, 2	Goal(s): 1, 2, 3	Goal(s): 4, 5	Goal(s): 1, 5
1.5 h	4 h	3 h	4-6 h

Session No.5	Session No.6	Session No.7	Session No.8
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<ul style="list-style-type: none"> - Introduction on the use of microcontroller - Introduction to coding with Python editor - Coding exercises 	<ul style="list-style-type: none"> - Doing exercises on the micro:bit with instructions on moodle - Using AI in coding -> lesson and exercises - Homework exercise: creating own code 	<ul style="list-style-type: none"> - Presentation of own code - Co-Creation Workshop with the VET Trainers - Homework exercise: Brainstorming about Integration/Changes 	<ul style="list-style-type: none"> - Feedbacksession - Post-Test - Certification exam - Questionnaire - Interviews
Goal(s): 3, 4, 5	Goal(s): 1, 3, 4, 5, 6	Goal(s): 5, 6	Goal(s): None
3 h	4-6 h	3 h	3 h

Session description

Session No. 1: What is Computational Thinking

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Introduction	<input checked="" type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	10 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	-	<ul style="list-style-type: none"> • Introduction to CTA and this module. • Explanation of the moodle course 		Power point
Ice Breaker	<input checked="" type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	10 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	1	<ul style="list-style-type: none"> • A short ice breaker with a story regarding computational thinking. There is a map shown of a city and a list of tasks given on what to do. • The group tries to find the most efficient way together to manage all the tasks. 	Storytelling	Power point
Learning the basics	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	1, 2	<ul style="list-style-type: none"> • Basic explanation of what Computational Thinking is and why it is important in today's society. • To engage the participants there will be questions and interactions during the presentation 		Power point
Un-plugged Exercises	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	1, 2, 3	<ul style="list-style-type: none"> • 	Unplugged activities, Play-based learning	Power point, printed out exercises if required

Session No. 2: What are the components of CT and how do I use them?

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Abstraction Lesson	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1	<ul style="list-style-type: none"> • Video explaining what Abstraction in CT is • Real Life examples showing how Abstraction is already used in daily life • Exercises and Quizzes (see next row) to strengthen the just learned content 	Storytelling	Moodle
Abstraction Exercises	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	2, 3	<ul style="list-style-type: none"> • Branch Lesson Scenario: Planning tasks for a community event using abstraction • False/Right Questions, Single Choice Questions 	Storytelling	Moodle
Decomposition Lesson	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1	<ul style="list-style-type: none"> • Video explaining what Decomposition in CT is • Real Life examples showing how Decomposition is already used in daily life • Exercises and Quizzes (see next row) to strengthen the just learned content 	Storytelling	Moodle
Decomposition Exercises	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	2,3	<ul style="list-style-type: none"> • Branch Lesson Scenario: Taking care of a community event using decomposition • False/Right Questions, Single Choice Questions 	Storytelling	Moodle
Pattern Recognition Lesson	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1	<ul style="list-style-type: none"> • Video explaining what Pattern Recognition in CT is • Real Life examples showing how Pattern Recognition is already used in daily life • Input about Data Literacy and how to recognize patterns in data • Exercises and Quizzes (see next row) to strengthen the just learned content 	Storytelling	Moodle
Pattern Recognition Exercises	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	2, 3	<ul style="list-style-type: none"> • False/Right Questions, Single Choice Questions • Little tests about recognizing the patterns in different data visualizations 	Storytelling	Moodle

Optional Knowledge Checkup	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...		<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	2, 3	<ul style="list-style-type: none"> False/Right Questions, Single Choice Questions about the content of the lessons “abstraction”, “decomposition” and “pattern recognition” 		
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Session No. 3: The basics of how a computer thinks

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Bits, Bytes and Binary Code	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Content to the topics bits, bytes and binary code How to convert Letters to Binary Code 		
Un-plugged Bi-narycode	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> [description incl. pedagogical considerations] ... 		
Binary Tree	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> [description incl. pedagogical considerations] ... 		
Un-plugged Binary Tree	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> 		

Session No. 4: How does a computer think and act?

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Basic Coding Knowledge	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
Coding exercises	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Various different exercises on the topic of coding • Finding the right operator • Pseudo code completion 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 5: Introduction to microcontrollers and the basics of physical computing

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Physical computing and microcontroller	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
Un-plugged Coding exercises	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Various different unplugged exercises to the topic of coding • Finding the right operator • Pseudo code completion 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 6: Creating our own little computer program

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
Create your own code	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Homework exercise: Create a own little program for the micro:bit, either with the online editor or the physical micro:bit 	Making Robotics Game-based methods Coding/computing or programming Project-based learning Code visualization	

Session No. 7: Peer Review and Co-Creation Workshop

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 8 Feedback and Testing

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Feedback	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> • The whole group can share additional feedback on the module concept based on their “findings” since the last session 		
Posttest	<input type="checkbox"/> Test	20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> • Post test for evaluation 		
Questionnaire	<input type="checkbox"/> Test	[x] min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> • Questionnaire for evaluation 		
Certificate	<input type="checkbox"/> Test	min	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> • Certificate exam 		

Assessment Plan

Assessment Type	Duration	Learning Goal/Objective/Outcome	Description	Weight (%)	Deadline
Task 1	[Hours]		[Brief description]	[Weight]	[Date]
Task 2	[Hours]		[Brief description]	[Weight]	[Date]
Final Task	[Hours]		[Brief description]	[Weight]	[Date]

Final Checklist (for reviewer):

Default modules must be in English (including videos, examples, links, etc.).	
Include knowledge transfer session (online/offline) with trainers/teachers: how would you apply the content to your subject/target groups.	
The structure is according to template (e.g., suitable number of competences, learning methods,...).	
Representation in examples and roles that reflect diverse identities and backgrounds.	
Use the template for slides, handouts, activities, etc. (or other sources – discussion with Inmark!). Watermark for videos?	
A separate information for educators, offering pedagogical background and implementation guidance in class (see “Learning methods/pedagogical transfer” within template). Suggestions for diverse learner needs and contexts (e.g., low-/high-tech environments).	
If possible, use one more hands-on/practical learning method (e.g., making, outdoor learning,...).	
If possible, connect to real-life examples (grounded in the everyday lives of the target group to enhance relevance).	
Where appropriate, integration of analogue and digital formats to enrich learning experiences.	
Use of different media types e.g., (not all must be included): <ul style="list-style-type: none">• Videos: Explainer videos, interviews, screencasts (potentially with interactive elements).• Audio: Podcasts, narrated presentations, spoken instructions.• Texts: PDFs, interactive texts, articles, downloadable resources.• Images & Graphics: Infographics, diagrams, animated explanations.• Interactive Content: H5P modules, simulations, coding sandboxes (e.g., for programming courses), quizzes, exercises, reflection questions, peer feedback, forums, discussions boards,...• Submissions: any kind of files	
Use of gender-sensitive language, visuals, and examples: Ensure inclusive representation and actively avoid stereotypes.	

Be aware of copyright issues (pictures/videos, licences, etc.; use CC-by if possible).	
Develop questions for pre/post-tests.	
References to European competences frameworks (see D2.1) e.g., GreenComp, DigComp and possible local extensions done by pilot countries (e.g., national curricula, frameworks).	
Include a general slides/video of the project ComeThinkAgain (same for all). (e.g., Inmark).	

Module Plan [Business ideating with schoolchildren]

Module Title: Entrepreneurship Education for Primary Education

Duration: 30 hours (1 ECTS)

Target group: Primary teacher Secondary teacher VET trainer

Module Description:

This course is about business ideating with schoolchildren. The students will learn about methods for entrepreneurship education. They will try out some methods and reflect how these methods could be applied in their own teaching. They learn general business literacy, as they learn new terminology.

Competences

Computational Thinking	Entrepreneurship	Green Skills
<input type="checkbox"/> Algorithmic Thinking (AT)	<input checked="" type="checkbox"/> Spotting opportunities	<input type="checkbox"/> Systems-Thinking
<input type="checkbox"/> Decomposition	<input type="checkbox"/> Mobilizing others	<input type="checkbox"/> Critical Thinking
<input type="checkbox"/> Pattern Recognition	<input checked="" type="checkbox"/> Creativity	<input type="checkbox"/> Problem-solving
<input type="checkbox"/> Abstraction	<input type="checkbox"/> Taking the initiative	<input type="checkbox"/> Futures Literacy
<input type="checkbox"/> Modeling & Simulation	<input checked="" type="checkbox"/> Vision	<input type="checkbox"/> Valuing sustainability
<input type="checkbox"/> Generalisation	<input checked="" type="checkbox"/> Planning and management	<input type="checkbox"/> Political Agency
<input type="checkbox"/> Logical Thinking	<input checked="" type="checkbox"/> Valuing ideas	<input type="checkbox"/> Collective Action
<input type="checkbox"/> System Thinking (ST)	<input type="checkbox"/> Coping with uncertainty, ambiguity and risk	<input type="checkbox"/> Supporting Fairness
<input type="checkbox"/> CT Empowerment	<input checked="" type="checkbox"/> Ethical and sustainable thinking	<input type="checkbox"/> Promoting Nature
<input type="checkbox"/> CT Participation	<input checked="" type="checkbox"/> Working with others	<input type="checkbox"/> Adaptability
<input type="checkbox"/> Higher-Order Thinking Skills	<input type="checkbox"/> Self-awareness and self-efficacy	<input type="checkbox"/> Exploratory Thinking
<input type="checkbox"/> Higher-Order Problem-solving	<input checked="" type="checkbox"/> Learning through experience	<input type="checkbox"/> Individual Initiative
<input type="checkbox"/> Digital Literacy	<input checked="" type="checkbox"/> Motivation and perseverance	<input type="checkbox"/> Interpersonal/collaborative competence
<input type="checkbox"/> Data Literacy	<input type="checkbox"/> Guerrilla Skills	<input type="checkbox"/> Intrapersonal competences
<input type="checkbox"/> AI Literacy	<input type="checkbox"/> Mobilizing resources	
<input type="checkbox"/> Computational Mathematics	<input type="checkbox"/> Demand for quality and efficiency	
<input type="checkbox"/> Computational Making		

<input type="checkbox"/> Computing (Programming)	<input checked="" type="checkbox"/> Financial and economic literacy <input type="checkbox"/> Systems thinking	
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Learning Goals (Outcome?/Objectives?)

The participants learn to ...

- Understand basic business concepts related to business innovations and methods for developing business innovations
 - **Competences:** Financial and economic literacy
- Identify opportunities for entrepreneurial ventures and develop innovative ideas to address real-world problems through understanding the concepts of user needs and value creation
 - **Competences:** Spotting opportunities, Creativity, Vision, Valuing Ideas, Systems thinking, Learning through experience
- Apply creative thinking and problem-solving skills to design and implementation of entrepreneurial projects
 - **Competences:** Creativity, Taking the initiative, Learning through experience
- Apply ethical and sustainable thinking in business context
 - **Competences:** Ethical and sustainable thinking, Systems thinking, Learning through experience
- Work effectively with others to mobilize resources and execute entrepreneurial initiatives
 - **Competences:** Working with others, Mobilizing resources, Mobilizing others, Learning through experience
- Develop a clear vision for their entrepreneurial ideas and create structured plans to bring those ideas to life
 - **Competences:** Vision, Planning and management, Learning through experience
- Reflect on their personal strengths and weaknesses as well as pedagogical strengths and weaknesses, and apply strategies to stay motivated and persevere in the face of challenges
 - **Competences:** Self-awareness and self-efficacy, Motivation and perseverance, Learning through experience
- Plan and implement business ideation with children and reflect on the challenges faced during this process
 - **Competences:** Self-awareness and self-efficacy, Learning through experience

Required prior knowledge

None

Learning Methods

Computational Thinking	Entrepreneurship	Green Skills
<input type="checkbox"/> Unplugged activities <input type="checkbox"/> Play-based learning <input type="checkbox"/> Storytelling <input type="checkbox"/> Making <input type="checkbox"/> Robotics <input type="checkbox"/> Game-based methods <input type="checkbox"/> Coding/computing or programming <input type="checkbox"/> Project-based learning <input type="checkbox"/> Code visualization	<input checked="" type="checkbox"/> Problem-based learning <input checked="" type="checkbox"/> Project-based learning <input type="checkbox"/> Entrepreneurial hackathons <input checked="" type="checkbox"/> Design-based learning <input type="checkbox"/> Making <input type="checkbox"/> Work-based learning models <input type="checkbox"/> Providing role models <input type="checkbox"/> Mentoring <input type="checkbox"/> Guest lectures and workshops <input checked="" type="checkbox"/> learning by doing <input type="checkbox"/> internships in start-ups <input type="checkbox"/> Mini-enterprises	<input type="checkbox"/> Storytelling <input type="checkbox"/> Project-based learning <input type="checkbox"/> Problem-based learning <input type="checkbox"/> Game-based learning <input type="checkbox"/> Competition-based methods <input type="checkbox"/> Reflective-methods <input type="checkbox"/> Making and design-based methods <input type="checkbox"/> Field trips <input type="checkbox"/> Outdoor education <input type="checkbox"/> Arts-based and creative learning methods

Overview of Course 1 (practical/content knowledge) – Learning entrepreneurship by doing

Bold + ☒ = planned mode / **☒** = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
Pre-Test Overview of the module: - Description text in Moodle Short video lecture: - Introduction to central business concepts needed in the course (business idea, xxx, value and	Warm-up: presenting myself to others Sharing with the group: Sharing reflection highlights between participants Brief lecture: Business ideating phases Try it out:	Reading task: get familiar with different versions of Business Model Canvas; particularly with ethical and sustainable versions Group work: Continue with your business planning - fill in the (modified?) lean canvas	Group work: Pitching the business ideas Reflective discussion together with all participants - How to do this with children in education context - Sharing experiences

<p>value creation, pitching)</p> <ul style="list-style-type: none"> - Reflection task: How easy was it to understand the concepts; What felt complex to explain to children and why; What feels applicable in my own teaching <p>Reading task:</p> <ul style="list-style-type: none"> - Reading a scientific article (or parts of it) about the value of business ideating with children to support learning - Reflection task: How easy was it to understand the concepts; What felt complex to explain to children and why; What feels applicable in my own teaching - Familiarizing with existing materials/pedagogical models/methods on how to do business ideating with children <p>Prepare to share learning/reflection highlights with other students when meeting face-to-face</p>	<ul style="list-style-type: none"> - Try out business ideating in a group of 2-3 <p>Reflection:</p> <ul style="list-style-type: none"> - What did you learn? - How the method could be applied in classroom? <ul style="list-style-type: none"> o Lessons learned when trying it out o Challenges, potential solutions 	<p>Reflection task (individual work):</p> <ul style="list-style-type: none"> - Challenges in business ideating and how those reflect to using the method with children - Teaching plan: Plan for how to go the same process through with my own students <p>Peer review (individual work): Peer reviewing other participant's reflection task</p> <ul style="list-style-type: none"> - Compare the identified challenges - Comment the teaching plan <p>Group work: Preparing for pitching</p>	
Goal(s): 1,7	Goal(s): 2,3,5,6	Goal(s): 1,3,5,7,8	Goal(s): 5,6,7,8
4 h	3-5 h	6 h	1 h

Overview of Course 2 (methods/pedagogical knowledge) – How to teach entrepreneurship

Session No.5	Session No.6	Session No.7	Session No.8
<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<p>Self-study on entrepreneurship education:</p> <ul style="list-style-type: none"> - How EE is done in other countries - What is central to focus on in EE 	<p>Sharing with the group: Best methods for classroom application</p> <p>Brief lecture: What is Design Thinking,</p>	<p>Trying it out independently with the teacher's own class</p> <ul style="list-style-type: none"> - Writing a plan - Implementation in classroom 	<p>Reflective discussion: Sharing the experiences with other participants</p> <p>Post-Test</p>

<ul style="list-style-type: none"> - What else can be done in addition to business ideating - Read D2.1 and specifically Entre-comp and other relevant models, check what else is useful to read - Choose the most interesting/useful sounding ones from classroom application perspective and prepare to share about them and discuss with other students when you meet 	<p>how it can be used with children</p> <p>Try it out:</p> <ul style="list-style-type: none"> - Try out Design Thinking in a group in the context of ethical and sustainable innovations - Discuss how the method could be applied in classroom <ul style="list-style-type: none"> o Lessons learned when trying it out o Challenges, potential solutions <p>Brief lecture: What is agile product development and why is this approach used, what does it teach to children</p> <p>Try it out in a group: Each participant is given a role: Scrum Master, Marketing, Product Owner (teacher), etc.</p> <p>Task 1:</p> <ul style="list-style-type: none"> - You need to build a space station on the moon: What is needed to be done? (greenhouse, rover, sleeping quarters, etc.) - What do you learn from this phase for entrepreneurship? What else? <p>Task 2:</p> <ul style="list-style-type: none"> - A new mission requires travelling to another planet: What is needed to be done? (they now need a rocket, but also need to continue building the rest) - What do you learn from this phase for entrepreneurship? What else? <p>Task 3:</p> <ul style="list-style-type: none"> - The whole mission is cancelled: everything must be packed up and 	<ul style="list-style-type: none"> o Consider possibilities for interdisciplinary or cross-curricular integration (arts, language learning, ...) <ul style="list-style-type: none"> - Reporting: Reflection on lessons learned and challenges in the learning process <p>Peer review (individual work): Peer reviewing other participant's report</p> <ul style="list-style-type: none"> - Comment and compare the lessons learned and identified challenges 	<p>Certification exam</p> <p>Interviews</p>
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	<p>returned to Earth. What is needed to be done?</p> <ul style="list-style-type: none"> - What do you learn from this phase for entrepreneurship? What else? <p>Reflection:</p> <ul style="list-style-type: none"> - What did you learn from each phase? - How the method could be applied in classroom? <ul style="list-style-type: none"> o Lessons learned when trying it out o Challenges, potential solutions 		
Goal(s): 1,8	Goal(s): 1, 2, 3, 4, 5, 6, 7, 8	Goal(s): 7, 8	Goal(s): 7
4 h	3-6 h	6 h	1,5 h

Session description

Session No. 1: Initial knowledge

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Overview of Come-Think-Again	<input checked="" type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Description text / video 	Read description/watch video in Moodle	Description text/video
Overview of the module	<input checked="" type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Description text 	Read description in Moodle	Description text
Pre-test	<input type="checkbox"/> warm up	15	<input checked="" type="checkbox"/> individual	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] 	Do a pre-test in Moodle	Pre-test ques-

	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	min.	<input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		...		tions and correct answers
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Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Central concepts	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Introduction to central business concepts needed in the course (business idea, value and value creation, pitching, possibly something else) Reflection task: How easy was it to understand the concepts; What felt complex to explain to children and why; What feels applicable in my own teaching 	<p>Watch a video lecture in Moodle</p> <p>Write and return a reflection in Moodle</p>	<p>Which concepts to present, Slides for the video, Video speech as text,</p> <p>Task description for reflection, Making the video</p>
Why business ideating is a good way to learn about entrepreneurship	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Reading a scientific article (or parts of it) about the value of business ideating with children to support learning Reflection task: How easy was it to understand the concepts; What felt complex to explain to children and why; What feels applicable in my own teaching 	<p>Read material in Moodle</p> <p>Write and return a reflection in Moodle</p>	<p>Article, Task description for reflection</p>
How to do business ideating with children	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Familiarizing with existing materials/pedagogical models/methods on how to do business ideating with children Write notes for future use in your own teaching 	<p>Read material in Moodle</p> <p>Write notes and return in Moodle</p>	<p>Links and pdfs of materials for how to do business ideating with children (and possibly other useful material)</p>
Sharing	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> Prepare to share learning/reflection highlights with other students when meeting face-to-face 	<p>Write notes of the things you consider most interesting or important in this session material to be shared with others in discussion</p>	<p>Task description for Moodle</p>

Session No. 2: Trying out business ideating

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Presentations	<input checked="" type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Presenting myself to others 	Group discussion	
Knowledge sharing	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Sharing learning/reflection highlights from Session No. 1 between participants 	Group discussion	
Lecture: Business ideating phases	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input checked="" type="checkbox"/> lecture	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Learning about business ideating phases: what happens in each phase 	Listening a lecture	Lecture slides
Trying out business ideating	<input checked="" type="checkbox"/> exercise	60 min.	<input checked="" type="checkbox"/> group		<ul style="list-style-type: none"> Trying out business ideating in a group of 2-3 	Trying out a method Working in a group Teacher supporting the work of groups	Task description, Materials for supporting the work (paper, pens, template for business idea)
Reflection	<input checked="" type="checkbox"/> exercise	60 min.	<input checked="" type="checkbox"/> individual <input checked="" type="checkbox"/> group		Reflect individually: <ul style="list-style-type: none"> What did you learn? How the method could be applied in classroom? <ul style="list-style-type: none"> Lessons learned when trying it out Challenges, potential solutions Share in own group; prioritise most important learning Share in the big group	Self-reflection Group reflection Prioritising Application to own work	Task description

Session No. 3: Finalising business ideating and applying to own teaching

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Versions of business model canvas	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Getting familiar with different versions of Business Model Canvas; particularly with ethical and sustainable versions 	Read materials in Moodle	Task description, Examples of different business model canvases
Finalise group business idea	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	90 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Continue with your business planning - fill in the (modified?) business model canvas 	Trying out a method Working in a group Read materials in Moodle Return final business plan in Moodle	Task description, Template for the business model canvas
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Identifying your own or your group's challenges in business ideating and how those reflect to using the method with children 	Self-reflection Return in Moodle	Task description
Teaching plan	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Planning for how to do business ideating with your own students 	Reflection to own work Write a plan Return in Moodle	Task description
Peer review	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Peer reviewing other participant's reflection task and teaching plan <ul style="list-style-type: none"> Compare the identified challenges Comment the teaching plan 	Write a peer review Return in Moodle	Task description
Prepare for pitching	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise	60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group	[No.]	<ul style="list-style-type: none"> Preparing for pitching 	Trying out a method Read information about	Task description Guidance for pitching

	<input type="checkbox"/> discussion <input type="checkbox"/> ...		<input type="checkbox"/> plenary			how to do pitching in Moodle Making a presentation Return the pitching slides	
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Session No. 4: Pitching

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Pitching the business ideas	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Groups pitching their business ideas to other students Peers asking questions and giving feedback Teacher asking questions and giving feedback 	Trying out a method Giving a presentation Getting feedback	Instructions for peers about what kind of questions/feedback is useful related to business ideas
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Reflective discussion together with all participants <ul style="list-style-type: none"> How to do this with children in education context Sharing experiences 	Self-reflection Group reflection Application to own work	Task description

Session No. 5: Self-study on entrepreneurship education

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Learn about entrepreneurship education	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	150 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	Read about entrepreneurship education: <ul style="list-style-type: none"> How EE is done in other countries What is central to focus on in EE What else can be done in addition to business ideating Read D2.1 and specifically Entrecomp and 	Read materials in Moodle	Task description Materials for reading

					other relevant models (also something else that is useful to read)		
Class-room application	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	90 min.		[No.]	Plan for classroom application <ul style="list-style-type: none"> Choose the most interesting/useful sounding ones from classroom application perspective; why are they useful/interesting? Write a report and return it to Moodle Prepare to share about the methods and discuss with other students when you meet 	Select most useful/interesting methods for EE Self-reflection Application to own work Write a report Return report in Moodle	Task description

Session No. 6: Trying it out

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Sharing with group	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Sharing with other students best methods for classroom application 	Self-reflection Group discussion Application to own work	Task description
Lecture	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input checked="" type="checkbox"/> Lecture	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Learning about Design Thinking and how it can be used with children 	Listening to lecture Application to own work	Lecture slides
Trying out design thinking	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Trying out Design Thinking in a group in the context of ethical and sustainable innovations 	Trying out a method Learning how to integrate ethical and sustainable thinking in EE	Task description
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	[No.]	Discussing how the method could be applied in classroom <ul style="list-style-type: none"> Lessons learned when trying it out Challenges, potential solutions 	Self-reflection Group discussion Application to own work	Task description

Lecture	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input checked="" type="checkbox"/> Lecture	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> Listening a lecture about what is agile product development and why is this approach used, what does it teach to children, how to apply with children 	Listening to lecture Application to own work	Lecture slides
Trying it out	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	90 min.		[No.]	Each participant is given a role: Scrum Master, Marketing, Product Owner (teacher), etc. Task 1: <ul style="list-style-type: none"> You need to build a space station on the moon: What is needed to be done? (greenhouse, rover, sleeping quarters, etc.) Task 2: <ul style="list-style-type: none"> A new mission requires travelling to another planet: What is needed to be done? (they now need a rocket, but also need to continue building the rest) Task 3: <ul style="list-style-type: none"> The whole mission is cancelled: everything must be packed up and returned to Earth. What is needed to be done? What do you learn from this phase for entrepreneurship? What else? 	Trying out a method Learning about agile methods	Task description
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min		[No.]	<ul style="list-style-type: none"> What did you learn from each phase for entrepreneurship? What else did you learn? How the method could be applied in classroom? Lessons learned when trying it out Challenges, potential solutions 	Self-reflection Group discussion Application to own work	Task description

Session No. 7: Implementing in the classroom

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
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Plan and implementation	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	240 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<p>Trying a chosen EE method in your own classroom</p> <ul style="list-style-type: none"> • Choosing a method • Writing a plan • Implementation in classroom <ul style="list-style-type: none"> ◦ Consider possibilities for interdisciplinary or cross-curricular integration (arts, language learning, ...) 	<p>Application to own work</p> <p>Return the plan in Moodle</p>	Task description
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Reflection on lessons learned and challenges in the learning process 	<p>Application to own work</p> <p>Self-reflection</p> <p>Return the report in Moodle</p>	Task description
Peer review	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	60 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Peer reviewing other participant's report • Comment and compare the lessons learned and identified challenges 	<p>Self-reflection</p> <p>Peer learning</p> <p>Application to own work</p>	Task description

Session No. 8: Certification

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods/pedagogical transfer	Resources needed
Reflection	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Sharing the experiences with other participants 	<p>Reflection</p> <p>Group discussion</p> <p>Peer learning</p> <p>Application to own work</p>	Task description
Post-test	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • Evaluation of learning 	Test	Test questions
Certification exam	<input type="checkbox"/> warm up <input type="checkbox"/> input	15 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer	[No.]	<ul style="list-style-type: none"> • Certification exam 	Test	Exam questions and correct an-

	<input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...		<input type="checkbox"/> group <input type="checkbox"/> plenary				swers
Interview	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> group		<ul style="list-style-type: none"> • Focus group interview 		Interview questions

Assessment Plan

Assessment Type	Duration	Learning Goal/Objective/Outcome	Description	Weight (%)	Deadline
All returned tasks	[Hours]		Pass/fail – generally always pass if something sensible is returned	[Weight]	[Date]

Final Checklist (for reviewer):

Category	Element	Notes	✓
1. Content & Formatting	Default modules in English	Includes videos, examples, links	<input type="checkbox"/>
	Use template for materials	Slides, handouts, activities (coordinate with Inmark if needed) wathermark for videos?	<input type="checkbox"/>
	General slides/video about the project (Come-ThinkAgain)	Same for all modules (e.g., produced with Inmark)	<input type="checkbox"/>
	Representation of diverse identities	Inclusive roles and examples	<input type="checkbox"/>
	Real-life examples	Grounded in the everyday lives of the target group	<input type="checkbox"/>
	Gender-sensitive language & visuals	Avoid stereotypes, use inclusive images	<input type="checkbox"/>
	Copyright compliance	Use open licences (e.g., CC-BY) wherever possible	<input type="checkbox"/>
2. Pedagogical Framing & Inclusion	Separate info for educators	Pedagogical background, classroom implementation guidance	<input type="checkbox"/>
	“Learning methods/pedagogical transfer” section in template	Align with template structure	<input type="checkbox"/>
	Address diverse learner needs & contexts	E.g., low-/high-tech environments	<input type="checkbox"/>
	Reference to competence frameworks	e.g., DigComp, GreenComp, national curricula	<input type="checkbox"/>
3. Media Types			
Select as appropriate; not all media types are required.	Videos	Explainers, screencasts, interviews, interactive elements	<input type="checkbox"/>

Category	Element	Notes	✓
	Audio	Podcasts, spoken instructions, narrated presentations	<input type="checkbox"/>
	Texts	PDFs, interactive texts, articles, downloadable resources	<input type="checkbox"/>
	Images & Graphics	Infographics, diagrams, animations	<input type="checkbox"/>
	Interactive content	H5P, simulations, coding sandboxes, quizzes, reflections, peer feedback, forums	<input type="checkbox"/>
	Submissions	Support for file uploads	<input type="checkbox"/>
4. Application & Learning Design	Knowledge transfer session (online/offline)	For trainers/teachers: how to apply content to subjects/target groups	<input type="checkbox"/>
	At least one practical learning method	E.g., making, outdoor learning	<input type="checkbox"/>
	Blend digital and analogue formats	To enrich learning experiences	<input type="checkbox"/>
5. Quality Assurance	Align with template structure	Suitable number of competences, learning methods, etc.	<input type="checkbox"/>
	Develop pre-/post-test questions	For learning assessment	<input type="checkbox"/>

Module Plan EE Secondary Education

Module Title: EE Secondary Education

Duration: 30 hours (1 ECTS)

Target group: Primary teacher Secondary teacher VET trainer

Module Description:

This course offers a hands-on introduction to entrepreneurship by guiding students through the development of a business idea and plan. Through teamwork, creative thinking, and practical tools like the Business Model Canvas, target group analysis, and basic financial planning, students will de-sign their own startup concept. The course combines core theory with hands-on activities and encourages the use of both textbook models and external research.

Competences

Computational Thinking	Entrepreneurship	Green Skills
<input type="checkbox"/> Algorithmic Thinking (AT) <input type="checkbox"/> Decomposition <input type="checkbox"/> Pattern Recognition <input type="checkbox"/> Abstraction <input type="checkbox"/> Modeling & Simulation <input type="checkbox"/> Generalisation <input type="checkbox"/> Logical Thinking <input type="checkbox"/> System Thinking (ST) <input type="checkbox"/> CT Empowerment <input type="checkbox"/> CT Participation <input type="checkbox"/> Higher-Order Thinking Skills <input type="checkbox"/> Higher-Order Problem-solving <input type="checkbox"/> Digital Literacy <input type="checkbox"/> Data Literacy <input type="checkbox"/> AI Literacy <input type="checkbox"/> Computational Mathematics <input type="checkbox"/> Computational Making	<input checked="" type="checkbox"/> Spotting opportunities <input checked="" type="checkbox"/> Mobilizing others <input checked="" type="checkbox"/> Creativity <input checked="" type="checkbox"/> Taking the initiative <input checked="" type="checkbox"/> Vision <input checked="" type="checkbox"/> Planning and management <input checked="" type="checkbox"/> Valuing ideas <input checked="" type="checkbox"/> Coping with uncertainty, ambiguity and risk <input type="checkbox"/> Ethical and sustainable thinking <input checked="" type="checkbox"/> Working with others <input checked="" type="checkbox"/> Self-awareness and self-efficacy <input checked="" type="checkbox"/> Learning through experience <input checked="" type="checkbox"/> Motivation and perseverance <input checked="" type="checkbox"/> Guerrilla Skills <input checked="" type="checkbox"/> Mobilizing resources <input checked="" type="checkbox"/> Demand for quality and efficiency <input checked="" type="checkbox"/> Financial and economic literacy	<input type="checkbox"/> Systems-Thinking <input type="checkbox"/> Critical Thinking <input type="checkbox"/> Problem-solving <input type="checkbox"/> Futures Literacy <input type="checkbox"/> Valuing sustainability <input type="checkbox"/> Political Agency <input type="checkbox"/> Collective Action <input type="checkbox"/> Supporting Fairness <input type="checkbox"/> Promoting Nature <input type="checkbox"/> Adaptability <input type="checkbox"/> Exploratory Thinking <input type="checkbox"/> Individual Initiative <input type="checkbox"/> Interpersonal/collaborative competence <input type="checkbox"/> Intrapersonal competences

<input type="checkbox"/> Computing (Programming)		
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Learning Goals (Outcome?/Objectives?)

The participants can ...

1. Identify opportunities for entrepreneurial ventures and develop innovative ideas to address real-world problems
 - a. **Competences:** Spotting opportunities, Creativity, Valuing Ideas)
2. Apply creative thinking and problem-solving skills to design and implement entrepreneurial projects
 - a. **Competences:** Creativity, Taking the initiative)
3. Work effectively with others to mobilize resources and execute entrepreneurial initiatives
 - a. **Competences:** Working with others, Mobilizing resources, Mobilizing others)
4. Develop a clear vision for their entrepreneurial ideas and create structured plans to bring those ideas to life
 - a. **Competences:** Vision, Planning and management)
5. Assess and manage uncertainty and risks when making decisions related to their entrepreneurial projects
 - a. **Competences:** Coping with uncertainty, ambiguity and risk)
6. Reflect on their strengths and weaknesses, and apply strategies to stay motivated and persevere in the face of challenges
 - a. **Competences:** Self-awareness and self-efficacy, Motivation and perseverance)

Required prior knowledge

None

Learning Methods

Computational Thinking	Entrepreneurship	Green Skills
<input type="checkbox"/> Unplugged activities <input type="checkbox"/> Play-based learning <input type="checkbox"/> Storytelling <input type="checkbox"/> Making <input type="checkbox"/> Robotics <input type="checkbox"/> Game-based methods <input type="checkbox"/> Coding/computing or programming <input type="checkbox"/> Project-based learning <input type="checkbox"/> Code visualization	<input checked="" type="checkbox"/> Problem-based learning <input checked="" type="checkbox"/> Project-based learning <input type="checkbox"/> Entrepreneurial hackathons <input checked="" type="checkbox"/> Design-based learning <input checked="" type="checkbox"/> Making <input checked="" type="checkbox"/> Work-based learning models <input checked="" type="checkbox"/> Providing role models <input type="checkbox"/> Mentoring <input type="checkbox"/> Guest lectures and workshops <input checked="" type="checkbox"/> learning by doing <input type="checkbox"/> internships in start-ups <input checked="" type="checkbox"/> Mini-enterprises	<input type="checkbox"/> Storytelling <input type="checkbox"/> Project-based learning <input type="checkbox"/> Problem-based learning <input type="checkbox"/> Game-based learning <input type="checkbox"/> Competition-based methods <input type="checkbox"/> Reflective-methods <input type="checkbox"/> Making and design-based methods <input type="checkbox"/> Field trips <input type="checkbox"/> Outdoor education <input type="checkbox"/> Arts-based and creative learning methods

Overview of Course

= **planned mode** / = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
- Pre-Test - ... - ...	- ... - ...	- ... - ...	- ... - ...
Goal(s): [No.]	Goal(s): [No.]	Goal(s): [No.]	Goal(s): [No.]
[Duration] h	[Duration] h	[Duration] h	[Duration] h

Session No.5	Session No.6	Session No.7	Session No.8
<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
- ... - ...	- ... - ...	- ... - ...	- ... - Post-Test - Certification exam - Interviews
Goal(s): [No.]	Goal(s): [No.]	Goal(s): [No.]	Goal(s): [No.]
[Duration] h	[Duration] h	[Duration] h	[Duration] h

Session No.9	Session No.10
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session
- ... - ...	- ... - ...
Goal(s): [No.]	Goal(s): [No.]
[Duration] h	[Duration] h

Session description

Session No. 1: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 2: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 3: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 4: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 5: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 6: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 7: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Session No. 8: [title]

Task Title	Task type	Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		
[title]	<input type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	[x] min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	[No.]	<ul style="list-style-type: none"> • [description incl. pedagogical considerations] • ... 		

Assessment Plan

Assessment Type	Duration	Learning Goal/Objective/Outcome	Description	Weight (%)	Deadline
Task 1	[Hours]		[Brief description]	[Weight]	[Date]
Task 2	[Hours]		[Brief description]	[Weight]	[Date]
Final Task	[Hours]		[Brief description]	[Weight]	[Date]

Final Checklist (for reviewer):

Default modules must be in English (including videos, examples, links, etc.).	
Include knowledge transfer session (online/offline) with trainers/teachers: how would you apply the content to your subject/target groups.	
The structure is according to template (e.g., suitable number of competences, learning methods,...).	
Representation in examples and roles that reflect diverse identities and backgrounds.	
Use the template for slides, handouts, activities, etc. (or other sources – discussion with Inmark!). Watermark for videos?	
A separate information for educators, offering pedagogical background and implementation guidance in class (see “Learning methods/pedagogical transfer” within template). Suggestions for diverse learner needs and contexts (e.g., low-/high-tech environments).	
If possible, use one more hands-on/practical learning method (e.g., making, outdoor learning,...).	
If possible, connect to real-life examples (grounded in the everyday lives of the target group to enhance relevance).	
Where appropriate, integration of analogue and digital formats to enrich learning experiences.	
Use of different media types e.g., (not all must be included): <ul style="list-style-type: none">• Videos: Explainer videos, interviews, screencasts (potentially with interactive elements).• Audio: Podcasts, narrated presentations, spoken instructions.• Texts: PDFs, interactive texts, articles, downloadable resources.• Images & Graphics: Infographics, diagrams, animated explanations.• Interactive Content: H5P modules, simulations, coding sandboxes (e.g., for programming courses), quizzes, exercises, reflection questions, peer feedback, forums, discussions boards,...• Submissions: any kind of files	

Use of gender-sensitive language, visuals, and examples: Ensure inclusive representation and actively avoid stereotypes.	
Be aware of copyright issues (pictures/videos, licences, etc.; use CC-by if possible).	
Develop questions for pre/post-tests.	
References to European competences frameworks (see D2.1) e.g., GreenComp, DigComp and possible local extensions done by pilot countries (e.g., national curricula, frameworks).	
Include a general slides/video of the project ComeThinkAgain (same for all). (e.g., Inmark).	

Module Plan: “GreenComp in Practice: Promoting Sustainability Competences in the Classroom”

Module Title: GreenComp in Practice: Promoting Sustainability Competences in the Classroom
(Title in German: "GreenComp in der Praxis: Nachhaltigkeitskompetenzen im Unterricht fördern")

Duration: 25 hours (1 ECTS)

Target group: Primary teacher Secondary teacher VET trainer

Module Description:

This training course focuses on Social Responsibility and Green Skills. It is designed **for primary and secondary school teachers** who wish to foster sustainability competences in their classrooms.

Participants will explore and apply the European GreenComp Competence Framework and engage with the Agenda 2030 and the 17 Sustainable Development Goals (SDGs). The course offers opportunities to critically examine how sustainability competences are already embedded in national curricula and individual subject areas.

Participants will also gain practical strategies and inspirational ideas for implementing innovative teaching methods and initiating school-wide activities that promote sustainability. The module also encourages reflection on personal values and supports the development of practical steps for integrating sustainability into everyday school life.

Competences

Computational Thinking	Entrepreneurship	Green Skills
<input type="checkbox"/> Algorithmic Thinking (AT)	<input type="checkbox"/> Spotting opportunities	<input checked="" type="checkbox"/> Systems-Thinking
<input type="checkbox"/> Decomposition	<input type="checkbox"/> Mobilizing others	<input checked="" type="checkbox"/> Critical Thinking
<input type="checkbox"/> Pattern Recognition	<input type="checkbox"/> Creativity	<input checked="" type="checkbox"/> Problem-solving
<input type="checkbox"/> Abstraction	<input type="checkbox"/> Taking the initiative	<input checked="" type="checkbox"/> Futures Literacy
<input type="checkbox"/> Modeling & Simulation	<input type="checkbox"/> Vision	<input checked="" type="checkbox"/> Valuing sustainability
<input type="checkbox"/> Generalisation	<input type="checkbox"/> Planning and management	<input checked="" type="checkbox"/> Political Agency
<input type="checkbox"/> Logical Thinking	<input type="checkbox"/> Valuing ideas	<input checked="" type="checkbox"/> Collective Action
<input type="checkbox"/> System Thinking (ST)	<input type="checkbox"/> Coping with uncertainty, ambiguity and risk	<input checked="" type="checkbox"/> Supporting Fairness

<input type="checkbox"/> CT Empowerment <input type="checkbox"/> CT Participation <input type="checkbox"/> Higher-Order Thinking Skills <input type="checkbox"/> Higher-Order Problem-solving <input type="checkbox"/> Digital Literacy <input type="checkbox"/> Data Literacy <input type="checkbox"/> AI Literacy <input type="checkbox"/> Computational Mathematics <input type="checkbox"/> Computational Making <input type="checkbox"/> Computing (Programming)	<input type="checkbox"/> Ethical and sustainable thinking <input type="checkbox"/> Working with others <input type="checkbox"/> Self-awareness and self-efficacy <input type="checkbox"/> Learning through experience <input type="checkbox"/> Motivation and perseverance <input type="checkbox"/> Guerrilla Skills <input type="checkbox"/> Mobilizing resources <input type="checkbox"/> Demand for quality and efficiency <input type="checkbox"/> Financial and economic literacy	<input checked="" type="checkbox"/> Promoting Nature <input checked="" type="checkbox"/> Adaptability <input checked="" type="checkbox"/> Exploratory Thinking <input checked="" type="checkbox"/> Individual Initiative <input checked="" type="checkbox"/> Interpersonal/collaborative competence <input checked="" type="checkbox"/> Intrapersonal competences
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Learning Goals

The framework identifies four interrelated competence areas that are essential for teaching and learning sustainability:

- Embodying sustainability values
- Embracing complexity in sustainability
- Envisioning sustainable futures
- Acting for sustainability

Throughout the course, participants will be encouraged to consider how learners can acquire these competences and how they can be fostered through effective teaching and learning methods. The goal is to promote both personal development and the ability to design learning environments that empower young people to contribute actively to a more sustainable future.

By the end of the course, participants will be able to...

1. explain the areas of competence included in the term **sustainability competence**¹ and provide specific examples of the **knowledge, skills** and **attitudes** their students should acquire in each area.
2. describe who the **GreenComp Framework**² and the **Agenda 2030 for Sustainable Development** are intended for, and reflect on their relevance and potential application in their own educational context.
3. identify how GreenComp competence areas of GreenComp are reflected in **national curricula** (at primary/secondary level) and their **own subject areas**, and assess the level of integration.

4. critically evaluate the extent to which their **personal values and actions** are consistent with the **values of sustainability**.
5. overcome **one's own resistance to change** and recognize that everyday action matters.
6. can describe, plan and implement **age-appropriate teaching and learning approaches** to effectively support the development of sustainability competences at primary/secondary level.
7. can identify opportunities for cooperation across subjects to foster **integrative and interdisciplinary teaching and learning**.
8. can identify and formulate both **short- and long-term educational measures** in their own class or school context that contribute meaningfully to sustainability.

¹ according to the GreenComp definition

² GreenComp Framework = The European Sustainability Competence Framework

Required prior knowledge

None

Learning Methods

Computational Thinking	Entrepreneurship	Green Skills
<input type="checkbox"/> Unplugged activities <input type="checkbox"/> Play-based learning <input type="checkbox"/> Storytelling <input type="checkbox"/> Making <input type="checkbox"/> Robotics <input type="checkbox"/> Game-based methods <input type="checkbox"/> Coding/computing or programming <input type="checkbox"/> Project-based learning <input type="checkbox"/> Code visualization	<input type="checkbox"/> Problem-based learning <input type="checkbox"/> Project-based learning <input type="checkbox"/> Entrepreneurial hackathons <input type="checkbox"/> Design-based learning <input type="checkbox"/> Making <input type="checkbox"/> Work-based learning models <input type="checkbox"/> Providing role models <input type="checkbox"/> Mentoring <input type="checkbox"/> Guest lectures and workshops <input type="checkbox"/> learning by doing <input type="checkbox"/> internships in start-ups <input type="checkbox"/> Mini-enterprises	<input checked="" type="checkbox"/> Storytelling <input type="checkbox"/> Project-based learning <input type="checkbox"/> Problem-based learning <input checked="" type="checkbox"/> Game-based learning <input checked="" type="checkbox"/> Competition-based methods <input checked="" type="checkbox"/> Reflective-methods <input checked="" type="checkbox"/> Making and design-based methods <input type="checkbox"/> Field trips <input checked="" type="checkbox"/> Outdoor education <input checked="" type="checkbox"/> Arts-based and creative learning methods

Overview of Module

Bold + ☒ = planned mode / ☑ = possible alternative mode

Session No.1	Session No.2	Session No.3	Session No.4
<input type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input checked="" type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session
<ul style="list-style-type: none"> - Welcome - Project overview - Pre-test - Warm-up activity - Learning objectives - Module overview - Using the Moodle course - Introduction to Phase 1 	<ul style="list-style-type: none"> - Learning content: Introduction to GreenComp framework - Sustainability challenge - GreenComp knowledge quiz 	<ul style="list-style-type: none"> - Welcome and Introduction - Recap: The GreenComp framework - Introducing the term sustainability - Sustainability competences in national curricula - Why Individual Actions Matter - Sustainability Challenge - Educational Initiatives and Best Practice - Conclusion and next steps 	<ul style="list-style-type: none"> - Learning content: Agenda 2030/SDGs - Planning a lesson in the context of a selected SDG - SDG knowledge quiz
Goal(s): 4	Goal(s): 1, 2, 4, 5	Goal(s): 1, 2, 3, 4, 5, 7	Goal(s): 2, 3, 4, 5, 6, 7
1 h	4-6 h	4 h	4-6 h

Session No.5	Session No.6	Session No.7	
<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input checked="" type="checkbox"/> Distance learning <input type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	<input type="checkbox"/> Distance learning <input checked="" type="checkbox"/> Workshop in person <input type="checkbox"/> Online Session	
<ul style="list-style-type: none"> - Welcome and Introduction - Progress report on sustainability challenge - Revisiting the SDGs playfully - Presentation and discussion of SDG-based lesson plans - Spotlight: Envisioning sustainable futures (GreenComp) - Conclusion and next steps 	<ul style="list-style-type: none"> - Vision board 	<ul style="list-style-type: none"> - Welcome and Introduction - Recap: development of future scenarios - Final report on sustainability challenge - Presentation and discussion of vision boards - "My promise" poster - Certification exam - Post test 	
Goal(s): 1, 2, 4, 5, 6, 7	Goal(s): 1, 2, 3, 4, 5, 6, 7, 8	Goal(s): 1, 2, 3, 4, 5, 6, 7, 8	
4 h	4-6 h	4 h	

Session description

Preliminary Online Meeting

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Welcome	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> literature study	2	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> Get to know the team and our areas of work 		-
Project Overview	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	5	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> Background information and context for the project 		-
Pre-test	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		<ul style="list-style-type: none"> A brief, anonymous assessment to reflect your starting point 		Moodle Quiz
Warm-up activity	<input checked="" type="checkbox"/> warm up <input type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	4	<ul style="list-style-type: none"> Warm-up exercise: “Two truth and one lie” - sustainability edition: participants reflect on their sustainability practices in school in a fun way 	Reflective methods, game-based methods	-
Learning objectives	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	5	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> What you can expect to learn and achieve 		-
Module overview	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input	5 min	<input type="checkbox"/> individual		<ul style="list-style-type: none"> Structure, schedule, and organizational details 		-

	<input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...		<input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary				
Using the Moodle course	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	5 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> • Technical walkthrough with tips for effective use 		-
Introduction to Phase 1	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	3 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> • Overview and discussion of upcoming tasks 		-

Phase 1: Self-regulated Learning

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
- Introducing GreenComp - Exploring GreenComp	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input checked="" type="checkbox"/> literature study	140 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1,2,3	<p>Text-based introduction to “Sustainability”/GreenComp</p> <p>Task 1.1: Exploring GreenComp By completing this task, participants will become familiar with the GreenComp Framework. The aim is to develop a clear understanding of the framework’s structure and to internalize its four competence areas by connecting them to real-life examples.</p> <p>Guiding Questions</p> <ul style="list-style-type: none"> • What does transformative learning mean in the context of sustainability education? • What are the four competence areas in the GreenComp framework, and how are they connected? • Video <ul style="list-style-type: none"> ○ How does this video relate to the competence area “Embracing complexity in sustainability”? 	Possibility to use AI-tools to chat with the corresponding PDF	PDF-File (GreenComp Framework)

					<ul style="list-style-type: none"> ○ How does it reflect the four categories of sustainability or the 5 Ps? ● Choose one competence from each of the four GreenComp areas and complete the following: <ul style="list-style-type: none"> ○ Describe the competence in your own words. ○ Provide one practical example of how it can be applied, either in everyday life or in an educational setting. ○ Consult the related Knowledge, Skills, and Attitudes (KSA) statements in Appendix 2 of the GreenComp framework to support your understanding. ● Who is the GreenComp Framework designed for, and how could it be relevant in your own teaching or educational context? 		
Sustainability Challenge	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	240 min. (for the challenge over 8 weeks)	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	4, 5	<p>Task 1.2: Sustainability Challenge</p> <p>By completing this task, participants will reflect on their personal habits, select a sustainability challenge to pursue throughout the course, and document their experience and progress in a journal.</p> <p>“Take a conscious, environmentally sustainable action that you have not yet taken.”</p> <ul style="list-style-type: none"> ● The choice is yours: Think of something that is both meaningful and achievable. ● Please note that the Sustainability Challenge should be a challenge for you, and not something that you are already implementing. ● To encourage the disruption of habitual behaviours, the duration of the challenge should be at least four weeks. ● Please be aware that the time this takes depends on how challenging the task is. ● This process must be documented in writing. Use the journal provided for this purpose. If you would prefer to use an alternative method of documentation (e.g. audio), please contact your trainer. 	Reflective methods, competition-based methods; outdoor learning (depending on the challenge taken)	Moodle Journal, selected literature
Self-	<input type="checkbox"/> warm up	20 min.	<input checked="" type="checkbox"/> individual	1,2	Quiz Activity to review the key concepts of the Green-		Moodle Quiz

Assessment Activity (Quiz 1)	<input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...		<input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary		Comp framework		
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Phase 1: On-site Workshop

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Welcome& Introduction	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> • Overview of the goals and structure • Get to know each other 		
Recap of Green-Comp framework	<input checked="" type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	20 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	1,2,3	<ul style="list-style-type: none"> • Key concepts and structure of the GreenComp framework • The four competence areas and their relevance for education 		
Introducing the term sustainability	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	50 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	1, 3, 6, 7	<ul style="list-style-type: none"> • Age-appropriate approaches for primary and secondary levels • Methods in focus: Flip-flop method and scenario technique • Exchange of classroom experiences and ideas 	Storytelling/ scenario technique	
Sustainability Competences in national curricula	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	3	<ul style="list-style-type: none"> • Current level of integration in primary and secondary education • Identifying entry points for GreenComp competences in existing subjects 		
Why individual actions matter	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	20 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	4, 5, 8	<ul style="list-style-type: none"> • Understanding the concepts of footprint and handprint • Differentiating between low-hanging and high-hanging fruits in sustainability action 		Selected literature

Sustainability challenge	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min.	<input checked="" type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	4, 5	<ul style="list-style-type: none"> Participants share key insights from their reflection journals Group discussion and peer feedback 	Reflective methods Competition-based methods	H5P-Activity, Printed challenge cards (optional, not provided)
Educational Initiatives and best practice	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input checked="" type="checkbox"/> discussion <input type="checkbox"/> ...	40 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	3, 7, 8	<ul style="list-style-type: none"> Presentation of inspiring school projects and teaching materials Exploring available tools, programs, and networks for addressing current sustainability challenges 		tba
Conclusion and next steps	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> Key takeaways from the workshop Overview and discussion of upcoming tasks 		

Phase 2: Self-regulated Learning

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
- Introducing the Sustainable Development Goals (SDGs) - Exploring the SDGs	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	110 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	2,3	<p>Text-based and Video-based introduction to the Sustainable Development Goals (SDGs)/Agenda 2030</p> <p>TASK 2.1: Exploring the SDGs</p> <p>By completing this task, participants will become more familiar with the global framework of the Agenda 2030 and the 17 Sustainable Development Goals. You will learn how they aim to address the world's most urgent social, environmental, and economic challenges — and how they are interconnected in shaping a more just and sustainable future for all.</p> <p>Explore the resources</p>		Video 2.1, Video 2.2, selected resources, Moodle Quiz

				<p>Browse the following resources to gain an overview of the Agenda 2030 and the 17 SDGs:</p> <p>https://sdgs.un.org/goals https://www.un.org/sustainabledevelopment/student-resources/</p> <p>Reflect using the guiding questions:</p> <ul style="list-style-type: none"> • What is the Agenda 2030, and how does it frame the SDGs? • What specific targets are associated with each goal? • What global challenges are the SDGs intended to address? • How do the SDGs integrate social, economic, and environmental dimensions of sustainability? • Can you assign each SDG to one of the 5 Ps (People, Planet, Prosperity, Peace, Partnership)? • What role does "Quality Education" (SDG 4) play in achieving sustainable development? Could it be seen as a foundation for reaching the other 16 goals? <p>Apply your knowledge After reviewing the material, complete the Quiz - Find the matching SDG to test your understanding.</p>			
Teaching the SDGs	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	110 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	3, 6, 7, 8	<p>TASK 2.2: Task 2.2 - Teaching the SDGs In this task, participants will design a lesson plan (1–2 lessons) that introduces their students to a Sustainable Development Goal (SDG) relevant to their lives and learning context.</p> <p>Design a short lesson plan on a selected SDG</p> <ul style="list-style-type: none"> • Choose your focus SDG Select one or more SDG(s) from the SDG Selection list that you consider most relevant for your students (primary or secondary level). Ask yourself: <i>Which SDG resonates most with my teaching context and learners?</i> • Research and reflect Explore how this SDG can be effectively taught at your chosen education level. Look for ways to help students build a personal and emotional connection to 		<ul style="list-style-type: none"> - Moodle Selection Activity - List of selected Teaching and Learning Resources - Template for creating a presentation of the SDG-based lesson plan - Moodle Submission Activity

					<p>the topic. Aim for a low-threshold, motivating entry point (see the List of Teaching and Learning Resources for ideas).</p> <ul style="list-style-type: none"> • Develop your lesson plan You don't need to create entirely new materials — feel free to draw on existing resources, activities, or lesson plans. Focus on designing a realistic and engaging approach. • Prepare your presentation In the next workshop, you will briefly present your SDG-based lesson idea (max. 5 minutes). Use the provided template (Template - Task 2.2) to structure your presentation. • Submit your work Upload your materials (presentation slides and additional materials) to the designated folder (Submission - Task 2.2) before the next workshop. 		
Self-Assessment Activity (Quiz 2)	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	2,3	Quiz Activity to review key concepts related to the Agenda 2030 and the SDGs		Moodle Quiz

Phase 2: On-site Workshop

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Welcome & Introduction	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	5 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> • Overview of the goals and structure 		
Progress report on the sustainability challenge	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	40 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	4, 5	<ul style="list-style-type: none"> • Participants share updates on their chosen Sustainability Challenge • Discussion of strategies to overcome challenges 	Reflective methods	

Revisiting the SDGs playfully	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	40 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	2, 3, 6	<ul style="list-style-type: none"> Engaging, interactive activities to revise the 17 Sustainable Development Goals Focus on methods that are age-appropriate and adaptable for use in both primary and secondary classrooms 	Game-based learning	Different games
Presentation and discussion of SGD-based lesson plans	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	45 min.	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	2, 3, 6, 7	<ul style="list-style-type: none"> Presentation of SGD-based lesson plans developed by participants Group reflection, exchange of ideas, and constructive peer feedback 	Reflective methods	
Spotlight: Envisioning sustainable futures (Green-Comp)	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	90 min	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input type="checkbox"/> plenary	1, 2, 6, 7	<ul style="list-style-type: none"> Introduction Context <ul style="list-style-type: none"> How should cities be designed in the future, and how will this be achieved? <p>Urbanisation, housing shortages and air pollution are key challenges of our time. These real-world issues offer learners a valuable opportunity to question the present and imagine more sustainable futures.</p> Method Scenario Technique <ul style="list-style-type: none"> Participants develop future scenarios based on trends and current challenges Practical classroom materials for adaptation in educational settings Homework assignment: Write a "Postcard from the Future" describing your envisioned scenario in a short narrative format. Method Design Thinking <ul style="list-style-type: none"> Introduction to design thinking and its role in project-based learning for sustainability challenges Examples of classroom-ready approaches and contexts for engaging learners in developing their own ideas and prototypes 	Scenario Technique (Storytelling), Design-based methods	Selected resources

Conclusion and next steps	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	15 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> • Key takeaways from the workshop • Overview and discussion of upcoming tasks 		
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Phase 3: Self-regulated Learning

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Creating a Vision Board	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	240 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1,2,3, 4, 5, 6, 7, 8	<p>In this final distance learning phase, participants are invited to reflect on the key concepts, initiatives, and methods explored throughout the course. They should build on these insights to develop their own vision for promoting sustainability and sustainability competences in their schools and turn ideas into meaningful educational action.</p> <p>TASK 3.1 - Creating a Vision Board</p> <p>By completing this task, participants will reflect on what they've learned throughout the module and translate key ideas into a personal vision for promoting sustainability competences in their schools.</p> <p>Create a vision board that illustrates how you intend to support the development of sustainability competences in your future teaching.</p> <p>For your vision board, please include:</p> <ul style="list-style-type: none"> • Concrete actions for your school or classroom <ul style="list-style-type: none"> ○ Identify at least one low-hanging fruit: a small, manageable action that is easy to implement and delivers a meaningful impact. ○ Identify at least one high-hanging fruit: a more ambitious measure that may require 	Reflective methods, arts-based methods	<ul style="list-style-type: none"> - Template for creating a Vision Board - Moodle Submission

					<p>more effort, time, or resources but has the potential for lasting, systemic change.</p> <ul style="list-style-type: none"> • Visual representation <ul style="list-style-type: none"> ○ Your vision board should include at least two images or drawings that visually represent your low- and high-hanging fruit. ○ You are free to choose the format (e.g. poster, slides, digital collage, drawing). • Competence and SDG alignment <ul style="list-style-type: none"> ○ Clearly indicate which GreenComp competences your actions address. ○ Link your ideas to relevant Sustainable Development Goals (SDGs). ○ List all the sources you used when creating your vision board. • Vision Statement <ul style="list-style-type: none"> ○ Complete the sentence: "In the future, I want my school to be a place where..." 		
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Phase 3: On-site Workshop

Task Title	Task type	Estimated Duration	Setting	Goals	Description/Content	Learning methods	Resources needed
Wel-come& Introduction	<input type="checkbox"/> warm up <input checked="" type="checkbox"/> input <input type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	5 min.	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary		<ul style="list-style-type: none"> • Overview of goals and structure 		
Recap: Future Scenario Development	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	40 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	1, 2, 6, 7	<ul style="list-style-type: none"> • Review of the previous workshop's outcomes • Reading the "Postcards from the Future" – sharing and reflecting on envisioned future scenarios 	Reflective methods, scenario-technique (story-telling)	
Final Report on sustainability	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise	50 min	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group	4, 5	<ul style="list-style-type: none"> • Participant presentations: outcomes and lessons learned from the individual sustainability challenge • Group discussion on approaches, challenges, and 	Reflective methods	tba

challenge	<input type="checkbox"/> discussion <input type="checkbox"/> ...		<input checked="" type="checkbox"/> plenary		<p>impact</p> <ul style="list-style-type: none"> Feedback methods: “Packing a suitcase”, “Dot Voting” 		
Presentation and discussion of vision boards	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	50 min	<input type="checkbox"/> individual <input checked="" type="checkbox"/> peer <input checked="" type="checkbox"/> group <input checked="" type="checkbox"/> plenary	1, 2, 3, 4, 5, 6, 7, 8	<ul style="list-style-type: none"> Participants present their vision boards for promoting sustainability and competences in their school context Group reflection and constructive peer feedback 	Arts-based methods	
“My Promise” Poster	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	30 min	<input type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input checked="" type="checkbox"/> plenary	5,6	<ul style="list-style-type: none"> Each participant writes down a personal action that they are committed to taking within the next six weeks. The promises are collected on a shared poster as a collective commitment. 	Reflective methods, arts-based methods	Poster, Paper
Certification	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	45 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary	1, 2, 3, 4, 5, 6, 7, 8			- Moodle Quiz
Post-Test	<input type="checkbox"/> warm up <input type="checkbox"/> input <input checked="" type="checkbox"/> exercise <input type="checkbox"/> discussion <input type="checkbox"/> ...	20 min.	<input checked="" type="checkbox"/> individual <input type="checkbox"/> peer <input type="checkbox"/> group <input type="checkbox"/> plenary				- Moodle-Quiz

Assessment Plan (in progress)

Assessment Type	Duration	Learning Goal/Objective/Outcome	Description	Weight (%)	Deadline
Quiz 1	20 min	1, 2	Self-Assessment Activity: Knowledge-based questions on the GreenComp Framwork		
Quiz 2	20 min	1, 2	Self-Assessment Activity: Knowledge-based questions on the SDGs/the Agenda 2030		
Task 1.2	160 min	4, 5	Sustainability Challenge On-site Workshop 2: Presentation “Progress Report” On-site Workshop 3: Presentation “Final Report”		
Task 2.2	110 min	2, 3, 6, 7	Teaching the SDGs On-site Workshop 2: Submission and presentation of the SDG-based lesson plan		
Homework as- signment	30 min	6	Postcard from the Future On-site Workshop 3: Description of the desired future scenario in a short narrative format		
Task 3.1	240 min	2, 3, 6, 7, 8	Creating a Vision Board On-site Workshop 3: Submission and presentation of the Vision Board		
Certification Exam	45 min	1, 2, 3, 4, 5, 6, 7, 8	Certification exam		

Final Checklist (for reviewer):

Default modules must be in English (including videos, examples, links, etc.).	x
Home>My courses>Primary Education>Green Skills Basic Module (PHST)>Phase 2: On-site Workshop>Scenario Technique <ul style="list-style-type: none">PHSt link opens a non-English page	
Include knowledge transfer session (online/offline) with trainers/teachers: how would you apply the content to your subject/target groups.	x
I guess by this one you mean this: My courses > Primary Education > Green Skills Basic Module (PHST) > About ComeThinkAgain If that's the case, then it is OK!	
The structure is according to template (e.g., suitable number of competences, learning methods,...).	x
To enhance clarity and alignment with learning outcomes, I'd recommend the following: <ul style="list-style-type: none">Present the learning goals first, before the schedule. This helps set clear expectations and gives context to the upcoming activities.In the schedule table, consider explicitly linking each activity or topic to the relevant learning goal(s). This will make it easier for learners to understand how each part of the module contributes to their overall progress.Moreover, in each phase, when Tasks are defined, it would be better to recall the learning goals at the beginning of that task. This helps participants understand the purpose and expected outcomes before diving into the activities.	
Representation in examples and roles that reflect diverse identities and backgrounds.	X
The designed tasks are strong and support diverse learner needs. However, I have a few suggestions which might enhance the course: <ul style="list-style-type: none">While the tasks are open-ended, they do not explicitly prompt learners to consider equity, inclusion, or representation of marginalized groups in their visions or actions. This could lead to missed opportunities for deeper reflection on social sustainability.Learners who are new to sustainability education may benefit from more structured examples or scaffolding.The tasks appear to be individually focused. Although there are some activities for group reflection during the on-site workshops, I believe peer/collaborative learning is missing.	

Use the template for slides, handouts, activities, etc. (or other sources – discussion with Inmark!). Watermark for videos?	
Evaluation Needed!	
A separate information for educators, offering pedagogical background and implementation guidance in class (see “Learning methods/pedagogical transfer” within template). Suggestions for diverse learner needs and contexts (e.g., low-/high-tech environments).	
Evaluation Needed!	
If possible, use one more hands-on/practical learning method (e.g., making, outdoor learning,...).	
<p>Phase 1: The individual task includes practical learning elements such as reading and reflections, video analysis, scenario-based thinking, and application of competences. Moreover, the on-site workshop: emphasizes interactive, reflective, and applied learning, but does not include physical making or outdoor activities.</p> <p>Phase2, has limited practical elements in Task 2.1, however, Task 2.2. involves active creation, application of knowledge, and preparation for teaching. As for the on-site workshop, while the session does not involve physical making or outdoor learning, it strongly emphasizes interactive, scenario-based, and design-oriented methods that support practical, hands-on learning in classroom contexts.</p> <p>Phase 3: the task blends reflection, creativity, and application and encourages learners to translate theory into practice. Also, the agenda in on-site workshop is rich in experiential learning, peer-interaction, and personal reflection.</p>	
If possible, connect to real-life examples (grounded in the everyday lives of the target group to enhance relevance).	
Yes! The tasks and activities are connected to real-life examples. For instance, Task 2.2. encourages direct application in real classroom, Task 3.1. promotes realistic planning and personal ownership of sustainability effort, and so on.	
Where appropriate, integration of analogue and digital formats to enrich learning experiences.	
Yes! The activities integrate both analogue and digital formats including drawing, poster-making, printed materials, stickers, verbal delivery, slides, digital collage, online resources, digital templates, online quizzes, etc.	
<p>Use of different media types e.g., (not all must be included):</p> <ul style="list-style-type: none"> • Videos: Explainer videos, interviews, screencasts (potentially with interactive elements). • Audio: Podcasts, narrated presentations, spoken instructions. 	

<ul style="list-style-type: none"> • Texts: PDFs, interactive texts, articles, downloadable resources. • Images & Graphics: Infographics, diagrams, animated explanations. • Interactive Content: H5P modules, simulations, coding sandboxes (e.g., for programming courses), quizzes, exercises, reflection questions, peer feedback, forums, discussions boards,... • Submissions: any kind of files 	
Yes!	
Use of gender-sensitive language, visuals, and examples: Ensure inclusive representation and actively avoid stereotypes.	
<p>Language is OK; examples: Throughout the course, you will be encouraged to consider how learners can acquire these competences and how they can be fostered through effective teaching and learning methods.</p> <p>Visuals are OK; don't show faces.</p> <p>Examples are OK!</p>	
Be aware of copyright issues (pictures/videos, licences, etc.; use CC-by if possible).	
Yes, Example: Video 2.1.: Please note: This video is embedded from YouTube using the platform's official embedding feature. It is not part of the course materials provided under the Creative Commons licence CC BY . All rights to the video remain with the original creators.	
Develop questions for pre/post-tests.	
Yes	
References to European competences frameworks (see D2.1) e.g., GreenComp, DigComp and possible local extensions done by pilot countries (e.g., national curricula, frameworks).	
Yes	
Include a general slides/video of the project ComeThinkAgain (same for all). (e.g., Inmark).	

Yes

Other Feedback:

Thank you for the effort put into developing such a visually appealing and well-structured module. It's clear that a lot of thought went into the design. I do have a few suggestions that could help improve the user experience even further:

- Excessive bolding within sentences is distracting. Consider using bold text more selectively to improve readability.
- Link behavior is inconsistent. Some links open in a new tab while others open in the same one. It's better to apply a consistent approach across all links.

Technical Issues – Feedback for the Developers

The sidebar highlights the next section while I'm still viewing the current one in the main content area. This creates confusion and makes it harder to track where I am on the page. It would be better if the sidebar highlighting accurately reflected the section currently in view.

Links are not easily recognizable. It's recommended to use a more traditional hyperlink style for better visibility.



CITATION

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Report author: ComeThinkAgain Project

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