

D4.1 Standardised announcement of course

Information about the report/WP

WP N° 4

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Project Information

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Executive Summary

One of the tasks related to field trials (WP4) involved writing a standardised announcement for advertising the course. This text intended for teachers, announces the PD programme for teachers of science and mathematics, introduces the three main modules and gives relevant details related to the course. It also introduces the project and gives the rationale for the need of a teacher education programme that promotes inclusive STEM education. The text also clearly indicates what participation will involve. This announcement is intended to provide the participating countries with basic information that they can adapt according to their needs. It is recommended that in the country versions of this announcement, the PD course is linked to the respective curricula.

Revisiting Inquiry-Based Learning Celebrating Diversity in Mathematics and Science Classrooms

A professional development (PD) opportunity for teachers of mathematics and science provided by the University of X in collaboration with the Ministry of Y.

Teachers are invited to participate in an innovative PD programme that aims to support the teaching of mathematics and science in diverse and multicultural contexts for the benefit of all students, regardless of their cultural or socioeconomic background. A novelty in this programme is the use of mathematics and science learning to enhance the social and civic dimensions of education promoting values that are cornerstones of modern democratic and multicultural societies. The main target group is lower secondary school teachers teaching students aged 11-16.

The PD course features three modules presenting inquiry-based learning (IBL):

- as an approach for addressing achievement-related diversity
- in real-life, relevant contexts
- as a tool for intercultural learning.

Rationale for a teacher education programme that promotes inclusive STEM education

Mathematics and science are vital prerequisites for active participation in society and belong to the eight key competences outlined in the EU framework for key competences (EC 2007). However, across the EU, 17% of 15-year-olds underachieve in science. In mathematics, that figure rises to 22%, and can be as high as 36.6% among students with low socioeconomic backgrounds (ET 2020). Changing societies, increased migration and changes in students' needs together with changes in the aims of STEM education resulted in an urgent need for inclusive education that promotes learning in groups with different competence levels and cultural backgrounds. This PD course provides an evidence-based approach to tackle current challenges in STEM education: the underachievement of particular student populations; linking mathematics and science competences with social and civic competences and effectively supporting teachers as they face increasing social, cultural and competence-related diversity in their classrooms.

For the local German/Spanish/Turkish/Maltese/Dutch situation this means that the PD course will fit into current innovations to the national curriculum.

Reference to relevance of the PD to national curriculum (Each country may here show how this PD programme is linked to the requirements of the national curriculum).

Example The Netherlands:

Kennisbasis science onderbouw vo (knowledge base science lower secondary education: <http://natuurentechiek.slo.nl/kennisbasis-onderbouw>)

Wiskundige denkactiviteiten (mathematical think activities):

<https://www.leraar24.nl/wiskundige-denkactiviteiten-in-praktijk/>)

Next Generation Science Standards and the PISA 2015 science framework

European projects on inquiry based learning: Primas en Mascil

Example Malta:

The programme supports mathematics and science teachers in the implementation of the principles and concepts outlined in the National Curriculum Framework (2012): the pedagogical reform in which traditional teaching will be replaced by a more student-centred and inquiry-based approach as well as education for diversity as a cross-curricular theme.

Participation in the course is free of charge.

Supplementary materials including classroom materials for teachers will also be provided. This PD programme is being offered as part of the MaSDiV project.

What is the MaSDiV project?

MaSDiV is an ERASMUS+ project aimed at supporting teachers to connect mathematics and science teaching to the learning of fundamental values in diverse and multicultural classrooms. The project involves the development of a research-based teacher PD course to promote inclusive STEM education. This course is developed according to the latest research and standards related to PD. Moreover it is based on the well-researched STEM concept of IBL and it will be implemented across Europe.

What will participation involve?

face-to-face sessions in a collaborative environment

long-term support through PD leaders

filling two questionnaires.

Other details

Dates
Place
Duration
Teacher trainer team

Other information [e.g. travel costs reimbursed, supported by the ministry etc.]

References

EC [European Communities] (2007). Key Competences for lifelong learning - European Reference Framework.

ET 2020 (2015). 2015 Joint Report of the Council and the Commission on the implementation of the strategic framework for European cooperation in education and training (ET 2020) New priorities for European cooperation in education and training.