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STEAME GOES HYBRID: Blueprint Guidelines and Policy Recommendations

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Training program for selected STEAME subject teachers or others interested in the implementation of STEAME – HYBRID L&C Plans in the context of the STEAME GOES HYBRID project

Module Number and Area/ Topic:

Module 5: Project Based Learning Methodology in hybrid environment

Introduction and Broad Description of the Context and Goal of the area/ topic addressed:

Project Based Learning (PBL) is a student-centred methodology that engages students in developing critical thinking through undertaking authentic, meaningful projects. In PBL, students gain knowledge and skills by working together for a period of time to investigate and respond to an engaging, and complex question, problem, or challenge.

However, in hybrid classrooms, some students never see each other in person, and some students never see their teachers in person. Thus, moving to hybrid classrooms creates a great challenge for implementing PBL methodology. Luckily, project based education follows a flexible, differentiated model where students have the freedom to work independently or collaborate either in person or virtually.

The goal of the module is to demonstrate how to plan and implement project based activities in a hybrid classroom environment by presenting digital tools and example activities for this purpose.

Learning Outcomes: With the completion of this module the trainees will be able to:

1. Define PBL and its basic design elements.
2. Recall the five steps of PBL.

3. Familiarise with inclusive strategies for PBL in a hybrid setting.
4. Organise PBL activities for a hybrid environment with digital tools.

Content and Resources (providing information on the various constituents/ dimensions of the topic under consideration):

Student learning goals for projects include standards-based content as well as skills such as critical thinking, problem solving, communication, self management, project management, and collaboration. To help teachers do PBL well, we present a comprehensive, research-informed model for PBL (Gold Standard PBL) to help teachers, schools, and organisations improve, calibrate, and assess their practice. In Gold Standard PBL, projects are focused on students' acquiring key knowledge, understanding, and success skills.

Furthermore, we present Krajcik and Blumenfeld's¹ (2006) five key steps to PBL to be a helpful starting point to approach PBL in a constructivist manner. If you do a comparison of any current day PBL models, you will see they are derived from these five key features. They are a great foundation to help you design and build authentic projects to use in your classroom.

Another dimension that this module addresses is how to make a hybrid project-based lesson more inclusive. Moving to hybrid classrooms creates an even greater challenge for building community. In hybrid classrooms, some students never see each other in person, and some students never see their teachers in person. Project-based learning provides a powerful vehicle for creating a shared learning space, one that makes it clear that all students' voices are needed and welcome in the classroom. Being flexible and welcoming about how kids choose to participate builds trust as the kids feel valued, welcomed, and accepted. The more of themselves the students share, the more connections are built. In this module's presentation we present four strategies that will help you build trust using project-based learning in hybrid environments.

Lastly, we focus on tips and digital tools that can be utilised in order to successfully organise and run a project-based lesson in a hybrid environment.

¹ http://daleydoseoflearning.weebly.com/uploads/1/8/7/7/18774020/chapter_19_pbl_kraichik.pdf

Following the main presentation, trainees will have the chance to take the role of students, participate in a series of project-based activities and try digital tools in a collaborative hybrid mode.

Methodology and approaches for the module training presentation:

1. Introduction to the subject - motivation activity (online poll).
2. Presentation of the basic design elements and characteristics of PBL focusing on the five steps of PBL (ppt presentation).
3. Presentation of four strategies to make hybrid activities more inclusive as well as tips and digital tools for successful implementation of PBL (ppt presentation).
4. Presentation and analysis of a small scale L&C hybrid plan for the weather in the island of Rhodes (Maths-Environment-Technology). The scenario will serve as the basis for the hands-on activities (pdf file).
5. Hands on activity on the activities of the L&C plan:
 - a. data collection (selection and data collection) through an online collaborative google sheet.
 - b. data analysis and presentation (google sheet, google slides, Zoom.)
 - c. Evaluation, review and summing up of outcomes (concept map tool-Padlet).
6. Remarks on the process and execution of the L&C plan from participating members
7. Evaluation of learning outcomes (Live online quiz through Quizizz)
8. Closure activity-Final discussion

Instruments/ Tools/ Supporting Material/ Resources to be used:

(list of files, web links, videos, PPT. Use file names inserting the Module number)

1. 5.Project based methodology in hybrid environments-STEAME goes Hybrid.ppt
2. Weather in Rhodes (Example PBL lesson plan).pdf
3. Useful urls for LC implementation: <https://weatherspark.com/>,
<https://www.youtube.com/watch?v=WkvPdUtYhX8>,
<https://www.youtube.com/watch?v=N9Aod-pmBNc>
4. <https://padlet.com/>

5. <https://zoom.us/>
6. <https://docs.google.com>
7. Link for introductory online poll: To be announced at the meeting
8. Link for evaluation quiz in Quizizz: To be announced at the meeting

Pedagogical/Learning Sequencing and Activities Plan:

Introductory activities (creation of interest, reference to real value issues, relation to background experiences etc)

Activity Number and broad Description:	
Development	Trainees will be asked to write one word that characterises PBL. The results will form a word cloud.
Materials	Live poll
Resources	Poll everywhere platform, Internet connection, Mobile devices
Estimated Time	5'
Environment/Room Setting	Classroom environment
Trainees' role	Individual answer to the poll question through their mobile devices

Development activities

Activity Number and broad Description:	
Development	The activity will be include the main presentation of the module
Materials	ppt presentation file
Resources	laptop, projector, internet connection
Estimated Time	25'
Environment/Room Setting	Classroom environment
Trainees' role	Passive

Practising Activities (hands-on activity)

Activity Number and broad Description:	
Development	The activity will include the presentation of an small scale LC which will serve as the basis for the hands-on activities
Materials	LC about the whether in Rhodes, online collaborative tools
Resources	Laptop, projector, internet connection. mobile devices/personal PCs, google sheet, google slides, padlet, zom
Estimated Time	45'
Environment/Room Setting	Classroom environment. Some trainees may be asked to go to another classroom to simulate hybrid settings.
Trainees' role	Trainees will be asked to form teams and work as if they were students. They will follow the presenter's instructions and work collaborative in the LC activities.

Evaluation of Learning Outcomes

Activity Number and broad Description:	
Development	To evaluate the learning outcomes of the module, a live online quiz will be utilized
Materials	Online quiz
Resources	Laptop, projector, internet connection. mobile devices/personal PCs, Quizizz platform
Estimate Time	5'

Environment/Room Setting	Classroom environment
Trainees' role	To answer individually to the quiz questions

Reflection and Closure activity:

Activity Number and broad Description:	
Development	To reflect on the module's key points
Materials	Discussion
Resources	-
Estimate Time	10'
Environment/Room Setting	Classroom environment
Trainees' role	To participate and share his/hers ideas on PBL in hybrid environments.