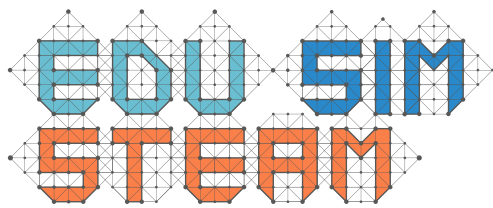




**DIRECTORATE GENERAL FOR
INNOVATION AND EDUCATIONAL
TECHNOLOGIES**



Meeting for Scenarios

2021

EDUSIMSTEAM | Erasmus+ KA3 Forward Looking Cooperation Project



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EDUSIMSTEAM / ONLINE TRANSNATIONAL PROJECT MEETING 5

1. **Date:** 04/03/2021
2. **Meeting Facilitator:** Sümeyye Hatice ERAL, MoNE
3. **Attendees**

Present:

No	Organizations	Attendees
1	Both Social	Piet KOMMERS
2	CTEM Academy	Miguel GONÇALVES
3	Education Department of Galicia	Luz ARES
4	H2 Learning	Michael HALLISSY
5	H2 Learning	Maria FOJK
6	Kaunas University of Technology	Ligita ZAILSKAITE
7	METU	Erdinc ÇAKIROĞLU
8	METU	Volkan ŞAHİN
9	MoNE, DGIET	Sümeyye Hatice ERAL
10	MoNE, DGIET	İpek SARALAR-ARAS
11	MoNE, DGIET	Tunç Erdal AKDUR
12	MoNE, DGIET	Ceyda ÖZDEMİR
13	MoNE, DGIET	Büşra SÖYLEMEZ
14	MoNE, DGIET	M. Firdevs TÜRK
15	MoNE, DGIET	Numan ÇELEBİ
16	MoNE, DGIET	Emre TURAN
17	ROBOTSAN	Can KOYUNCU
18	Vilnius University	Anita JUŠKEVIČIENĖ
19	Vilnius University	Asta MEŠKAUSKIENE
20	Blackrock Education Centre	Paul TWOMEY

4. Meeting Notes

- **Introduction**

Project coordinator Sumeyye Hatice ERAL greeted all participants and explained the agenda of the meeting. The topics of the meeting were Project Management and Administrative Issues, Updates on WP-2, STEAM Training Topics and Learning Scenarios, Planning WP-3 and Q&A, and Next steps.

- **Project Management**

Sümeyye Hatice ERAL gave information about the overall progress of the WP-2 and WP-3. She explained that WP-2 might be considered as the milestone of this project because



the training framework for trainers would be developed after analysing teacher's needs related to STEAM Education. Due to Covid-19, the transnational meeting in Lithuania had been online, and needs are regarded as deliverables for the actualization of the project in the meeting. MoNE is about to launch teacher training platform and have been working closely with Kaunas T. University. The framework (WP-2) is the base for teachers' trainings to implement the key principles and the pilot teacher training will be reported.

WP-3 Learning Scenarios, led by METU, target schools and teachers from different educational levels and the scenarios will be implemented in schools. These will enable teachers to learn from the STEAM Education and use them in their schools; therefore, they are very crucial. ERAL added that Vilnius University would contribute to develop learning scenarios. The university has started planning in late January and planned to end in June. There will be another online meeting for scenarios.

ERAL also expressed that all the work packages were connected to each other and each one had its own specific objectives. Moreover, she asked partners' opinions about transferring the budget of transnational meetings and final conference as a result of their decision of implementing them face-to-face or online. Then, she will inform the expert from the commission because the expert had stated that the final agreement of all partners would determine the conclusion. Partners will decide this after the meeting through emails.

The meeting was continued by explaining max. %10 increase or decrease transfer between budget categories and the partners should inform the MoNE if they had such transfer. It is noted that the partners needed to send the timesheets, follow how they use their staff based on the budget and any kind of change in the budget items. Moreover, it is stated that the quarterly progress report is required by 30 March 2021. All partners need to explain the project activities they carried out on the progress report template they will send. Based on this template, the MoNE will prepare an interim report. For the financial reporting, they need some further evidence such as timesheets based on budget, work packages and working days, so the revisions are very important they have to collect the evidence. The project is not completely founded by European Commission, thus the organisations should co-finance to 25% on their own when calculating their timesheets and expenditures. There are some missing parts on the timesheets from Blackrock Education Centre and Robotsan. Vilnius University, Both Social, H2 Learning, Edu Xunta Galicia and METU need some minor revisions and KTU and CTEM Academy almost completed the reporting.

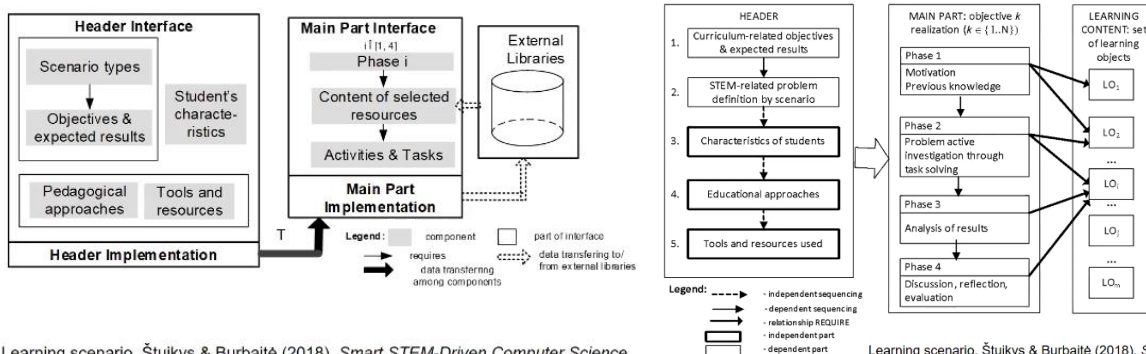
Another issue was the dissemination of the outputs which is a very significant stage of the project; hence, the partners should disseminate their project websites and social media accounts with groups, trainers, researchers, educational professionals in their organisations. Furthermore, ERAL reminded that she proposed a learning event for European teachers to share best practices, teacher's needs in October meeting, partners will decide for the details of this event by late May and promote it by June. The MoNE prepared some flyers and brochures, then shared on the accounts, and the partners could disseminate them. They also had an idea to develop an academic book for STEAM Education, and it would be in English to be able to used internationally. If the partners are voluntary for preparing the book, they will discuss about it later. ERAL added that if the partners have any changes in their organisation such as legal representative, official address, they should report by an official letter to the MoNE.

• **WP-2 STEAM Education Curriculum & Training Platform**

Ligita ZAILSKAITE, WP-2 leader from KTU, presented their work “Teacher Training & Training Curriculum”. After several meetings and discussion related to work package, they had some modifications for establishing training framework and design generation. ZAILSKAITE stated that the teacher training platform implementation process had already started and after the finalization of the necessary content, the pilot teacher training will be implemented.

Ligita ZAILSKAITE explained the details of the learning approaches (problem-based, project-based, etc.), digital tools (such as flexible, functional), STEAM competences (like innovativeness, creativity), voluntary work (intentional, regulatory, etc.), community (like platforms for collaboration), outcomes (such as technical knowledge, new educational methods), which they decided with her team related to STEAM Education. In addition to these, she showed models from a book for creating learning scenarios and stated the parts of them could be useful. She mentioned the importance and connections of the header (such as characteristics of students and educational approaches), the main part (motivation, reflection, etc.) and learning contents. Besides, she informed about the connection among Computational Thinking Skills, Knowledge Dimension and Categories of Cognitive Processes, it can be summarized as the knowledge dimension changes with computational thinking skills and cognitive processes from factual to metacognitive. She also represented the cognitive processes’ dimension based on the Bloom’s Taxonomy to think about those aspects for the framework. For dissemination, she expressed that they prepared the article named “Conversational Robots for STEAM Education” that closely related to WP-2 for the International Conference ALTA’2021. Furthermore, she indicated an activity manual for a student group for teachers to use them stage by stage and then she showed some other examples with an evaluation method.

Sümeyye Hatice ERAL asked whether the activities are based on their Robotic learning principles or not and the progress of the training framework. Ligita ZAILSKAITE answered as they are in general in STEAM learning; however, the topic is about Robotics and explained that



Learning scenario. Štūkys & Burbaitė (2018). *Smart STEM-Driven Computer Science Education: Theory, Methodology and Robot-based Practices*. Springer

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it is possible to use in different subjects. By the end of March, they will finalise their revisions. Besides, ERAL expressed that Emre TURAN and. İpek SARALAR-ARAS from the MoNE had some structure, detailed topic and content list to support the teacher training in the LMS, that both TURAN and SARALAR-ARAS are still working on it. In the next meeting, they might present the connections among the platform, framework and scenarios. To note, after the meeting, this work was shared with Ligita ZAILSKAITE. Then, Professor Piet KOMMERS



asked what is the meaning of the “header” part in scenarios. Ligita ZAILSKAITE answered this by saying it is just the name of the block. KOMMERS also suggested to use the name “challenge-based learning” in addition to problem and project-based learning approach which may draw attention of students more to solve something interesting.

- **STEAM Education Framework**

Piet KOMMERS made a presentation on thematic aspect for STEAM Education and explained the connection between the Covid-19 era and STEAM Education. He continued to his presentation by clarifying how STEM learning can be adapted in Covid-19, informal STEM Education resources for Covid-19 and online learning, coronavirus resources for families and many other. He summarized that the interconnection of pandemic era and education may inspire us and the curriculum, lesson and test designs might be developed related to this.

Sümeyye Hatice ERAL stated that this connection between STEAM Education and Covid-19 might contribute to produce practices the real-life situations in lessons and admire these ideas.

Michael HALLISSY emphasized that using STEAM and real-life situations connection for education make students more involved in projects and the pressure on exams might be removed, therefore he appreciated this idea.

- **WP-3 Learning Scenarios**

Professor Erdiņ ÇAKIROĞLU made a presentation on WP-3 Learning Scenarios. He explained that they would take into account Piet KOMMERS’s and Ligita ZAILSKAITE’s presentation for scenarios. The scenarios will be implemented in an online environment called EUROSIM, so they are preparing most of the scenarios compatible with the platform. In addition, he expressed that Robotics shouldn’t be the goal, but it would be used as a tool to solve some STEAM problems and the knowledge in STEAM fields make students to decide informedly. He added that their activities might be more ideal as an after school or extracurricular activity. Moreover, the Middle East Technical University team selected themes like smart cities, green buildings, pandemic. He shared the overall structure, consisting of 11 parts such as explanation of the general theme, explanation of setting, task.

Later, he presented “Street Lighting” sample scenario and explained the details of it in the headlines of grade level, theme, the setting, task, technical information, the examples of lighting, STEAM learning outcomes, prerequisite skills, career connections, materials, activity process, assessment, related resources. He also indicated “Smart Waste Management” sample scenario they prepared and gave brief information about it. Furthermore, he showed some other sample scenarios and ideas for them and clarified that these examples for secondary school level.

Sümeyye Hatice ERAL stated that they could make the scenarios more interesting to draw student’s attention. Piet KOMMERS asked is it a good idea to let students have role plays and take different responsibilities in these kinds of scenarios. Erdiņ ÇAKIROĞLU answered that would be wonderful, they might discuss this with their team.

Tunç Erdal AKDUR asked whether students can decide some other questions during scenarios and if students work in a group of 4-5, can we distribute roles to 4 or 5 students while producing their device. He also asked what is the duration of scenarios, how many teachers are required and what are the teacher's responsibilities. Erdiñ ÇAKIROĞLU answered that estimated duration should be added, and then each scenario can be worked in one or two sessions(lessons). He continued to his answer by saying that students can add their own questions while solving problems and these activity processes are for guiding the teachers. Besides, he specified that teachers can help students to think about the problem.

- **Next steps**

All participants were invited to comment, and they talked about the following issues:

Ligita ZAILSKAITE clarified that there should be correlation and asked how they would decide the final topics. Erdiñ ÇAKIROĞLU agreed about the correlation and answered there might be huge differences even within a country, so this should be taken into consideration.

Volkan SAHIN added there should be some standards for STEAM Education for many different countries and this can help to choose the relevant topics. In addition, some questions will be clearer after the scenarios are tested.

Erdiñ ÇAKIROĞLU specified that the scenarios shouldn't be strictly related to the curriculum topics, in the technical information part there is an explanation about the relation of lessons' concepts about the scenario for teachers to connect the concepts to their school curricular.

Piet KOMMERS asked how STEAM will conquer a position in regular education especially secondary education; will it be extra-curricular, after school time or one week every semester. Besides, he stated that what is the contribution to the nature of learning is very significant and this will enrich the entire learning and will be more effective.

Michael HALLISSY emphasized that the problem with STEAM is that it is not a subject and computational thinking might be involved. Sümeyye Hatice ERAL agreed to these ideas by explaining the reasons.

Tunç Erdal AKDUR emphasized that 21st century skills are also very crucial in STEAM Education and they are included in every curriculum in different countries; therefore, STEAM is related to each curricular but these skills are higher order skills like problem solving, creative thinking, communication skills and these are the objectives of STEAM Education.

Sümeyye Hatice ERAL stated that they needed to arrange more discussion regarding the teachers' role and implementation.

Can KOYUNCU suggested to prepare a presentation with Professor ÇAKIROĞLU about the integration of the scenarios and the use of Robotics to the platform by focusing the one of the scenarios and then the further considerations could be discussed. Erdiñ ÇAKIROĞLU agreed on working with KOYUNCU.

- **Conclusion and Closure**



Sümeyye Hatice ERAL summarised the meeting topics and reminded to send financial reports, timesheets, quarterly progress reports (one for 2020 and another for from November, 2020 to March, 2021). Besides, she emphasized that WP3 is the key element of the project, because it connects the practice and theory. Finally, she suggested Professor ÇAKIROĞLU to share the ideas and templates in their common document so that partners could add their ideas or practices from their local or national projects about learning scenarios.