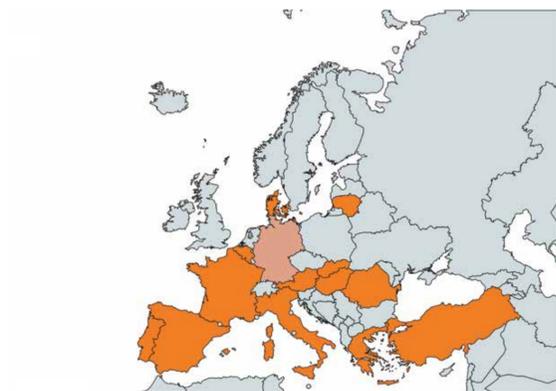


Science, Technology, Engineering and Mathematics Education Policies and Practices in Europe

Policies

The “STEM Education Policies in Europe” report highlights the main trends of public education STEM policies in Europe and proposes general observations and synthetic recommendations. Representatives of **14 Ministries of Education** provided information about the state of STEM education in their countries, and their insights were enhanced by interviews with industry and university stakeholders.

Data collection



Recommendations

-  Attracting students and teachers to STEM through a **global and integrated approach** from primary education to continuing professional development.
-  **Linking pragmatic initiatives** to improve the quality of STEM education by building on each country's strengths.
-  **Integrating curriculum and pedagogical innovations** with value added purpose-built technologies and services combined with positive experimentations disseminated among European countries.
-  **Developing a common European framework for STEM education** and coordinating national STEM initiatives.
-  **Fostering collaboration with universities and industry** to develop STEM skills.

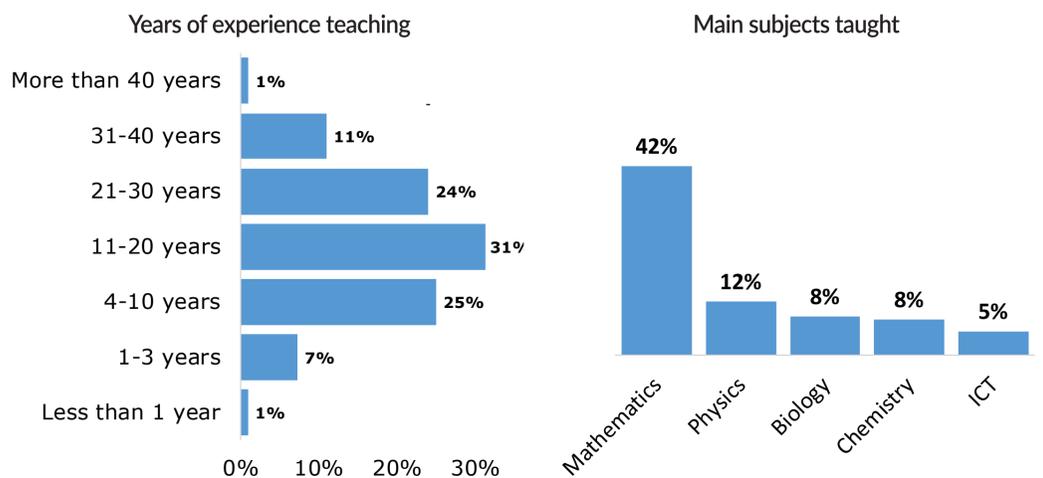
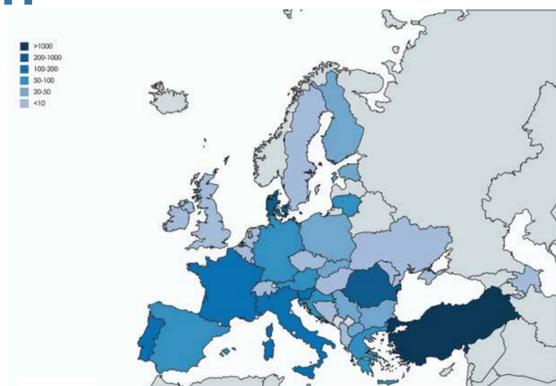
Practices

The “STEM Education Practices in Europe” report aims to provide a grassroots, European-wide perspective on how STEM teachers organise their teaching. Its results draw on the analysis of 3,780 responses (representing over **4,500 classes**) to the STEM Education Practices Survey, answered by educators in **38 European countries**.

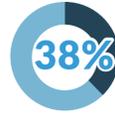
Data collection

Online survey in 25 languages (Jun - Oct 2018)

3,780 responses from 38 European countries on >4,500 classes



Main findings

-  **88%** of STEM teachers report a high use of using paper-based materials in their lessons
-  **38%** STEM teachers report getting no pedagogical or technical support, even from colleagues of the same subject
-  **79%** of STEM teachers report using traditional direct instruction in their lessons
-  **74%** of STEM teachers share a positive vision of innovative STEM teaching with their colleagues and head of school, which is positively linked with the degree of innovation in their teaching
-  with more experience, STE teachers report less traditional direct instruction and more student-centred pedagogies

Recommendations

- 1** Support **international networks** of exchange so STEM teachers can improve their practice
- 2** Offer more **professional development for STEM teachers** and **school-industry collaboration**
- 3** **Innovate the STEM curriculum and assessment** in support of innovative pedagogies
- 4** Support the development and implementation of **whole-school STEM oriented strategies**
- 5** Strengthen **trans-disciplinary collaboration** to encourage the uptake of integrative STEM teaching and cooperation among teachers

