PERFORM explores a participatory educational process on STEM (Science, Technology, Engineering, Mathematics) through the use of scenic arts with secondary school students, their teachers and early career researchers, who will get actively involved in experiencing science in France, Spain and the United Kingdom.

European Commission | Horizon 2020 European Union funding for Research & Innovation

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under No 665826 grant agreement

About

PROJECT DESCRIPTION

Young people often have a narrow concept of science and this can limit their future engagement with the subject. Many also struggle to identify, on a cultural level, with science and hence do not aspire to scientific careers[1]. This lack of aspiration is particularly seen among girls and those from low socio-economic backgrounds[2]. Young people do have interest in science, particularly with phenomena that relate to everyday life, and in the way that science helps to make sense of the world. Yet studies have shown that across Europe interest in science has declined in recent years and that there are problems with engagement and participation in the subject[3].

The PERFORM project aims to develop young people's conceptions and awareness of science, scientists and scientific research. But it looks to move beyond merely increasing scientific and technological knowledge to developing a reflective knowing of science in which young people can consider its purposes, values, and how it becomes reality. Learning science involves a re-structuring of perception and through this young people might come into new relationships with the subject, and perhaps themselves, in establishing their identity with the subject.

To these ends scientific researchers, performers and young people will work together in schools in developing performance- based activities. It is hoped that the collaboration will increase young people's engagement with science, its values and the processes of research.

Notes

1 DeWitt, J., Osborne, J., Archer, L., Dillon, J., Willis, B., & Wong, B. (2013). Young children's aspirations in science: The unequivocal, the uncertain and the unthinkable. International Journal of Science Education, 35(6), 1037-1063.

2 Archer, L., DeWitt, J., Osborne, J., Dillon, J., Willis, B., & Wong, B. (2012). Science aspirations, capital, and family habitus how families shape children's engagement and identification with science. American Educational Research Journal, 49(5), 881-908.

3 Bøe, M. V., Henriksen, E. K., Lyons, T. & Schreiner, C. (2011). Participation in science and technology: Young people's achievement-related choices in late-modern societies. Studies in Science Education, 47(1), 37–72.

What teachers will do

Teachers will be actively involved in designing science education methods based on performing arts as well as in trainings to foster their communication skills and ability to develop performances in formal science education contexts.

What students will do

Students will imagine and develop performing arts activities on scientific topics of their interest collaborating with young researchers, professional communicators and their teachers.

What researchers will do

Researchers will share their knowledge, ideas and passion for science with students and teachers when developing performance-based activities and will participate in science communication and education trainings.

Partners

The consortium involves partners from Austria, France, Spain and the United Kingdom. It is composed by distinguished universities (Universitat Oberta de Catalunya, Universitat Autònoma de Barcelona, University of Bristol, University of Warwick), successful professional science communication entities involved in science engagement, learning and communication activities (L'Atelier des Jours à Venir, European Science Events Association) and specifically in science and arts (Les Atomes Crochus - TRACES, The Big Van Theory, Science Made Simple), and multilateral organizations working with young people on science education (UNESCO).

Science Made Simple (SMS)
www.sciencemadesimple.co.uk

University of Warwick (UoW)
www.warwick.ac.uk

European Science Events Association (EUSEA),
www.eusea.info

University of Bristol (UoB)
www.bristol.ac.uk

Les Atomes Crochus-TRACES
www.groupe-traces.fr

UNESCO
www.unesco.org

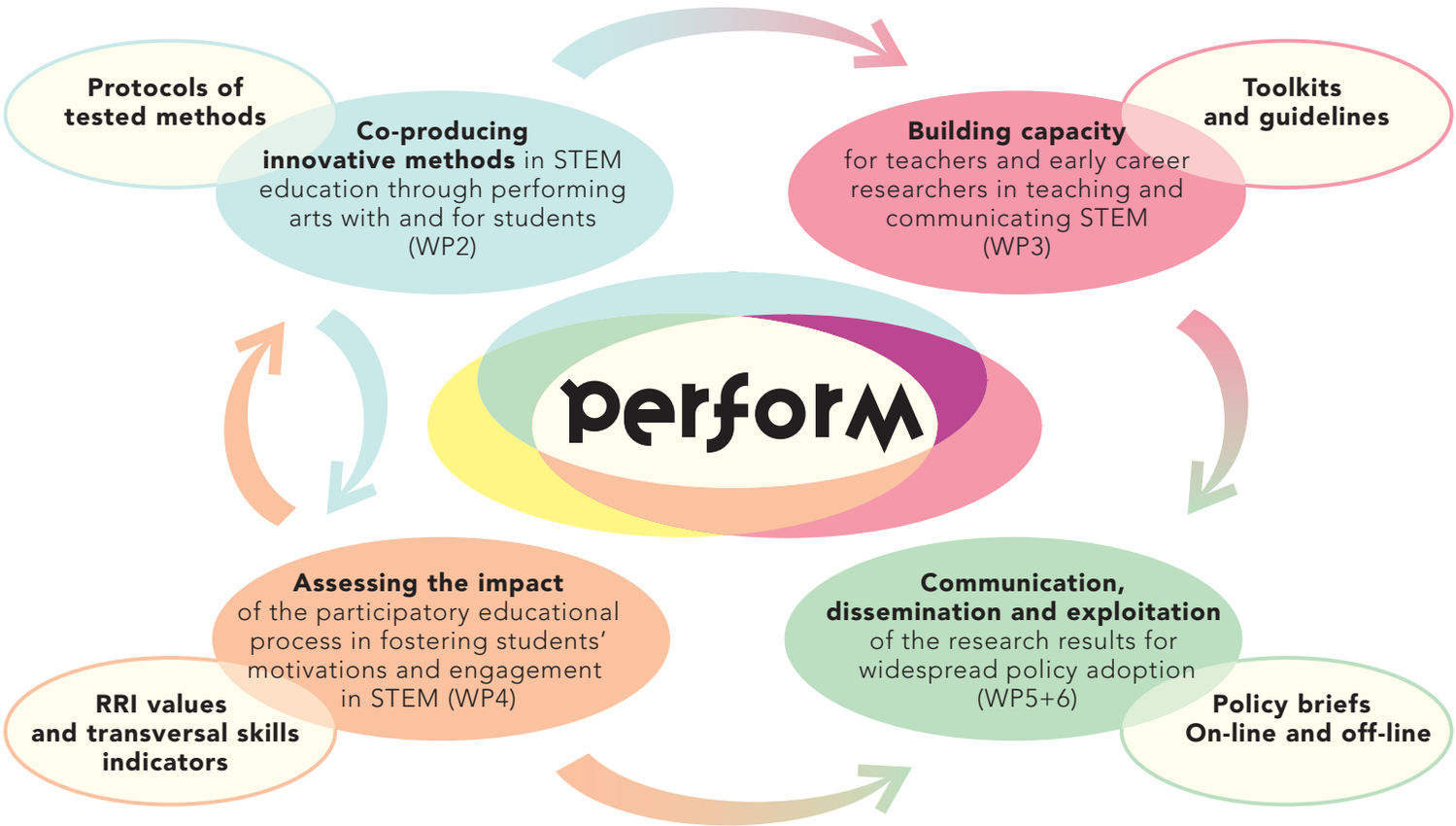
L'Atelier des Jours à Venir (AJA)
www.joursavenir.org

COORDINATOR
Fundació per la Universitat Oberta de Catalunya (UOC)
www.uoc.edu

Universitat Autònoma de Barcelona (UAB), www.uab.cat

The Big Van Theory (TBVT)
www.thebigvantheory.com

Work Packages



WP1: Project coordination and management, led by UOC

WP2: Innovative science education methods based on performing arts, led by TBVT

WP3: Building science education and communication capacity for teachers and early career researchers, led by UoB

WP4: Impact assessment of the participatory educational process in students' learning about and engagement in science, led by UAB

WP5: Sustainability and policy impact, led by UNESCO

WP6: Dissemination and outreach, led by EUSEA

Toolkits

Detailed protocols of performance-based science education methods (PERSEIA's) to generate transformative participatory education processes, targeted to teachers, education researchers and science communicators, will be generated. These protocols will explain how to co-create science education methods based on performing arts in different European educational contexts, addressing the most relevant aspects of the human dimension of science and RRI values. Guidelines for adapting PERSEIAs to science museums will be also developed by the end of the project.

Training toolkits will also be developed for both teachers and early career researchers interested in fostering their communication skills and ability to develop performances to improve science learning. These toolkits will include background information on PERSEIAS, guidelines on how to develop the skills identified as essential for PERSEIAs and a collection of case studies and best practices resulting from the PERSEIA activities developed in the different participating countries as well as tips on how to implement them.

Toolkits for:

STUDENTS | TEACHERS | RESEARCHERS | MUSEUMS

STUDENTS Toolkit

PERFORM will generate methodological protocols to develop effective approaches to promote a mutual learning scenario between scientific and educational communities that will lead students to the development of performance-based science education methods.

TEACHERS Toolkit

Protocols of tested science education methods to generate transformative participatory educational processes by using arts-based approaches will be generated. Training toolkits addressed to teachers will also be developed to foster their communication skills and ability to develop performances in formal education contexts.

RESEARCHERS Toolkit

Training toolkits addressed to early career researchers interested in science communication and education will be also developed.

MUSEUMS Toolkit

PERFORM will generate guidelines for adapting the science education methods based on performing arts to the context of science museums.

Contacts

Project coordinator

Isabel Ruiz Mallén
IN3-Universitat Oberta de Catalunya
H2020 PERFORM Project Coordinator

Tel. +34 932535743

E-mail: iruiz_mallen@uoc.edu

Project manager

Marina Di Masso
E-mail: mdi_masso@uoc.edu

webpage

www.performresearch.eu

perform