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Gender-responsive STEM education

Empowering girls and women for the jobs of today and tomorrow

More girls are in school today than ever before, but they do not always have the same opportunities as boys to complete and benefit from an education of their choice.

Too many girls and women are held back by biases, social norms and expectations that influence the quality of the education they receive and the subjects they study. They are particularly underrepresented in science, technology, engineering and mathematics (STEM) education, and consequently in STEM careers.

UNESCO is giving special attention to this issue as part of its efforts to promote the empowerment of girls and women through education and as a response to its Member States' decision on UNESCO's role in encouraging girls and women to be leaders in STEM, including arts and design.

35% of STEM students in higher education are women

Worldwide, women represent only 35% of students pursuing STEM fields in higher education. It is in poor countries where such talent is most needed and yet where women are most underrepresented.

Less than 30% of researchers in science are women

Worldwide, women represent less than 30% of scientific researchers. Gender gaps reduce possibilities for innovation and fresh perspectives to present and emerging challenges.

Education 2030

What UNESCO does

As the United Nations' specialized agency for education, and the only United Nations' agency with specialization in science, culture, and communication and information, UNESCO is well-placed to support countries around the world to establish holistic and integrated responses that close gender gaps in STEM education and careers. UNESCO's work on gender-responsive STEM education supports:

Data and evidence: UNESCO's *Cracking the Code: Girls' and women's education in STEM* report is the first ever to document the drivers of gender disparity in STEM studies globally, and provide evidence-based policy and programme guidance. UNESCO has also generated strategic information at country level through support to research in Asia and comparative assessments of learning in maths and science in Latin America, and East and Southern Africa.

Policy and legislation: UNESCO supports Member States to review, update and foster the implementation of their education legal frameworks to eliminate discrimination and ensure gender equality in education. UNESCO's *STEM and Gender Advancement* project has also supported the design and implementation of science, technology and innovation policy instruments that address gender equality in STEM.

Learning for empowerment: UNESCO supports education system changes that lead to empowering and gender-transformative learning structures and environments. UNESCO supports the development of tools to ensure STEM curricula and textbooks are free from stereotypes and bias, teacher training in gender-responsive STEM pedagogy, youth consultations, mentorship opportunities, and access to female role models to build girls' interest, skills and understanding of STEM careers.

Cooperation and coordination: UNESCO facilitates policy dialogue, experience sharing, and cooperation through global and regional events such as its International Symposium and Policy Forum which brought together more than 350 stakeholders from over 70 countries. As part of the EQUALS Skills Coalition, UNESCO is also supporting coordinated action to empower women and girls to acquire skills to become both ICT users and creators in the digital world as well as in broader STEM fields.

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More information

on.unesco.org/STEMed

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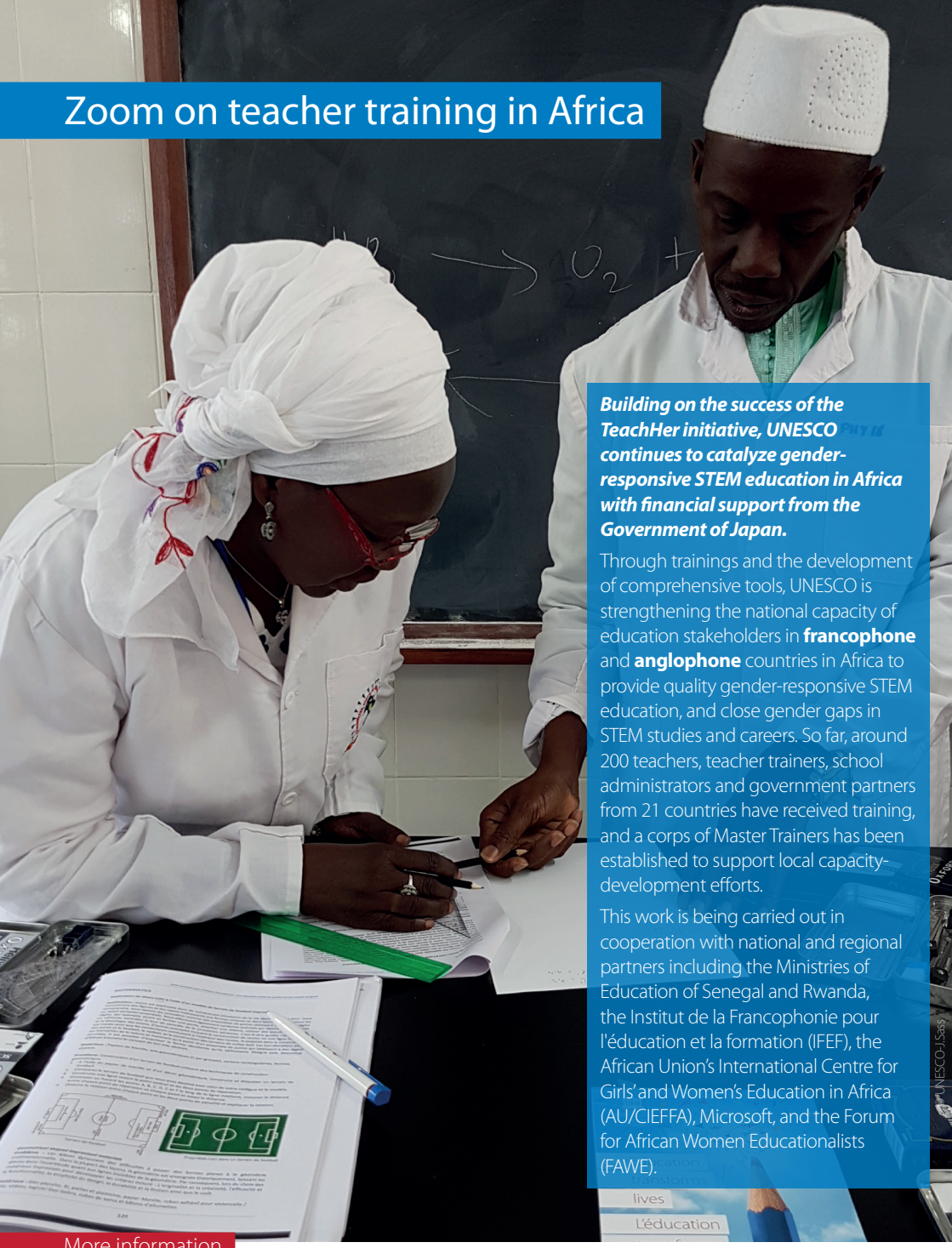
Zoom on teacher training in Africa



Building on the success of the TeachHer initiative, UNESCO continues to catalyze gender-responsive STEM education in Africa with financial support from the Government of Japan.

Through trainings and the development of comprehensive tools, UNESCO is strengthening the national capacity of education stakeholders in **francophone** and **anglophone** countries in Africa to provide quality gender-responsive STEM education, and close gender gaps in STEM studies and careers. So far, around 200 teachers, teacher trainers, school administrators and government partners from 21 countries have received training, and a corps of Master Trainers has been established to support local capacity-development efforts.

This work is being carried out in cooperation with national and regional partners including the Ministries of Education of Senegal and Rwanda, the Institut de la Francophonie pour l'éducation et la formation (IFEF), the African Union's International Centre for Girls' and Women's Education in Africa (AU/CIEFFA), Microsoft, and the Forum for African Women Educationalists (FAWE).

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More information

on.unesco.org/STEMinitiatives

UNESCO Education Sector

Education is UNESCO's top priority because it is a basic human right and the foundation on which to build peace and drive sustainable development. UNESCO is the United Nations' specialized agency for education and the Education Sector provides global and regional leadership in education, strengthens national education systems and responds to contemporary global challenges through education with a special focus on gender equality and Africa.

United Nations
Educational, Scientific and
Cultural Organization

Education
Sector

The Global Education 2030 Agenda

UNESCO, as the United Nations' specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to ***"ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."*** The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.

Education 2030

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Stay in touch

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5 GENDER EQUALITY
Sustainable Development Goals