

OPINION

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STEM needs more than formulas

-How creative teaching can inspire more women to pursue STEM-



Carolin Agüero Villegas

"How can we inspire more young women to choose STEM?"

A lack of interest is often cited as the reason. But perhaps the real challenge lies not in the subjects themselves, but in the way they are taught. For many young women, STEM subjects such as mathematics, science, and technology are still perceived as dry, abstract, and disconnected from everyday life. Yet it is the way these subjects are taught that determines whether curiosity is sparked—or lost.

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The foundations for future interest in STEM are often laid during the school years.

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Children's first experiences with STEM begin in primary school and continue throughout secondary education. During this time, they start to discover which subjects they enjoy, where their strengths lie, and which career paths they believe are within their reach.

A 2022 study by the International University of Applied Sciences (IU) found that many young women perceive STEM subjects as overly theoretical, lacking practical relevance, and difficult to understand. Importantly, the criticism is directed less at the subjects themselves than at the way they are taught.

"As someone with a degree in Transport Economics, I can personally relate to this experience. During my school years, I found it difficult to develop any real enthusiasm for STEM subjects. What I missed was engaging, creative teaching—the kind I experienced in subjects like Art and German. Even at university, much of the quantitative coursework was presented in a highly theoretical way. As a result, STEM remained something abstract to me for a long time, rather than a field I truly connected with." Carolin recalls.

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Creating opportunities through role models

Another factor that discourages many young women from pursuing STEM is the lack of female role models. Women remain underrepresented in STEM degree programmes and related careers, leaving many girls and young women without role models they can identify with—women who inspire them, guide them, and challenge traditional gender stereotypes. This makes it even more important to highlight inspiring women, both from the past and present.

Female role models inspire new perspectives

This is where the European STEAM Coach project comes in. Its goal is to inspire girls and young women to explore STEM through practical, creative, and gender-sensitive learning approaches. Rather than relying on rote memorisation, the project encourages teamwork, creativity, and learning that connects with real-life experiences. By making STEM more accessible, relevant, and engaging, STEAM Coach helps more girls and young women discover their potential.

STEAM Coach aims to reduce gender gaps in STEM education and careers while encouraging more girls and young women to explore the opportunities that STEM has to offer.

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"If we do not start questioning certain gender roles and stereotypes, these gaps will persist."

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STEM education does not fall short because of the subjects themselves, but because of the way they are taught. When mathematics and science are presented as abstract formulas rather than as tools for understanding and solving real-world challenges, it is easy for students to lose interest—particularly girls and young women. Research also shows that gender stereotypes, the lack of visible female role models, and lower confidence in STEM abilities continue to discourage many young women from pursuing STEM education and careers.

This is where the European STEAM Coach project makes a difference. By promoting practical, creative, and gender-sensitive learning, STEAM Coach helps girls and young women see STEM as relevant, accessible, and achievable. In doing so, it empowers them to build confidence, develop their skills, and explore their potential free from limiting stereotypes.