STEM LABYRINTH

3rd NEWSLETTER – APRIL 2022

STEM Labyrinth as a method for increasing the level of knowledge through problem solving

Project number: 2020-1-PT01-KA201-078645

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ABOUT PROJECT

The STEM Labyrinth project, "STEM Labyrinth as a method for increasing the level of knowledge through problem solving", is an ERASMUS+ funded project that started on 1st of November 2020 under the coordination of the Association of European Movements (ATLME), Portugal and a partnership of another 6 organizations, namely, the Learnmera Oy Finland, the Association for European education and mobility (AMETA), North Macedonia, Enjoy Italy from Italy, the Doukas School, Greece, the Martna Põhikool, Estonia and St. George's High School, Cyprus.

With the project we would introduce a new and innovative approach for the teachers in STEM education to follow and use as additional teaching material. We will develop an innovative STEM Labyrinth Method and design a Mobile App, to create a transformative educational experience for high school students. There is great potential in using mobile devices to transform how students learn by changing the traditional classroom to one that is more interactive and engaging. STEM learning is largely about designing creative solutions for real-world problems. When students learn within the context of authentic, problem-based STEM design, they can more clearly see the genuine impact of their learning.

www.stemlabyrinth.com   f **STEMlabyrinth**

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PROJECT PROGRESS

Second Transnational Project meeting - October 2021

The Second Transnational Project meeting was held on 9 -10 October 2021 in Larnaca, Cyprus. The partners met for the first time with physical presence and discussed the project activities. This is the period of the project implementation when the first output was developed, and in progress with the second output so the partnership has discussed its implementation, made adjustments to optimize the results, and made evaluation on the project's progress. The realization of the plan for dissemination was evaluated and further activities were discussed. We discussed the extent to which the outputs are realized and what are the activities to be undertaken in the following period. Another thing on the agenda of the meeting was the role of each organization in filling in the form necessary for the interim report to the National Agency.

Third Transnational Project meeting - February 2022

The Third Transnational Project meeting was held on 18 -19 February 2022 in Skopje, Republic of North Macedonia. The partners met after the one year duration of the project and discussed the project activities. This is the period of the project implementation when the second output is in its final phase, and in progress with the third output so the partnership has discussed its implementation, made adjustments to optimize the results, and made evaluation on the project's progress. The partner organizations have discussed the following: the extent to which the intellectual outputs are developed, reports by the leaders of the IOs, the number of dissemination activities undertaken by each partner, and discussion on the activities related to management and implementation that will follow. The meeting was very productive and focused on the quality delivery of the Mobile App and its piloting in each partner country.

PROJECT PROGRESS

Development of the problems for the Mobile App

STEM learning is largely about designing creative solutions for real-world problems. When students learn within the context of authentic, problem-based STEM design, they can more clearly see the genuine impact of their learning. That kind of authenticity builds engagement, taking students from groans of "When will I ever use this?" to a genuine connection between skills and app. The main output refers to development of Mobile App that would represent a virtual simulator of real-life problems asking learners to tackle a real-world problem and by doing that to gain knowledge through problem solving. At different stages students would be able to get additional hints in the form of pictures, animations, videos etc. that will enable them to move forward in the "Labyrinth" and get out of it with a solved problem.
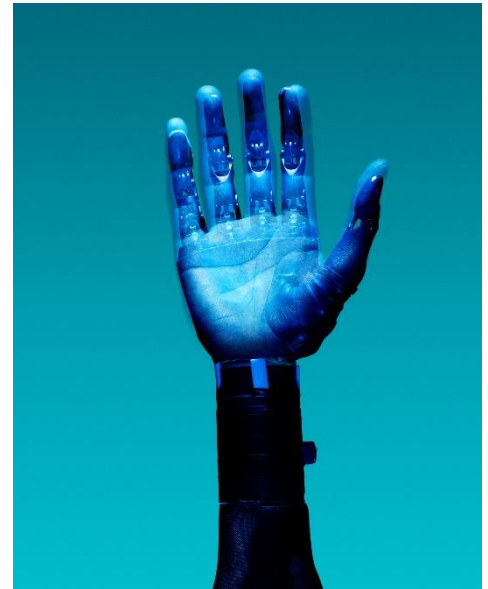
Creation of Guidelines for STEM Educators for using STEM Labyrinth methodology of the app

Guidelines for using the Mobile App is intended for teachers/educators/STEM administrators who will use this method of teaching in their classroom as curricular or extracurricular activity. It will provide the aims and objectives of the Mobile App, the STEM Labyrinth methodology of getting to the solution of all real-life problems in it, lesson plans and some useful links, resources, and explanations on using different ICT and OER tools. Guidelines will elaborate on all needed basic elements for formulating the methodology for problem solving and aims to create a bridge between theory and practice. The main goal of the guidelines is to describe the STEM Labyrinth methodology used in Mobile app and main steps which will be taken in order to prepare training courses and activities compatible with school education processes and requirements for STEM education, in addition on how to the apply the methodology for activities developing bonds between the schools, community and policymakers.

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MOBILE APP STEM LABYRINTH

Many everyday situations and problems require not only pure science and mathematics knowledge in order to be solved, but also problem solving skills, high-order thinking strategies and creativity. Thus App STEM Labyrinth will put the students in the centre of a real-life situation and it will challenge them to begin solving problems and eventually reaching the solution. Through providing help at several stages, the app intends to increase the motivation and the students' understanding of the problem.

Once a user downloads the app, he/she will be able to choose between the different types of categories: Environmental problems, Health and medicines, Urban Infrastructure, Economical solar energy, Access to clean water etc. https://stemlabyrinth.com/phone-application/
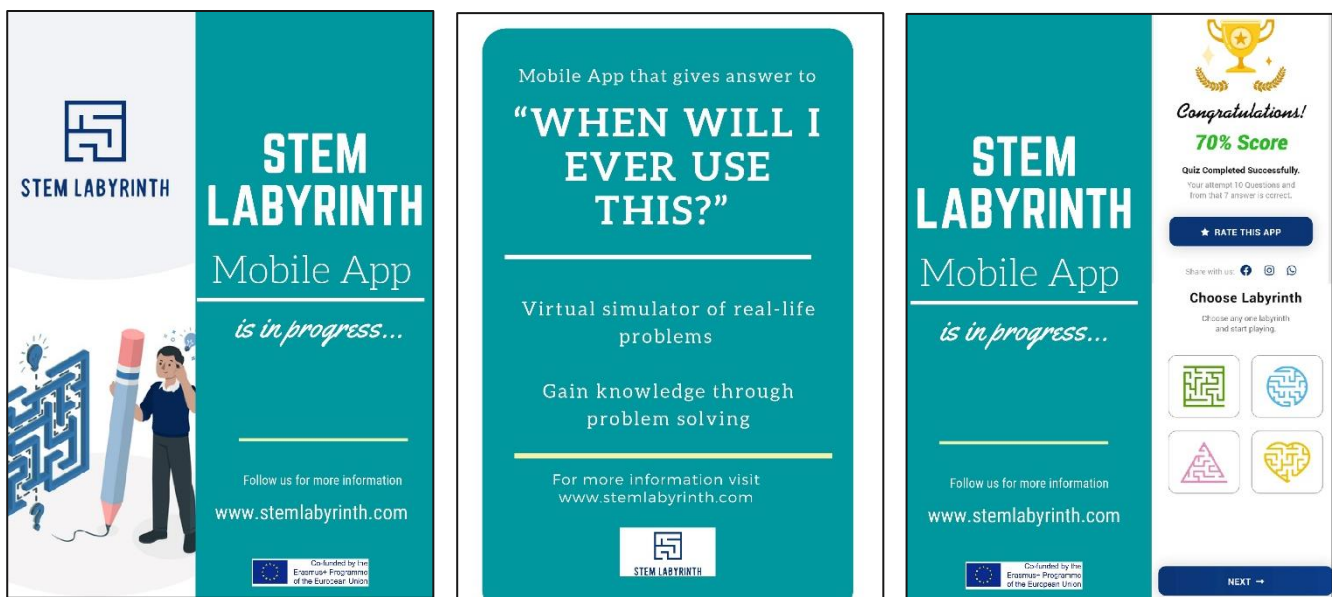
Mobile App is expected to have greatest impact over wide audience, especially young people who need to have developed 21st century skills, such as digital skills, critical thinking, problem solving, innovative and analytical thinking for career and pathways in fast moving world. Not only teachers and students, but graduates, university students and any interested individuals not only in schools but in any non-formal educational environment would benefit from the use of the Mobile App. It will encourage curiosity and confidence, connect in-class experiences to real-world concepts, and prepare today's students for a promising future. App will help students develop and apply a conceptual understanding of science, technology, engineering, and math by solving real-world problems, designing solutions to novel problems, and creating new inventions.

PARTNERS