CT&MATH ABLE

Computational Thinking and Mathematical Problem Solving, an Analytics Based Learning Environment

implement, and to study computational models that include both technical and social aspects, students of today need to have skills such as decomposing and generalising skills and skills to automate, algorithmize, calculate, and design, necessary for solving problems in a highly digitised educational environment.

The project aims to provide a learning-analytics based framework to support individualized learning trajectories for students in ages 9-14 across Europe. In this way, all children in ages 9-14 will be able to strengthen their computational and algebraic thinking skills, which are among the key competencies of the 21st century, with Computer Science and problem solving tasks.

About CT&MathABLE project
Computational Thinking (CT) together with Algebraic Thinking (AT), which are the focus of the project, are considered to be integrative skills to be addressed within the described model. The emphasis is put on the primary role of computational models in modern research-oriented education. In order to develop, to

CT&MathABLE consists of 5 work packages
WP1: Project management
WP2: Developing Learning Paths for CT integrated with AT
WP3: Development of CT and AT Assessment Framework
WP4: Developing Interactive Tasks
WP5: Disseminating CT&MathABLE

CT&MathABLE delivers

I. Personalized learning trajectories (Learning Paths) in developing competencies of computational thinking and algebraic thinking combining a learning architecture and cutting edge learning analytics technologies with interactive tasks that have been proven to engage learners in accelerated intellectual development;

II. Competency frameworks for integrated and automated assessment of learning in informatics (computer science) and mathematics;

III. Large scale libraries of interactive tasks designed explicitly to hone computational thinking and algebraic thinking skills.

The project consortium

1. The project manager, Vilnius University, Lithuania, in addition to the coordination work, develops the interactive task tool and set of tasks.

2. Ankara University, Türkiye contributes to Learning Path for CT and AT and the assessment tools development.

3. Eötvös Loránd University, Hungary, develops Learning Path for CT and AT.

4. Basque Country University, Spain, warrants the quality assurance and provides control of dissemination.

5. University of Turku, Finland, is responsible for developing assessment tools for CT and AT with integration of learning analytics.

6. Royal Institute of Technology, KTH, Sweden, focuses on dissemination the projects outcomes and delivery recommendation for various target groups.

7. Two schools – Klaipėda Gedminų Progymnasium, Lithuania, and Mamak Özkent Akbilek School, Türkiye, are responsible for collaboration in developing training materials for CT and AT, testing and piloting the developed resources.

CT&MathABLE website

https://www.fsf.vu.lt/ct-math-able