



CODING4GIRLS

Newsletter

4

December, 2020

Coding4Girls project

The Coding4Girls project is funded by the Erasmus+ Programme under the Key Action 2: Cooperation for innovation and the exchange of good practice and aims, first of all, to overcome the gap between male and female participation in computer science education and careers by introducing more attractive learning methods for young people.

To do this, the project has introduced an innovative methodological learning framework for building programming skills through the instructional support content and end-to-end learning activities based on the integration of the design thinking methodologies and the serious game approach.

Finalized the first intellectual output of the project, “Methodological Learning Framework”, the team have produced a learning environment including two platforms, one for teachers and one for students for the development of programming skills among girls and boys through serious games.

In the same time, the consortium, on the base of the project task distribution and the partner professional expertise, prepared all the materials to start up the validation process of the project tools and the proposed methodology with teachers from primary and secondary school with 10-16 years old students coming from Slovenia, Bulgaria, Croatia, Greece, Italy, Portugal, and Turkey.

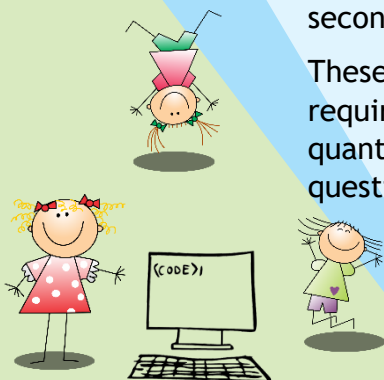
Evaluation results

The validation and evaluation activities aimed to ensure that the proposed framework meets the needs of the identified target groups in terms of relevance to learning needs, acceptance, usability, and effectiveness.

These high-level objectives have been pursued through testing sessions organized by the partners in each country involved: Slovenia, Greece, Italy, Croatia, Bulgaria, Portugal and Turkey.

All the activities started in February 2020 with 10-16 years old students from secondary school.

These evaluation activities were implemented face to face or online (when required due to covid restrictions), by collecting data using qualitative and quantitative research methods using Preliminary questionnaire, Follow-up questionnaire, and Student comments.



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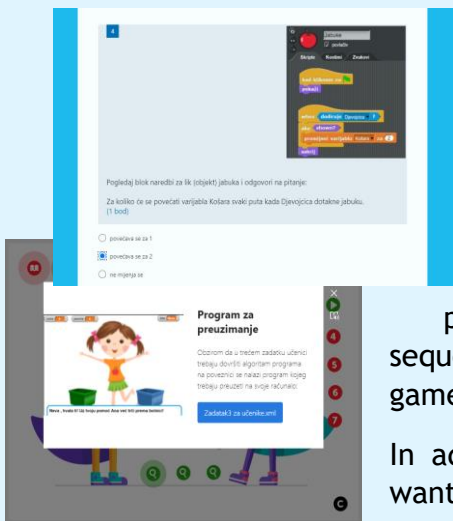


The students were asked to provide their comments concerning the overall organisation and their perceptions, learning difficulties or problems, and the views on how to improve the C4G methodology, tools and contents.



As far as the general organization and perception of the pupils is concerned, they were fully involved in the tasks given to them, in particular to implement the learning scenarios made available to the pupils via the website Game Environment. They were required to master the simpler and more advanced challenges in order to understand and learn the coding features such as loop, events, conditions and operations.

The learning difficulties could be overcome by an initial introduction by the teachers and/or educators or by following the "instructions for the students" prepared by the project team.



In terms of methodology, tools and content, the C4G project has enabled students to learn more about coding and programming by developing new ideas with their peers, participating in the creation of programming sequences and better understanding the functionalities of 3D games.

In addition to the positive learning experience, the students wanted more games available in the 3D environment. There are currently eleven serious games.

Especially for some secondary school students aged 14-16 years (second cycle) the graphics could be improved and the learning scenarios should be more complex.




In short, when analysing the overall results of the experiments, the feedback received shows that early intervention can undoubtedly reduce the gap between male and female participation in computer science education and related professions.

This will make it possible in the future to see a growing trend in favour of women by making IT more accessible to all. This will also encourage a better targeting of objectives, a better perception of roles and professional careers.



More information:

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Multiplier events

The Coding4Girls project team organized multiplier events face-to-face or online (due to covid measures) in Slovenia, Italy, Greece, Bulgaria, Croatia, Portugal and Turkey.

During these events, the project team promoted the outcomes of the project to facilitate uptake by the target stakeholder sector of school education. In particular, the learning scenarios, the Teachers' Platform, the Students' Game Environment as well as the achieved results were presented.



The target audience were school teachers, higher education professors, educational professionals, researchers, educational policymakers, and the general public. These events were promoted through press releases, Facebook page, organizational portals, and other channels of the event outcomes.

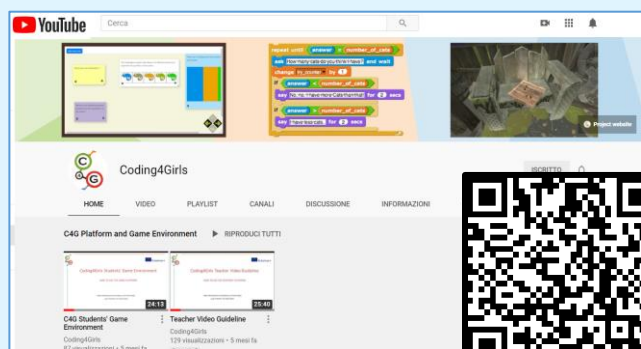
Video guides for teachers and students on YouTube Channel

The Coding4Girls YouTube channel provides the teachers and all interested people with the video-guidelines describing how to use the Teachers' Platform and the Students' Game Environment in English with different subtitles in Bulgarian, Croatian, Italian, Portuguese, Turkish Slovenian and Greek.

Moreover, it contains the instructional videos for the 22 learning scenarios with different levels from basic to advance for more capable students designed by utilizing the Snap! platform.


These learning scenarios present:


- Overall educational objective of the corresponding learning activity;
- Concepts covered by the learning activity;
- Specific learning objectives;
- Expected learning outcomes;
- Step-by-step use of the CODING4GIRLS game design-based learning approach;
- Assessment methods for evaluating the knowledge developed;
- Questions for initiating discussion among learners in the context of class collaboration.



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Learning scenarios are available in English and in the languages of all project partners: Bulgarian, Croatian, Italian, Portuguese, Turkish, Slovenian and Greek.

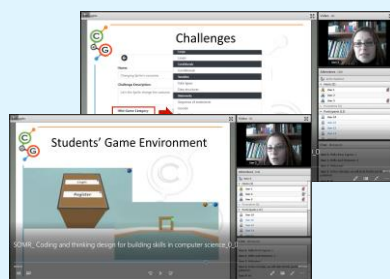
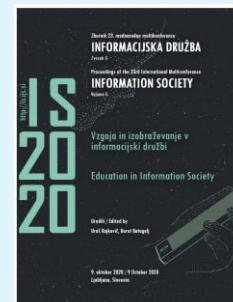
Dissemination of Project Results

To disseminate and promote the Coding4Girls project, the partners participated in several national and international events and prepared papers, posters, multilingual leaflets and banner.



University of Ljubljana (Slovenia) participated at the 43rd International Convention on Information and Communication Technology, Electronics and Microelectronics - MIPRO 2020 on September 28th, 2020 (virtual) and presented a paper entitled *“Game design based learning of programming for girls”*.

University of Ljubljana (Slovenia) participated at the 23rd International Multiconference - Information Society 2020 from 5th to 9th October 2020 (virtual) and presented a paper *“Teaching programming through game design”*.



EU-Track (Italy) organized the online event *“Coding and thinking design for building skills in computer science”* during the 2020 STEM Discovery Campaign, on April 16th.

University of Rijeka participated at the 14th International Conference on e-Learning that was held online from 21st to 25th of July 2020 and presented a paper *“Teaching programming skills to girls”*.



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