



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

Proposal for a one-week training program: Project-Based Learning (PBL) for teachers of vocational education and training in agriculture

Title: Project-Based Learning in Agricultural Education: Turning Real Challenges into Classroom Solutions

Duration: 5 days (intensive, full-day sessions)

Led by: TFA – Secondary Schools Association – Terra Fiton Animal

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 more.

changes and rural entrepreneurship.

By the end of the training, participants will:

- Understand project-based learning (PBL) as a student-centered pedagogy, aligned with current trends in agriculture.
- Acquire strategies for integrating sustainability, digitalization and innovation into project-based learning (PBL).
- Learn practical methods for assessing project-based learning outcomes. • Learn to create project-based learning (PBL) lesson plans ready for implementation in their schools. **Learning Outcomes**

Participants will:

- Understand the basics of project-based learning (PBL) and its advantages 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.



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- Develop skills for evaluating both project outcomes and learning processes.
the students.
- Create, present and improve project-based learning (PBL) curricula aligned with agricultural vocational education and training curricula. • Improve collaboration 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.

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 for sustainability, climate change and innovation.
- Sharing experiences among training participants in learning activities based on projects.
- Case studies of project-based learning (PBL) in agricultural vocational education and training (examples from schools in the EU).
- Reflection and group discussion: Challenges facing 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, context in the real world and student involvement.
- Finding topics in agricultural vocational education and training: examples (biopesticides, greenhouse efficiency, soil sensors, permaculture). • Workshop: Formulation of driving questions for agriculture. • Linking projects to curricula and competency-based learning. Result: Draft of driving questions and initial project ideas 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).



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- Tools and methods: digital applications for project tracking, QR codes in agriculture, field visits.
- Practical activity: Designing the structure of lesson plans for learning based on projects (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 (PBL) curricula.
- 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 the project-based learning (PBL) lesson plans.
- Group presentations of the designed project-based learning (PBL) lesson plans.
- Peer assessment and feedback.
- Planning activities: how to integrate project-based learning (PBL) outside the classroom after the training **and how to disseminate it to other colleagues.**
- Awarding of certificates and reflection session.

Result: Finalized project-based learning (PBL) lesson plans (ready for piloting in classrooms).

Expected results

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

Training schedule

Day / Time Activities/Methodology Day 1 – Session 1: Designing Project-Based Learning (PBL) in Agricultural Education 09:30 – 11:00		
Introduction Icebreaker, expectations, connection to course objectives		
	Welcome and introduction to the training	
		the project



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11:00 – 11:30	Coffee break	
11:30 – 13:00	What is project-based learning (PBL)?	Interactive lecture, previous experiences of participants and case studies from agriculture
13:00 – 14:00	Lunch	
14:00 – 15:30	Why is learning necessary? project-based learning (PBL) in agriculture?	Group work: mapping the challenges and opportunities
15:30-16:00	Coffee break	
16:00 – 17:00	Reflection and sharing	Whole group discussion, synthesis
Daily Outcome: Shared understanding of the principles of project-based learning (PBL) in agricultural vocational education and training		
Day 2 – Designing effective learning plans through project-based learning (PBL)		
09:30 – 11:00 Interactive lecture –	Elements of effective lesson plans via project-based learning (PBL)	Leading questions, context and from the real world
11:00 – 11:30	Coffee break	
11:30 – 13:00	Setting Leading (Moving) Questions in Agriculture	Installation workshop leading questions with examples focused on agriculture
13:00 – 14:00	Lunch	
14:00 – 15:30	Connecting the questions with the curriculum	Group work: harmonizing the curriculum
15:30-16:00	Coffee break	
16:00 – 17:00	Feedback session information	Review from participants the created leading questions and topics
Daily output: Draft guiding questions and project themes Day 3 – Implementing		
Project-Based Learning (PBL) in practice		
09:30 – 11:00 project-based (PBL) and	Learning workflow roles in management the classroom	Interactive lecture - Roles, time frames, group dynamics
11:00 – 11:30	Coffee break	
11:30 – 13:00	Digital and practical tools Interactive teaching -	Applications, QR codes, field integration activities
13:00 – 14:00	Lunch	



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14:00 – 15:30	Structural design project-based learning (PBL) curriculum	Group work in the phases of the projects
15:30-16:00	Coffee break	
16:00 – 17:00	Simulation exercise	Role playing as teachers and students
Daily output: Structured draft of project-based learning (PBL) lesson plans per educator/group		
Day 4 – Assessment and Feedback in Project-Based Learning (PBL)		
09:30 – 11:00 Learning Assessment	Project-Based Learning (PBL): Theory and Practice	Interactive lecture – Product versus process, examples
11:00 – 11:30	Coffee break	
11:30 – 13:00	Assessment frameworks	Workshop: criteria and indicators
13:00 – 14:00	Lunch	
14:00 – 15:30	Reconciliation of results with the assessment	Group work on agriculture topics
15:30-16:00	Coffee break	
16:00 – 17:00	Peer exchange	Testing the frameworks for assessment with samples of cases
Daily Result: Completed Assessment Frameworks for Learning-Based Curriculums projects (PBL)		
Day 5 – Presentation, reflection and next steps		
09:30 – 11:00 Finalizing the curriculum	learning plans	Individual and group preparation
11:00 – 11:30	Coffee break	
11:30 – 13:00	Presentations of the teaching staff learning plans	Group presentations from the participants
13:00 – 14:00	Lunch	
14:00 – 15:30	Evaluation by participants and activity planning	Feedback and integration at the level of school
15:30-16:00	Coffee break	
16:00 – 17:00	Reflection and final exams, certificates, official closure	
Result: Finalized project-based learning (PBL) lesson plans (prepared for piloting in classrooms).		



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