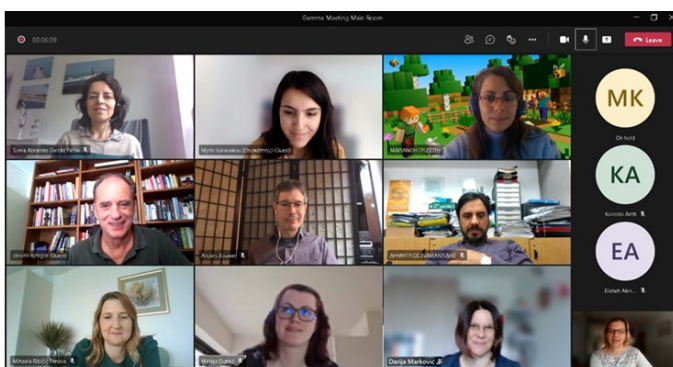




GAMMA is the acronym of the Erasmus + project *GAME-based learning in MATHematics*.

Online GAMMA seminar "Games in MaLT2 and Choico"

The online GAMMA meeting-seminar 'Games in MaLT2 and Choico' took place virtually in Microsoft Teams on November 11-12, 2021. The meeting was organized by the ETL Team of the Faculty of Philoso-



phy of the National and Kapodistrian University of Athens, Greece. Fifteen participants from the four partner countries attended the activity, which lasted six hours in total. The main aim of the activity was for GAMMA partners to engage in playing and co-designing games with the two authoring tools: MaLT2 and ChoiCo.

The activities included presentations of the NKUA manual and video tutorial for MaLT2 and ChoiCo, as well as a Focused Authoring System and games designed in MaLT2 and Choico. The participants engaged in playing the game, discussing and reflecting on it, as well as designing their own version of games by integrating different mathematical concepts. At the end of the each day, all groups presented and discussed their gaming ideas and the learning outcomes of their game.

GBL in geometry studies – The Finnish GAMMA team collaboration

As part of the GAMMA project, the Finnish GAMMA team will design and implement one digital learning game to support upper secondary school math education. The Finnish team started designing the game in

a team of experts and mathematics teachers shortly after the start of the project. Geometry was chosen as the topic of the game because it has been found to be challenging for many students.

The design of the game has been done in steps following the co-design approach. The high school lecturers



from Porin Lyseon lukio have been responsible for producing tasks and learning guidelines at different levels for the game. The game environment and different actions and progress of the game have been designed so that SAMK's experts have made various suggestions, from which the most suitable ones have been selected together by the whole team. The first version of the game will be released in January 2022, when high school students will act as game testers, based on whose experience the game will be developed further.

The collaboratively designed geometry-oriented mobile game is created to take into account different levels of knowledge: Students get the opportunity to solve mathematical problems at their own pace, and try to solve them over and over again whenever they want. With these "positive failures," a student can be motivated to try to deal with even more difficult tasks. We believe that game-based learning will increasingly be used in mathematics in the future; because of its pragmatism and clarity, it is easily transferable to the game world.

Keep Our Project Progress on Track

All information, news, activities, and, project outputs, when prepared, will be freely available on the [project website](http://www.project-gamma.eu): <http://www.project-gamma.eu>

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