



AgriTech Solutions: Innovating VET for Sustainable Agriculture
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2024-1-RS01-KA210-VET-000244168

REPORT

From the realization of an activity

2.2 Creating a short PBL training program

Background

Within the framework of the AgriTech Solutions project: Innovative VET for Sustainable Agriculture with project number 2024-1-RS01-KA210-VET-000244168, funded by the Erasmus + program of the European Union, activity 2.2 Creation of a short training program for PBL is being implemented.

The main objective of this project is to advance vocational education and training (VET) in sustainable agriculture through the introduction of project-based learning (PBL), focusing on sustainable and technologically advanced agricultural practices, inclusiveness and accessibility for all students.

This project strives to combine theoretical knowledge with practical applications, thus preparing students with the necessary skills to deal with modern agricultural challenges.

Activity

Design a modular training framework that covers key PBL principles, from project design and execution to assessment and student feedback. This program, built on the insights from the initial meeting, will serve as a cornerstone for training educators, ensuring they have the tools to foster engaging, real-world learning experiences.

Activity results

PBL Training Program: Development and validation of a comprehensive short training program tailored for agricultural vocational education and training educators.

This program will serve as a replicable model that can be adopted and adapted by other educators and institutions that aim to implement PBL in their curricula.



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Description

This 5-day training provides teachers from vocational education and training with the knowledge and tools to implement project-based learning (PBL) in agricultural education. By engaging in practical activities, teachers will learn how to design, manage and evaluate student-led projects that address real-world agricultural challenges such as sustainable agriculture, digital agritech solutions, combating climate change and rural

entrepreneurship.

Learning outcomes

Participants will:

- Understand the basics of project-based learning (PBL) and its benefits in agricultural education.
- Be able to design and implement learning-based agricultural projects related to real-world problems (e.g. soil health, crop management, climate change, smart agriculture).
- Apply tools to improve student motivation, collaboration, and critical thinking.
- Develop skills for evaluating both project outcomes and learning processes to the students.
- Create, present, and improve project-based learning (PBL) curricula aligned with agricultural vocational education and training curricula.
- Improve cooperation between teachers from different subject areas through development and implementation of joint projects.
- Improve the school's cooperation with the local environment, agricultural manufacturers and other institutions.



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Suggested schedule (5 days)

Day 1 – Understanding Project-Based Learning (PBL) in Agricultural Education

- Welcome, introduction, expectations of participants from the training and “icebreakers”. • What is project-based learning (PBL)? Basic principles and differences from traditional teaching.
- Why Project-Based Learning (PBL) Works in Agriculture: relevance to sustainability, climate change and innovation.
- Sharing experiences among training participants in learning activities project based.
- Case studies of project-based learning (PBL) in agricultural vocational education and training (examples from schools in the EU). • Reflection and group discussion: Challenges faced by teachers in engaging students from agricultural fields. Result: Shared understanding of the fundamentals of project-based learning (PBL).

Day 2 – Designing Effective Lesson Plans Through Project-Based Learning (PBL)

- Key elements of project-based learning (PBL): driving question, real-world context and student involvement. • Finding topics in agricultural vocational education and training: examples (biopesticides, greenhouse efficiency, soil sensors, permaculture).
- Workshop: Formulating driving questions for agriculture. • Linking projects to curricula and competency-based learning. Output: Draft driving questions and initial ideas for projects related to the subjects of the participants.

Day 3 – Implementing Project-Based Learning (PBL) in Practice

- Project-Based Learning (PBL) Workflow: Planning, Execution, reflection.
- Classroom management in project-based learning (PBL) (group work, roles, timeframes, resources).
- Tools and methods: digital applications for project tracking, QR codes in agriculture, field visits.



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- Practical activity: Designing the structure of learning curricula project-based learning (PBL) in agriculture.

Result: Structured draft of project-based learning (PBL) lesson plans per educator/group.

Day 4 – Assessment and Feedback in Project-Based Learning (PBL)

- How to assess project-based learning (PBL): product versus process. • Assessment frameworks, peer assessment, self-assessment tools. • Ensuring fair competency-based assessment. • Workshop: Creating frameworks for project-based learning curricula projects (PBL).
- Peer feedback session: exchange between participants. Result: Completed assessment frameworks for project-based learning (PBL) lesson plans

Day 5 – Presentation, reflection and next steps

- Finalizing project-based learning (PBL) lesson plans. • Group presentations of designed project-based learning lesson plans projects (PBL)
- Peer assessment and feedback. • Activity planning: how to integrate project-based learning (PBL) in their school after the training and how to disseminate it to other colleagues. • Awarding of certificates and reflection session. Result: Finalized lesson plans for project-based learning (PBL) (ready for piloting in classrooms).

Expected results

- 10 teachers from secondary agricultural schools from Serbia and North Macedonia trained in project-based learning (PBL).
- Portfolio of 5–7 completed lesson plans for project-based learning (PBL) in agricultural schools. • Strengthened skills in project design, student motivation, assessment, and digital integration.



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