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# EUROPEAN STEAME POLICY RECOMMENDATIONS

**Addressed to all the Ministries of Education in Europe and beyond**

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The project STEAME **- "STEAME: Guidelines for Developing and Implementing STEAME Schools"** is implemented by seven European partners between November 2019 and December 2021:

- Cyprus Mathematical Society – Cyprus (Coordinating organization)
- Cyprus Pedagogical Institute – Cyprus
- Pedagogical University of Krakow – Poland
- Prof. Ivan Apostolov Private English Language School – Bulgaria
- Institute of Accelerating Systems and Applications (IASA) – Greece
- Douka Ekpaideftiria AE-Palladion Lykeion-Doukas School – Greece
- ITC Pacle Morante Limbiate - Italy

The produced results and the achieved outcomes contribute to the evolution of the European educational system and the transition from Education 2.0 to Education 4.0.

The underlying concept is STEM educational model – Science, Technology, Engineering, Mathematics. It was further elaborated and expanded to include Arts and Entrepreneurship. Thus, it provides guidelines for development of STEAME schools, as schools of the future, aim to transform knowledge into competences and skills through new structures, infrastructures and learning activities including "project-based learning" that meet the contemporary requirements of Education 3.0 and 4.0 and the needs of Industry 4.0 and employers.

According to publications of the Organization for Economic Cooperation and Development, (Future of Education and Skills) the following challenges can be identified:

1. Today's schools and universities are “overloaded” in their content and curriculum. As a result, students are often deprived of sufficient time to acquire and develop key concepts, abilities and skills. It is time to shift the focus of our students from "more hours of learning to quality time of learning and application of knowledge"

2. The content of learning and activities shall be of high quality if we want students to gain a deeper understanding of knowledge.

3. Curricula shall ensure equality and innovation. All students should benefit from social, economic and technological changes and developments.

4. Careful planning, continuous adaptation and modernization are essential to the effective implementation of reforms and changes.

The STEAME project results (www.steame.eu ), provide solutions to these challenges through the creation of a model of school structure plan with proposed dynamic learning actions and learning programs, learning and creativity plans, as well as developing a teacher-centered curriculum support on how to work effectively and productively in a STEAME school.

The STEAME project has developed the following outputs:

**O1**. Guidelines for dynamic and adaptive STEAME curricula

**O2**. Guidelines for STEAME Activities in Schools for two age groups

**O3**. Guidelines for STEAME School Organizational Structure.

Throughout the project, relevant target groups of teachers, school authorities, management/heads, administration staff, students, parents and other stakeholders were involved where their needs and expectations were taken into consideration with their inputs, suggestions and ideas – leveraged. Some of the identified key success factors for the transition and transformation are related to:

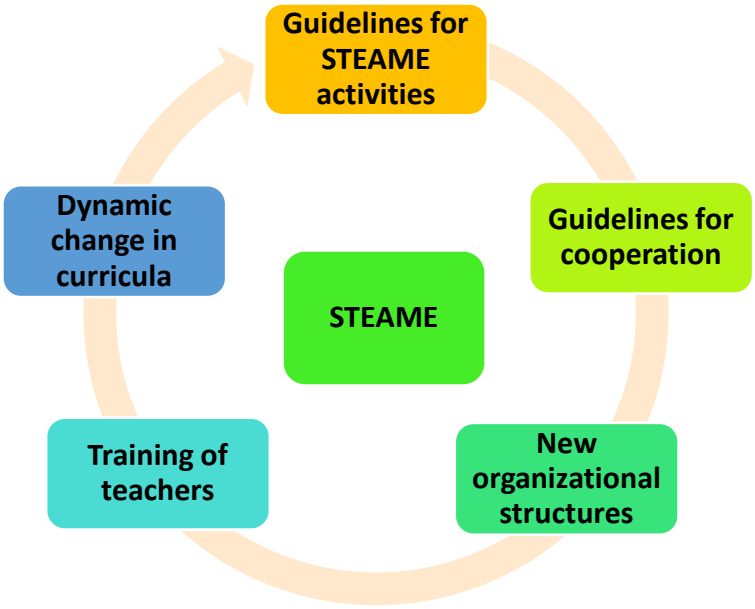
- Commitment by the school management/authorities/heads.
- Collaboration between teachers.
- Student-centered approach.
- Interdisciplinary approach.

- Application of new methodologies – project-based learning, inquiry-based learning, hybrid approach, flipped classroom, etc.
- New role of the teacher as a mentor, facilitator, coach, co-creator.
- Re-organisation and re-arrangement of the classrooms and study spaces – towards open spaces, laboratories (Labs), learning and creativity spaces, teamwork.
- Use of digital tools and technology-enabled process and spaces.
- Old Lesson plans become Learning and Creativity plans.
- Co-creation and innovation at its core.
- Development of personalized teaching and learning.
- Collaboration of schools, teachers and students with industry and researchers.

The above-mentioned recommendations could contribute to the following steps towards successful STEAME school of the future model developed for newly established schools as well as for existing schools.

What was needed and what is delivered by the STEAME project:

- ✓ Model of STEAME Schools
- ✓ Guidelines for STEAME Activities in Schools
- ✓ Guidelines for cooperation between teachers of different disciplines
- ✓ New organizational structures for STEAME schools
- ✓ Training of Teachers to help them adapt
- ✓ Dynamic Change in Curricula, Tools, Methods




STEAME will provide the paradigm shift of school learning environments. One might ask: What are the basic steps for changing current learning structures in schools into future STEAME project-based learning structures?

**3 Steps to change from Education 2.0 to Education 4.0**

- **Step 1.** Knowledge and Learning by School students: Secure digital learning through learning videos created by teachers. These learning videos can be created in three different speeds of learning. They should be available to school students for initial learning, for recalling knowledge and for accessing it at any time and any place.
- **Step 2.** Teacher Competences and Skills: Train teachers how to cooperate between different disciplines and how to develop(co-create) STEAME Learning & Creativity plans. Train teachers how to cooperate with academic and industry people and how to do STEAME related activities in hybrid environments. Help teacher to develop competences on becoming adaptable cloud education leaders. Give them freedom to create.
- **Step 3.** Create open spaces in current schools or build the new schools with more open spaces for project based cooperative work between school students. Plan or adapt dynamic curricula adaptable to change and adaptable to the student's competences and needs.