

## **PROJECT PROPOSAL**

# **Open-Access AI-CBL Lesson Design Platform for European Science Teachers**

*Call for Proposal: KA220-VET - Cooperation partnerships in vocational education  
and training (KA220-VET)*

## Part B: Technical Narrative

### 0. Executive Summary

This project aims to develop an open-access digital platform that empowers science teachers to design AI-integrated, Challenge-Based Learning (AI-CBL) lessons. The platform will feature customizable templates and an AI suggestion engine to align activities with European key competencies, fostering innovative teaching practices. The project will involve developing the platform, creating educational content, pilot testing with teachers, and disseminating the results. The expected outcomes include improved teaching practices, enhanced student learning outcomes, and a sustainable platform for AI-CBL lesson design. The project will benefit science teachers across Europe by providing them with a valuable tool to integrate AI into their teaching and promote Challenge-Based Learning.

### Context

**GUIDELINES:** Project Title. Project Start Date (dd/mm/yyyy). Project total Duration (Months). Project End Date (dd/mm/yyyy). National Agency of the Applicant Organisation. Language used to fill in the form. Project lump sum.

<b>Project Title</b>	Open-Access AI-CBL Lesson Design Platform for European Science Teachers. Project Start Date: 01/01/2025. Project total Duration: 24 Months. Project End Date: 31/12/2026. National Agency of the Applicant Organisation: Turkish National Agency. Language used to fill in the form: English. Project lump sum: No.
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### Project Summary

**GUIDELINES:** Please provide a short summary of your project. Please be aware that this section (or parts of it) may be used by the European Commission, Executive Agency or National Agencies in their publications. It will also feed the Erasmus+ Project Results Platform. Be concise and clear and mention at least the following elements: context/background of project; objectives of your project; number and profile of participants; description of activities; methodology to be used in carrying out the project; a short description of the results and impact envisaged and finally the potential longer-term benefits. The summary will be publicly available in case your project is awarded. In view of further publication on the Erasmus+ Project Results Platform, please also be aware that a comprehensive public summary of project results will be requested at report stage(s). Final payment provisions in the contract will be linked to the availability of such summary. Objectives: What do you want to achieve by implementing the project? Implementation: What activities are you going to implement? Results: What project results and other outcomes do you expect your project to have? Please provide a translation in English. This summary will be publicly available in case your project is awarded. Objectives: What do you want to achieve by implementing the project? Implementation: What activities are you going to implement? Results: What project results and other outcomes do you expect your project to have?

This project addresses the need for innovative teaching practices in science education by developing an open-access AI-CBL lesson design platform. The project's objectives are to create a user-friendly platform with customizable templates and an AI suggestion engine, aligned with European key competencies. The participants include science teachers from various European countries. The activities involve platform development, content creation, pilot testing, and dissemination. The methodology includes agile development, user-centered design, and rigorous evaluation. The expected results include improved teaching practices, enhanced student learning outcomes, and a sustainable platform. The potential longer-term benefits include widespread adoption of AI-CBL in science education and a more digitally literate teaching workforce. Translation in English: Same as above.

### Participating Organisations

**GUIDELINES:** To complete this section you will need your organisation's identification number (OID). If you have an OID number please introduce it in this section. If you are not sure if you have OID number, you can check here: Organisation Registration System If you do not have OID number, you can create one here: Register New Organisation According to the Programme Guide, each organisation (OID) can be involved in a total of 10 Cooperation partnerships in the fields of vocational education and training, school education, adult education and youth per application round. The maximum number includes all applications in the listed fields, regardless of whether the organisation is a coordinator or a partner. Once this limit is reached, it will not be possible to submit further applications with the same organisation (OID).

Dijital Girişimci Yenilikçi Eğitimciler Derneği (DIGIYED) is the lead coordinator, responsible for overall project management, platform development, and dissemination. DIGIYED's expertise in digital literacy, STEM education, and fostering digital entrepreneurship will be crucial for the project's success.

## Applicant organisation

Dijital Girişimci Yenilikçi Eğitimciler Derneği (DIGIYED) is a non-governmental organization based in Trabzon, Turkey, dedicated to enhancing education through innovative skills and digital empowerment. With 45 teacher members, DIGIYED focuses on providing educators with contemporary skills, including IT, project-based education, and STEM. They bridge the digital divide by offering digital literacy camps and fostering entrepreneurship through mentorship and resources. DIGIYED also operates a coding center for children, organizing annual IT festivals to showcase student projects. Their expertise lies in digital literacy, STEM education, and fostering digital entrepreneurship among educators and students.

## Background and experience

**GUIDELINES:** Please briefly present the organisation (e.g. its type, scope of work, areas of activity and if applicable, approximate number of paid/unpaid staff, learners). What are the activities and experience of the organisation in the areas relevant for this project? What are the skills and/or expertise of key persons involved in this project?

DIGIYED is a non-governmental organization with 45 teacher members. Its scope of work includes providing educators with contemporary skills, including IT, project-based education, and STEM. DIGIYED has experience in conducting digital literacy camps, organizing IT festivals, and operating a coding center. The key persons involved in this project have expertise in digital literacy, STEM education, and project management.

## Partner Organisations

**GUIDELINES:** Provide details for each partner organisation.

**There is only one partner organization:** Dijital Girişimci Yenilikçi Eğitimciler Derneği (DIGIYED).

## Background and experience

**GUIDELINES:** Please briefly present the organisation (e.g. its type, scope of work, areas of activity and if applicable, approximate number of paid/unpaid staff, learners). What are the activities and experience of the organisation in the areas relevant for this project? What are the skills and/or expertise of key persons involved in this project?

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festivals, and operating a coding center. The key persons involved in this project have expertise in digital literacy, STEM education, and project management.

## Relevance of the project

This project addresses the need for innovative teaching practices in science education by developing an open-access AI-CBL lesson design platform. It aligns with European priorities for digital education and STEM education. The project will benefit science teachers across Europe by providing them with a valuable tool to integrate AI into their teaching and promote Challenge-Based Learning.

## Priorities and Topics

**GUIDELINES:** All project proposals under the Erasmus+ Programme should contribute to one or more of the programme's policy priorities. Please select the most relevant priority according to the objectives of your project. If relevant, please select up to two additional priorities according to the objectives of your project. How does the project address the selected priorities? Please select up to three topics addressed by your project

This project addresses the priorities of promoting digital education and STEM education. It aligns with the topic of integrating AI into education to enhance teaching and learning.

## Project description

**GUIDELINES:** Please describe the motivation for your project and explain why it should be funded. What are the objectives you would like to achieve and concrete results you would like to produce? How are these objectives linked to the priorities you have selected? What makes your proposal innovative? How is this project complementary to other initiatives already carried out by the participating organisations? How is your proposal suitable for creating synergies between different fields of education, training, youth and sport or how does it have a strong potential impact on one or more of those fields? How does the proposal bring added value at European level through results that would not be attained by activities carried out in a single country?

The motivation for this project is to address the need for innovative teaching practices in science education. The objectives are to create a user-friendly platform with customizable templates and an AI suggestion engine, aligned with European key competencies. These objectives are linked to the priorities of promoting digital education and STEM education. The project is innovative because it integrates AI into Challenge-Based Learning. This project is complementary to other initiatives carried out by DIGIYED by building on their expertise in digital literacy and STEM education. The proposal is suitable for creating synergies between different fields of education by integrating AI into science education. The proposal brings added value at European level by providing a platform that can be used by science teachers across Europe.

## Needs analysis

**GUIDELINES:** What needs do you want to address by implementing your project? What are the target groups of the project? How do the participating organisations engage with the project target groups in their activities? How did you identify the needs of your partnership and those of your target groups? How will this project address these needs?

The needs addressed by this project include the need for innovative teaching practices in science education and the need for tools to integrate AI into teaching. The target groups of the project are science teachers across Europe. DIGIYED engages with the project target groups through their network of teacher members. The needs were identified through

surveys and consultations with science teachers. This project will address these needs by providing a user-friendly platform with customizable templates and an AI suggestion engine.

## Partnership and cooperation arrangements

The partnership was formed through existing collaborations between DIGIYED and other educational organizations. The mix of participating organizations complements each other by bringing together expertise in digital literacy, STEM education, and project management. The task allocation reflects the commitment and active contribution of all participating organizations. The mechanism for coordination and communication includes regular project meetings, email communication, and online collaboration tools.

## Cooperation arrangements

**GUIDELINES:** How did you form your partnership? How does the mix of participating organisations complement each other and what will be the added value of their collaboration in the framework of the project? If applicable, please list and describe the associated partners involved in the project. What is the task allocation and how does it reflect the commitment and active contribution of all participating organisations (including the associated partners, if applicable)? Describe the mechanism for coordination and communication between the participating organisations (including the associated partners, if applicable)

The partnership was formed through existing collaborations between DIGIYED and other educational organizations. The mix of participating organizations complements each other by bringing together expertise in digital literacy, STEM education, and project management. The task allocation reflects the commitment and active contribution of all participating organizations. The mechanism for coordination and communication includes regular project meetings, email communication, and online collaboration tools.

## Impact

**GUIDELINES:** How are you going to assess if the project objectives have been achieved? Explain how you will ensure the sustainability of the project: How will the participation in this project contribute to the development of the involved organisations in the long-term? How do you plan to continue using the project results or implement some of the activities after the project's end? Please describe the impact of the project on the participating organisations and their target groups. How the outcomes will be integrated in their regular work? Please describe the wider impact of the project on local, regional, national or European level relevant for the field of the application.

The project objectives will be assessed through surveys, interviews, and analysis of platform usage data. The sustainability of the project will be ensured through a detailed sustainability plan, exploration of alternative funding sources, and establishment of partnerships with relevant organizations. Participation in this project will contribute to the development of DIGIYED by enhancing their expertise in digital literacy, STEM education, and project management. The project results will be integrated into DIGIYED's regular work by incorporating the platform into their training programs and educational initiatives. The wider impact of the project includes improved teaching practices, enhanced student learning outcomes, and a more digitally literate teaching workforce at local, regional, national, and European levels.

## Project design and implementation

**GUIDELINES:** In addition, subcontracting of services is allowed as long as it does not cover core activities on which the achievement of the objectives of the action directly depends. In such cases, the amount budgeted for subcontracting must be included in the description of the activities covered by the subcontract.

**The project will be implemented through five work packages:** WP1: Project Management and Coordination, WP2: Platform Development and Customization, WP3: Content Creation and Integration, WP4: Pilot Testing and Evaluation, and WP5: Dissemination and Sustainability. Each work package will have specific objectives, activities, and deliverables. The project will be managed using agile development methodologies and user-centered design principles.

## WP1: Project Management and Coordination

**GUIDELINES:** How will the progress, quality and achievement of project activities be monitored? Please give information about the involved staff, as well as the timing and frequency of the monitoring activities. How will you ensure proper budget control and time management in your project? What are your plans for handling risks for project implementation (e.g. delays, budget, conflicts, etc.)? How will you ensure that the activities are designed in an accessible and inclusive way? How does the project incorporate the use of digital tools and learning methods to complement the physical activities and to improve cooperation between partner organisations? How does the project incorporate green practices in different project phases? How does the project encourage participation and civic engagement in different project phases?

The progress, quality, and achievement of project activities will be monitored through regular project meetings, progress reports, and quality assurance reviews. The involved staff includes the project manager, software developer, and educational content creator. The timing and frequency of the monitoring activities will be determined by the project schedule. Proper budget control will be ensured through careful tracking of expenses and adherence to the project budget. Time management will be ensured through the use of project management tools and techniques. Risks will be handled through a risk management plan. The activities will be designed in an accessible and inclusive way by considering the needs of all participants. The project incorporates the use of digital tools and learning methods to complement the physical activities and to improve cooperation between partner organizations. The project incorporates green practices by using digital communication and reducing travel.

### Planned Activities:

- **Project Coordination Meetings**

Regular meetings to discuss progress, address challenges, and ensure alignment with project goals.

- **Financial Management and Reporting**

Managing the project budget, tracking expenses, and preparing financial reports.

- **Risk Management**

Identifying, assessing, and mitigating potential risks to project success.

### Deliverables:

- Project Management Plan
- Progress Reports (Quarterly)
- Financial Reports (Quarterly)
- Risk Management Plan

## WP2: Platform Development and Customization

**GUIDELINES:** In addition, subcontracting of services is allowed as long as it does not cover core activities on which the achievement of the objectives of the action directly depends. In such cases, the amount budgeted for subcontracting must be included in the description of the activities covered by the subcontract. What are the specific objectives of this work package and how do they contribute to the general objectives of the project? What will be the main results of this work package? What qualitative and quantitative indicators will you use to measure the level of the achievement of the work package objectives and the quality of the results? Please describe the tasks and responsibilities of each partner organisation in the work package. Please explain how you define the amount dedicated to the work package and how the work package is cost-effective ?

The specific objectives of this work package are to develop and customize the open-access AI-CBL lesson design platform. These objectives contribute to the general objectives of the

project by providing a valuable tool for science teachers to integrate AI into their teaching and promote Challenge-Based Learning. The main results of this work package will be a user-friendly platform with customizable templates and an AI suggestion engine. Qualitative indicators will include user satisfaction and feedback. Quantitative indicators will include the number of users and the number of lesson plans created. The tasks and responsibilities of DIGIYED include platform design, AI suggestion engine development, and template creation. The amount dedicated to the work package is defined based on the estimated costs of personnel, equipment, and travel. The work package is cost-effective because it leverages existing resources and expertise.

The activities in this work package include platform design, AI suggestion engine development, and template creation.

#### **Planned Activities:**

- **Platform Design and Architecture**

Designing the user interface and backend architecture of the platform.

- **AI Suggestion Engine Development**

Developing the AI algorithm that suggests activities aligned with European key competencies.

- **Template Creation and Customization**

Creating customizable lesson plan templates for science teachers.

#### **Deliverables:**

- Platform Architecture Document

- AI Suggestion Engine Algorithm

- Customizable Lesson Plan Templates

- Beta Version of the Platform

## **WP3: Content Creation and Integration**

This work package focuses on creating and integrating relevant educational content into the platform, including sample lesson plans, resources, and best practices for AI-CBL.

#### **Planned Activities:**

- **Developing Sample Lesson Plans**

Creating sample lesson plans that integrate AI and Challenge-Based Learning.

- **Curating Educational Resources**

Gathering and integrating relevant educational resources into the platform.

- **Documenting Best Practices**

Documenting and sharing best practices for AI-CBL implementation.

#### **Deliverables:**

- Sample Lesson Plans

- Curated Educational Resources

- Best Practices Documentation

## **WP4: Pilot Testing and Evaluation**

This work package involves pilot testing the platform with science teachers and evaluating its effectiveness in improving teaching practices and student learning outcomes.

#### **Planned Activities:**

- **Recruiting Pilot Teachers**

Recruiting science teachers to participate in the pilot testing phase.

**• Conducting Pilot Training**

Providing training to pilot teachers on how to use the platform and implement AI-CBL.

**• Collecting Feedback and Evaluating Results**

Collecting feedback from pilot teachers and evaluating the impact of the platform on teaching practices and student learning outcomes.

**Deliverables:**

- Pilot Teacher Recruitment Report
- Pilot Training Materials
- Evaluation Report

## WP5: Dissemination and Sustainability

This work package focuses on disseminating the project results and ensuring the long-term sustainability of the platform.

**Planned Activities:**

**• Creating Dissemination Materials**

Developing brochures, presentations, and other materials to promote the platform.

**• Presenting at Conferences and Workshops**

Presenting the project and platform at relevant conferences and workshops.

**• Developing a Sustainability Plan**

Creating a plan for the long-term maintenance and development of the platform.

**Deliverables:**

- Dissemination Materials
- Conference Presentations
- Sustainability Plan

## EU Values

**GUIDELINES:** The Erasmus+ programme's implementation, and therefore, the programme beneficiaries and the activities implemented under the programme, have to respect the EU values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities, in full compliance with the values and rights enshrined in the EU Treaties and in the EU Charter of Fundamental Rights. Article 2 of the TEU: The Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail. Article 21 of the EU Charter of Fundamental Rights: 1. Any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited. 2. Within the scope of application of the Treaties and without prejudice to any of their specific provisions, any discrimination on grounds of nationality shall be prohibited. Subscribing to EU Values. I confirm that I, my organisation and the co-beneficiaries (where applicable) adhere to the EU values mentioned in Article 2 of the TEU and Article 21 of the EU Charter of Fundamental Rights. I understand and agree that EU Values will be used as part of the criteria for evaluation of the activities implemented under this project

This project adheres to the EU values mentioned in Article 2 of the TEU and Article 21 of the EU Charter of Fundamental Rights, including respect for human dignity, freedom, democracy, equality, the rule of law, and respect for human rights. These values will be used for evaluation.

## Annexes

**GUIDELINES:** The maximum size of a file is 15 MB and the maximum total size is 100 MB.

**The required documents for the Annexes section include the Declaration on Honour and any other relevant documents.**

## Declaration on Honour

**GUIDELINES:** Please download the Declaration on Honour, print it, have it signed by the legal representative and attach.

The Declaration on Honour will be prepared for upload.

## Other Documents

**GUIDELINES:** If needed, please attach any other relevant documents (a maximum of 9 documents). Please use clear file names. If you have any additional questions, please contact your National Agency. You can find their contact details here: [List of National Agencies](#).

Any other relevant documents will be prepared for upload.

## Checklist

**GUIDELINES:** Before submitting your application form to the National Agency, please make sure that: It fulfills the eligibility criteria listed in the Programme Guide. All relevant fields in the application form have been completed. You have chosen the correct National Agency of the country in which your organisation is established. Currently selected NA is: Original content and authorship I confirm that this application contains original content authored by the applicant and partner organisations. I confirm that no other organisations or individuals external to the applicant and partner organisations have been paid or otherwise compensated for drafting the application. Protection of Personal Data Please read our privacy statement to understand how we process and protect your personal data Please also keep in mind the following: The documents proving the legal status of the applicant must be uploaded in the Organisation Registration System, here: [Organisation Registration System](#)

The application fulfills eligibility criteria, all fields are complete, the correct National Agency is chosen, the content is original, and I understand the personal data protection policy.

## Budget & Cost Estimation

Resource Item	Description	Cost (EUR)
<b>Personnel</b>	Staff costs for project management, platform development, content creation, pilot testing, and dissemination.	<b>150,000 EUR</b>
L Project Manager	1 x 50,000	50,000 EUR
L Software Developer	1 x 50,000	50,000 EUR
L Educational Content Creator	1 x 50,000	50,000 EUR
<b>Equipment</b>	Costs for purchasing and maintaining necessary equipment for platform development and project management.	<b>50,000 EUR</b>
L Computers and Software	1 x 50,000	50,000 EUR
<b>Travel</b>	Travel costs for project meetings, conferences, and pilot testing activities.	<b>50,000 EUR</b>
L Project Meetings	1 x 25,000	25,000 EUR
L Conferences and Workshops	1 x 25,000	25,000 EUR

## Risk Management & Mitigation

<b>Risk</b>	<b>Impact</b>	<b>Mitigation Measures</b>
<b>Technical delays in platform development</b>	High	Implement agile development methodologies, allocate sufficient resources, and establish clear communication channels.
<b>Low teacher adoption of the platform</b>	Medium	Provide comprehensive training and support, develop user-friendly interface, and showcase the benefits of the platform.
<b>Insufficient funding for long-term sustainability</b>	High	Develop a detailed sustainability plan, explore alternative funding sources, and establish partnerships with relevant organizations.