FullSTEaMAhead

Co-funded by the European Union

De-gendering STEM through STE(A)M and creative thinking in Secondary Education

Gender aspects play an important role in science education, conditioning choices, and beliefs as grounded on self-estimation of one's capacities. Research has shown that women remain still underrepresented in STEM (Science, Technology, Engineering, Mathematics), while this underrepresentation is evident beyond students across education levels, within the fields of teachers, researchers, academicians, and the labour market.

Although gender differences in science performance remain minor up to and during secondary education level, it is during lower and upper secondary level, when substantial gender disparities kick in regarding interest in STEM, demonstrating that girls gradually start losing interest in STEM at the age of 12-15 and beyond. Eventually, this gendered pattern extends into tertiary education and career choices.

57% of tertiary graduates in the EU are women, but only **24.9%** of them graduate in ICT-related fields, and very few enter the sector

Women make up **13%** of the graduates in ICT-related fields working in digital jobs, compared to **15%** in 2011

Women's participation in the ICT and digital sector is not significantly improving or even worsening

Research revealed as the most important factors for the STEAM-gendered stereotypes:

- The secondary level school educational approach of STEM (e.g., STEM educational material and in-class approaches, teachers' attitudes and expectations of boys and girls, stereotypical role models, and depictions of men and women in STEM)
- The influence of peer groups and family during adolescent years

FullSteamAhead breaks the stereotypes in STEM by intervening and proposing a de-gendered approach of STEM as:

- ✓ teaching subject, and
- ✓ career option during secondary school.

TARGET GROUPS

Secondary level schoolteachers (STEM and humanities), supporting teaching staff, school principals/leaders, parents including parent-teacher-students associations, institutional bodies in secondary education at regional and national levels (including also VET).

WHAT IS FULLSTEAMAHEAD OFFERING

- In-class activities framework to guide a STEAM oriented teaching methodology for STEM subjects
- STEAM activities for secondary school teachers to utilize and implement in-class (joint effort of actors in arts and design, teachers, soft-skills, technology-in-labour-market, and education)
- De-gendered narratives and STEM professional/scientific personas for teachers and parents to promote STEM studies and careers and infuse into peer group dynamics among girls and boys peer groups
- Teachers Handbook for implementation and transferability
- All of the above available in an online platform for teachers evaluated and validated by in-class piloting

SURVEYS • TRAINING • EVENTS • PARTICIPATION

Online surveys among teachers, students and parents in four countries

In-depth interviews with teachers and parents

Classroom pilot testing sessions. Three-months piloting and classroom testing of the methodology and project modules

Multiplier events in Croatia, Spain, Greece, and Italy for encouraging dialogue and interactivity between teachers, students, parents, pedagogical actors, policymakers, the public, media, and press representatives at the local, regional and national levels

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