



Guidelines for facilitating the learning of STEAME

Reference Number: 101102619

Module and Workshop Learning Plan

Module Number and Area/Topic: AREA: THE ROLE OF THE STUDENT AS AN ACTIVE LEARNING PARTICIPANT/Topic 10: EXTERNAL COLLABORATION AND NETWORKING

Module leaders: Private English language school “Prof. Ivan Apostolov”

1. Introduction and broad description of the context and goal of the area/topic addressed with reference to the STEAME Teacher Facilitators Competence Framework for student and serving teachers

In the changing and innovating landscape of education, the integration of STEAME (Science, Technology, Engineering, Arts, Mathematics, and Entrepreneurship) principles for student-centred approach of teaching has become increasingly essential. This integration aims not only to equip students with the required knowledge and skills for success in the contemporary dynamic job market and world in general but also to foster their adaptation and generation of innovation, critical thinking, and problem-solving abilities. The involvement of third parties for collaboration and bringing the real world and practical perspective is very important for the preparation also of the teachers, both student and service ones. The topic of external collaboration and networking further enriches the STEAME educational experience by extending learning beyond the confines of the classroom. It is still underdeveloped area when it comes to school education and external collaboration involves partnerships with individuals, organizations, and institutions outside the traditional educational setting. These collaborations offer students valuable opportunities to connect with experts in various fields, participate in hands-on projects within the scope of project-based learning, and gain real-world insights.

2. Learning objectives and learning outcomes with reference to the defined list of learning outcomes in the Competence framework

Area 1: STEAME PBL activities as embedded in the formal education system

3. Create a communication strategy with the educational agents involved in STEAME PBL activities, including colleagues and managers within the school and outside of it, as well as national and international non-profit organisations and companies, and families

Area 2: Students’ meaningful learning through PBL across STEAME areas

1. Design Learning and Creativity plans to facilitate students’ PBL in and across two or more STEAME subjects.
2. Propose meaningful and authentic contexts that do not have a single solution to be addressed through STEAME PBL in the classroom.

Area 4: Sustainability of PBL in STEAME

23. Understand the need to become a co-learner and co-creator, incorporating creative insight, students’ or other colleagues’ vision in STEAME PBL activities during or after their implementation
24. Understand strategies to critically reflect on one’s own role and feelings after a STEAME PBL activity is completed, involving all participants of the learning process
26. Explain how creativity and adaptability to change can help in the design and implementation of STEAME PBL activities.

3. Competences that are developed

For the students

When collaborating with external organisations students in STEAME should develop strong communication and collaboration competences based also on the EntreComp.

For the teachers

The teachers are expected to acquire skills and competencies again related to collaboration and work with partners from industry, research, academic fields. This will enable them to involve them in the process of PBL with students being in the center and developing their competences based on real world experience which includes overcoming the respective challenges and obstacles.

Competences:

Foster Active Learning: encourage active participation in the learning process by increased motivation and engagement in practical activities, meeting with business and other representatives, use of other facilities and activities.

Interdisciplinary knowledge: Teachers should have a solid understanding of STEAME disciplines and how they intersect. This knowledge enables them to identify opportunities for collaboration across subjects and integrate diverse perspectives into their teaching.

Digital Literacy: This includes utilizing social media, virtual communication tools, and online collaboration platforms to connect with external partners and resources.

Communication Skills: Effective communication is essential for building and maintaining partnerships with external stakeholders. Teachers should be able to articulate their goals and expectations clearly, listen actively to others' perspectives, and adapt their communication style to different audiences.

Networking Skills: Teachers are proactive in establishing and nurturing professional relationships with individuals, organizations, and institutions outside the classroom. This involves attending conferences, joining professional associations, and leveraging online platforms to expand their networks.

Internal collaboration and coordination at all organisational levels: align the process of PBL in STEAME with the school management and how to create the required network and partnerships based on the overall strategy.

Project Management: Collaborative projects require careful planning, organization, and coordination. Teachers should possess project management skills to oversee the implementation of collaborative initiatives, allocate resources effectively, and monitor progress towards shared goals.

Cultural Competences: teachers need to be culturally competent to navigate cross-cultural interactions respectfully and effectively. This involves understanding and appreciating cultural differences, recognizing biases, and fostering inclusivity in collaborative settings.

4. Content and Resources (providing information on the various constituents/ dimensions of the topic under consideration), including presenter's notes for guidelines of the workshops organisation

www.steame.eu

Stakeholder's map template and guidelines

European schoolnet, The inGenious code: school - industry collaboration

Books:

University-industry Collaboration Strategies in the Digital Era. (2021). United States: IGI Global.
St Leger, P. (2011). School-industry Partnership. Germany: Lap Lambert Academic Publishing GmbH KG.
Educational Research and Innovation Schools at the Crossroads of Innovation in Cities and Regions. (2017). United Kingdom: OECD Publishing.

Templates:

The complete stakeholder mapping guide – www.miro.com <https://miro.com/blog/stakeholder-mapping/>
How to create a stakeholder map [templates & examples] - <https://www.mural.co/blog/stakeholder-mapping>

5. Methodology and approaches for the module training presentation and guidelines for workshops organisation

Role play of the partnership process

Examples and best practices for PBL with industry

Examples and best practices for PBL with research organisations

Examples and best practices for PBL with academic and Non-governmental organisations

What is stakeholder mapping?: Stakeholder management is a helpful tool to have during the project discovery, implementation and review phases of a project, making it instrumental for collaborative project management.

Why is stakeholder mapping important?

Common types of stakeholders

Methods for mapping stakeholders

6. Instruments/Tools/Supporting Materials/Resources to be used

The participants are provided by the following material:

- Handout with relevant materials and examples in ppt slides
- The stakeholders mapping tool/s of a PBL
- Examples with suggested approaches for cooperation in the form of ppt for study and reflection: with industry, research, academia and other organisations.

PART 1	Introductory Activities (creation of interest, reference to real-world issues, relation to background and experiences, etc.)
Learning Objectives	Identify the main purpose of collaboration and the need for it in the PBL in a STEAME context and adapt to the changing needs of the school and the partners. Specify the methods and approaches for the STEAME education.
Learning Outcomes	Plan and type of partnerships with the specific projects for PBL.
Competences	Develop skills for collaboration and innovation within STEAME.
Content, Resources and Tools	www.steame.eu Stakeholders Map Collaboration matrix creation with objectives and channels for communication.
Activities	Introduction to collaboration and networking of a Project Based Learning in the context of STEAME education
Estimated Time	20 minutes

PART 2	Development Activities
Learning Objectives	Application of various approaches and methods for collaboration with the main groups of partners: define the groups and the objectives for collaboration with each one.
Learning Outcomes	Create a solid understanding accompanied by a practical stakeholders map within the scope of PBL for STEAME.
Competences	Develop skills for collaboration and networking in PBL in school settings.
Content, Resources and Tools	Books and papers, best practices and concrete projects.
Activities	Generate ideas and a ready-to-use Stakeholders Map reflecting the needs of the students and the school within the scope of learner-centred approach.
Estimated Time	15 minutes

PART 3	Practical Activities (hands-on activity) in the case of a workshop mode
Learning Objectives	To use the adapted tools for coordination and creation of network and cooperation with partners.
Learning Outcomes	Development of a strategy accompanied by a plan and Stakeholder's map for projects with students. Develop a communication and engagement plan.
Competences	Communication and collaborative project management.
Content, Resources and Tools	Books, best practices, templates and tools for planning and mapping.
Activities	Generation of the stakeholder's map, plan and strategy for collaboration.
Estimated Time	90 minutes

(add more Activity sections as needed)

PART 4	Evaluation of Learning Outcomes
Learning Objectives	Enhance the collaboration management by teachers in schools with partnership groups defined at strategic levels.
Learning Outcomes	Create and demonstrate the learnt templates and tools as a final set for development and coordination of networks and partnerships at different levels. Assess their adaptability and applicability.
Competences	Plan, design, implement and apply principles for collaboration in alignment with STEAME and PBL.
Content, Resources and Tools	Books, tools, templates
Activities	Use templates to fill in and generate a set of plans and projects for collaboration. Make an analysis for efficiency and efficacy of the networks, SWOT and other types of analysis.
Estimated Time	30 minutes

(add more Activity sections as needed)

7. Reflection and Closure activity