

E-STEAM ON THE CLOUD

ERASMUS+ KA220-SCH-
Cooperation partnerships in
school education 2021-1-
ES01-KA220-SCH-000032742



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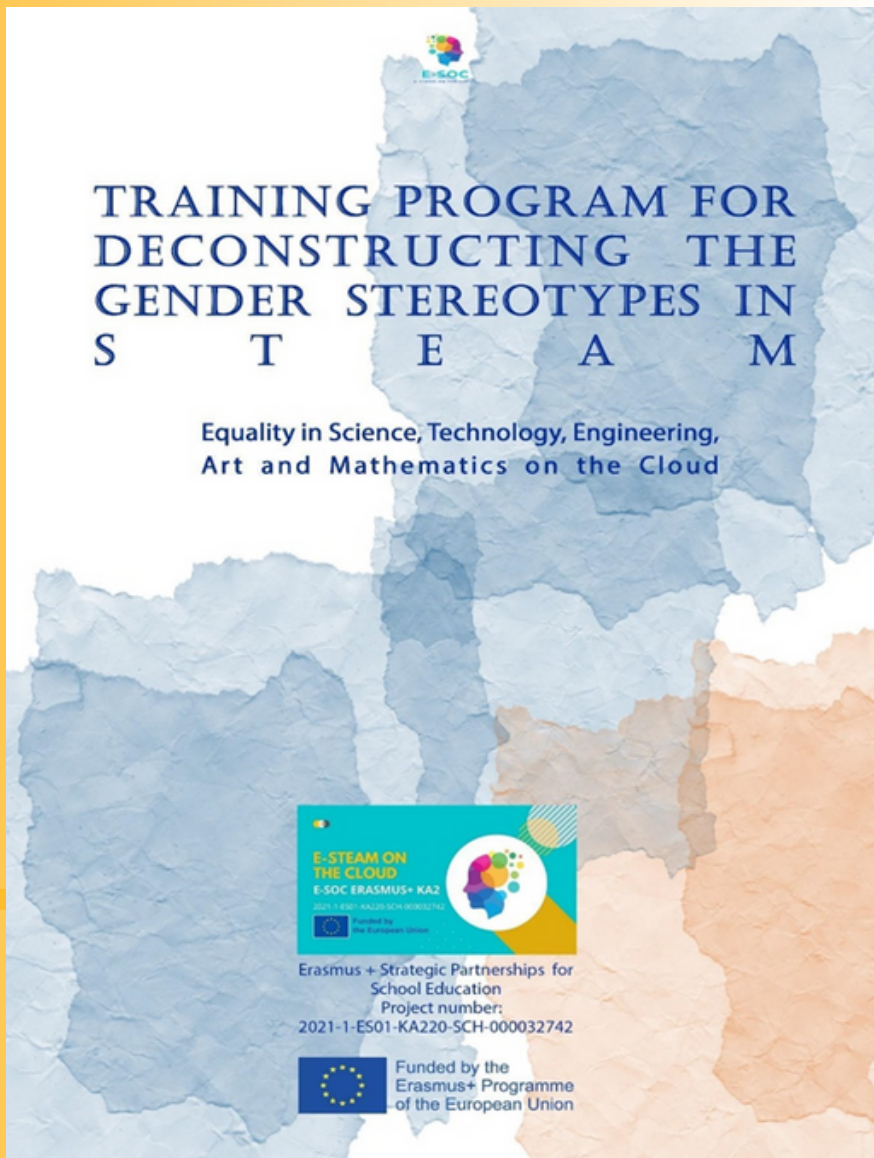
**Liceul Vocațional
de Artă,**
Târgu Mureș, Roumania



Funded by
the European Union

E-STEAM PROJECT

It concerns with gender equality in secondary and upper-secondary education and aims at contributing to increased capabilities to reduce stereotypes by developing a series of innovative and interactive materials, tested through a behavioral science lens for their potential to increase equality by amendment of practical everyday skills and social norms regarding attitudes and stereotypes in teaching STEAM.



Professional Foundation from Romania has been responsible to coordinate the Training Program together with the other partners: Universitat Jaume I de Castellon, Castellon de la Plana, Spain, Liceul Vocational de Arta, Targu Mures, Romania, VSI INOVACIJU BIURAS Lithuania Vilniaus, European School of Brussels IV, Orizzonti Società Cooperativa Sociale, Padua Italy. The project targets three groups:

- Teachers in Upper secondary and Secondary (VET & non-VET) education and especially teachers in STE(A)M, career advisors.
- Decision makers, Policy formulators, Headteachers, school directors, teacher training centres, and representatives of regional/national and EU authorities.
- Students/pupils 12+ (to engage more girls in STEAM careers).

The Manual is a training program for teachers with hands-on materials to cascade on their students. Teachers are tempted to shuffle it as they can apply the Lesson Plans devised, immediately in their classes.

The manual consists of two parts: Part One includes four Chapters among which there is a Curriculum and some references to the methodological approach in order to deconstruct gender stereotypes in STEAM in secondary and upper-secondary classes.

WHY BOTHER TO READ THIS MANUAL?

Following, you will find the results of this project, along with actionable strategies for school educators to start and scale their STEAM programs.

WHAT IS THE CULTURE OF STEAM EDUCATION?

The culture of STEAM education is built around collaboration and peer-to-peer interactions; it emphasizes the process of making rather than the final product. It often involves an interdisciplinary approach to instruction and learning: STEAM educators integrate visual arts, music, language arts, humanities, and social sciences into STEAM projects, giving students a chance to have a holistic experience with technology.

CURRICULUM FOR 21ST-CENTURY LEARNING

It defines four unique learning and innovation skills with an emphasis on the “4Cs”: critical thinking and problem-solving, creativity and innovation, communication, and collaboration. These skills help students prepare for the increasingly complex and unknown work environments of the future own initiatives, and services.

THE TRAINING PROGRAMME 'S METHODOLOGY

One of the primary goals of using constructivist teaching is that students learn how to learn by giving them the training to take initiative for their own learning experiences. According to Audrey Gray, the characteristics of a constructivist classroom are as follows:

- the learners are actively involved;
- the environment is democratic;
- the activities are interactive and student-centered;
- the teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous.

The image shows a screenshot of a document page, likely a training manual or research paper, with a white background and a light blue header. The page is divided into two columns of text. On the left side, there are logos for the Ministry of National Education of the Republic of Turkey and the European Union. The text discusses various educational methodologies such as Problem-based Learning, Inquiry-based Learning, Anchored Instruction, Cooperative Learning, and Reciprocal Peer Teaching. The page number '22' is visible at the bottom left. On the right side of the page, there are icons for PDF, print, and search, along with a back arrow.

ORGANISING A WORKSHOP - A SPRINGBOARD FOR HIGHLIGHTING STEREOTYPES

Workshops for spotting unconscious and conscious stereotypes are paramount to assure a springboard for the Training Programme. Facilitating a Gender Sensitive Training Workshop can be challenging in terms of handling a situation when a heated debate starts to take place. An essential skill of a trainer is to overcome biases and de-escalate sensitivities by noticing and addressing confusion between facts and views, without hurting the feelings of the concerned participants. Here is a bit of insight for the teachers who would be interested to read and apply what we devised here in this Training Program. Good luck to you and your students.

LESSON 12.

Learning Objectives:

- To deconstruct stereotyped thinking
- To share opinions and work as a team to create new thinking and bring out new ideas
- To have new perspectives
- To think about the career prospects of the future of female students

Learning outcomes:

At the end of the lesson, the participant will have:

Knowledge:

To identify concepts like "stereotypes" "prejudice" and "emotional intelligence" in order to apply these concepts in daily life.

Skills:

To analyse how stereotypes affect everyone's life and career choices from a young age.

Attitudes:

To value a critical sense in life.

Stereotype and counter arguments:

S1 Girls are less interested in STEAM subjects.
CA1 There are girls who participate willingly and actively in Olympiad Contests in Mathematics, Physics, Chemistry, Biology, and ICT.
CA2 Certain statistics prove that STEAM abilities are not male qualities.

Target group: Secondary School Teachers
School students (choose from 12-18+)

Activity Title & number	Short description of the activity	Resources needed	Time 2:50hs in total
Lead in: 1. Icebreaker	The trainer invites the participants to introduce themselves, saying their name and how they feel using the metaphor of an atmospheric element.		15'
2. Introduction: Prejudice and stereotypes	Pre-test administration on previous skills: Attachment 1 SOLUTIONS: 1a; 2b; 3b; 4a; 5a; 6b; 7a; 8b	Worksheet Flipchart Pens	30'
3 Activity: Inside matter	Couples activities	Flipchart Worksheet Markers	50'

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