

Introduction

Ensuring that everyone has the necessary digital skills to succeed in today's technology-driven world is of global importance. Modern information and communication technologies (ICT) are increasingly central to education and employment. Acquiring skills to leverage these technologies is needed to address many of the global challenges outlined in the 2030 Sustainable Development Agenda.

Digital skills and competencies, and broader education in science, technology, engineering and mathematics (STEM) have already fostered the creativity and innovation that have brought about improvements in many aspects of life, such as health and well-being, infrastructure, sustainable energy production, agriculture and other sectors. Digital technologies have also demonstrated their potential to be a powerful catalyst for the political, economic and social empowerment of women and girls and the promotion of gender equality. They can be an important driver for information and exchange and can make female voices heard. They can enhance women's participation in public decision-making, and can provide access to financing, networks and cooperation.

Despite its potential, women are heavily underrepresented in the digital world, particularly in rural settings where access, cost, and other socio-cultural factors limit girls' and women's ability to engage with new technologies. This gap was investigated at the [62nd Commission on the Status of Women \(CSW\)](#), where countries convened at UN Headquarters to review progress and accelerate actions to close the gender digital divide, among other inequalities.

UNESCO and the German Federal Ministry of Economic Cooperation and Development (BMZ) co-organised the side event '**Cracking the code: Empowering rural women and girls through digital skills**' on 14 March 2018, United Nations Headquarters in New York, on the margins of the 62nd session of the CSW. More than 500 participants participated in the event while a broad global audience followed the discussions through live webcast.

This report provides an overview of the discussions and examples of government, civil society organizations, and private sector initiatives to close the gender digital gap and empower rural girls and women to be ICT users, creators and innovators through gender-responsive digital skills training as well as science, technology, engineering and mathematics (STEM) education more broadly.

Objectives

- Build understanding of the status of the gender digital divide in rural women's and girls' access to and use of computers and the internet
- Advance knowledge and understanding of the factors that contribute to girls' and women's digital skills and competencies acquisition, engagement and pursuit of ICT-related studies and careers
- Showcase comprehensive examples undertaken by governments, civil society organizations, and the private sector to 'crack the code', and to empower rural girls and women to be ICT users, creators and innovators through gender-responsive STEM education and skills training
- Consult with stakeholders on principles that urge for gender-responsive digital skills trainings

Summary of discussions

The starting point for the event was the findings of the groundbreaking UNESCO [Cracking the Code](#) report and UNESCO [International Symposium and Policy Forum](#) on girls' and women's education in STEM, and the outcomes of the [#eSkills4Girls initiative](#) established under Germany's presidency of the G20. Key experts from government, private sector and civil society shared their experience in a panel discussion of facilitating access to, and empowering girls and women through, digital technologies in different settings around the globe. Testimonials from women were also presented through video presentations.

Through online polling on-site and on social media, participants shared insights on key barriers to girls' and women's connectivity, and the most critical actions to take to ensure gender-transformative digital skills and training. Inputs and ideas included to: bring technology and resources to community through mobile learning projects; to reinforce basic literacy while expanding digital skills; to draw on peer networks and groups of young women to expand interest and build capacity; to pair well-resourced schools with lower-resourced schools; and to better document the social returns on investments in investing in girls' and women's digital skills.

These inputs not only enriched the discussions, but provided a platform to launch a consultative process initiated by UNESCO and BMZ, as co-leads of the [EQUALS](#) Skills Coalition, to establish Principles for quality and gender-transformative digital training.

Representing UNESCO's Director-General, Ms Saniye Gülser Corat, Director of the Gender Equality Division, gave the opening remarks, highlighting the multiple and complex factors behind the digital

"Together we can crack the code, to ensure women and girls, including those in rural settings, have equal opportunities to contribute to and benefit from a more inclusive, equitable and sustainable world."

-Saniye Gülser Corat, Director, Gender Equality Division, UNESCO

gender divide, including socio-economic and cultural factors that hinder girls' education, and signalling that providing more opportunities for girls and women in the digital economy will necessitate multiple actions at all levels and collaboration among various partners.

During the panel discussion, examples of areas of interventions from different parts of the world were presented (political commitment, financial investments, advocacy, capacity building), digital skills (e.g. coding, programming), examples of successful strategies to engage girls (e.g. role modelling, building confidence and leadership skills,) as well as changes needed in the education systems (e.g. learning contents that are free of gender stereotypes, curricula promoting digital skills) while acknowledging the important role of parents in providing access to equal opportunities to acquire and practice digital skills for their children.

Representatives from Germany and Ghana demonstrated the fundamental role governments can play in bridging the gender digital divide:

- **Germany:** Mr Roland Lindenthal, Head of the Unit Education and the Digital World at the Federal Ministry for Economic Cooperation and Development, Germany ([BMZ](#)) shared Germany's commitment to close the gender digital divide through political commitment, financial investments, technical support and advocacy. For example, Germany is making financial investments to ensure there are more projects that promote digital skills for girls, especially in Africa, and supports grassroots innovation; during Germany's presidency of the G20, the #eSkills4Girls initiative was endorsed and the statement 'Transforming the future of women and girls in the digital economy', was included in the G20 Leader's Declaration, defining common

goals to facilitate education, employment and entrepreneurship opportunities for women and girls in the digital economy, in particular in low income and developing countries; Germany is also co-chairing with UNESCO the EQUALS Skills Coalition within the framework of the EQUALS partnership, supporting the development of core principles for digital skills training and inclusion.

Speaking on the critical role of education, Mr Roland stressed the importance of exposing children to digital skills early in life, at pre-school level, to promote interest and self-confidence; integrating digital skills in curricula and ensuring that teachers are gender-sensitive and able to teach digital skills; and, promoting digital skills through non-formal education, advocacy, networking and engaging female role models.

- **Ghana:** Mr Appenteng, Chair of the Ghana National Media Commission, representing Hon. Ursula Owusu-Ekufu, Minister of Communications, relayed Ghana's vision for an inclusive society, leaving no one behind, and the country's efforts to achieve the Sustainable Development Goals (SDGs). Mr Appenteng stressed the importance of holistic approaches and shared powerful initiatives implemented in Ghana, which include firm political commitment, financial investments, policy changes and programmatic action. For example, policies are adopted to ensure girls are ICT literate and creating an enabling learning environment for girls; financial investments are made, especially in rural areas, particularly targeting women; advocacy and awareness raising events are organized and opportunities are provided for girls to learn and practice digital skills, such as the Girls' Can Code initiative, STEM centres of excellence, celebrating Girls in ICT Day annually, and others.

Examples of civil society organizations initiatives were presented from different geographical regions, from the Barefoot College in India, Pro Mujer in Bolivia and Asikana Network in Zambia.

- [The Barefoot College](#) was established in 1972 in India and is now active in 83 countries worldwide. Ms Lauren Remedios, Global Monitoring and Evaluation Director at the Barefoot College, presented two initiatives, the *Digital Night Schools* and the *Solar Engineers Training Programme*:
 - Solar Engineers:** more than 900 illiterate or semi-literate mothers and grandmothers from least developed countries have been trained as Women Barefoot Solar Engineers (WBSE). These women are trained to create, install, repair, and maintain solar home lighting systems and learn to fabricate products such as solar cookers and water heaters. Training takes place through practical engagement, using hand-signals, colours, and drawings to overcome the linguistic barrier. Emphasis is placed on 'learning by doing' and 'hands-on' demonstrations and experience. WBSE play a key role in sustaining and replicating solar technology in their rural communities, changing the perception of what is a 'professional' for rural villages and challenging both age and gender barriers. WBSE are trained to train and carry the ability to scale their knowledge within their communities.
 - Digital Night Schools:** powered by solar energy, night schools enable rural children, especially girls, who cannot attend formal day schools, to access learning opportunities. The curriculum at the night schools is based on traditional and practical knowledge. Teachers are local professionals such as farmers, police officers, carpenters or artisans. In 2017, 25 night schools became digitalized and were equipped with solar digital learning tools (e.g. Edu-box solar projector, tablets and offline content); a locally customizable curriculum with a pro-girl rural STEAM learning approach was developed; a teachers' training module was developed which seeks to demystify technology and encourages teachers to use relevant, local knowledge.
- [Asikana Network](#) is a local NGO in Zambia, established by three girls in 2013, during a free mobile app training. Ms Chisenga Muyoya, one of the founders, explained that the Asikana Network was established to address the barriers girls face in accessing digital skills and to increase their

participation in technology. It provides free training in ICT skills, exposure to emerging technologies, mentorship, networking and career progression opportunities for girls in high school, in college and young professionals. It started out as a network for solidarity and then provided training on coding skills, mobile app development, and assisting girls in poor urban settings to prepare for ICT careers. It has expanded to rural areas to enhance girls' exposure to digital skills and improve their self-confidence and is now collaborating with women and girls in South African and Zimbabwe through exchange visits. Trained girls become role models and mentors to help challenge stereotypes but also address issues such as child marriage by inspiring other girls to pursue ICT careers.

- [ProMujer](#) is a leading women's organization in Latin America. Founded in Bolivia in 1990 with the aim of empowering women to become agents of change, it has now reached out to more than 260,000 women in Argentina, Bolivia, Mexico, Nicaragua and Peru and will soon be expanded to Guatemala. Ms Jessica Olivan, Director of Strategic Partnerships, highlighted that the success of the programme is based on an integrated approach, combining access to financial and health care services with financial education, business skills and entrepreneurship training programmes to help low-income women and their families to achieve economic independence and self-sufficiency. This approach enables positive changes, from income generation to self-confidence and more equal relationships among women and men. Women discover their capabilities and realize their function as examples and role models for their children, especially their daughters.

Examples about the role of the private sector were presented by SAP Social Sabbatical Portfolio, Global Corporate Social Responsibility (CSR).

- [SAP Social Sabbatical Portfolio/Global Corporate Social Responsibility \(CSR\)](#) is a global company aiming to equip youth with skills they need to thrive in the digital economy. Mr Hemang Desai, Global Programme Director, emphasized the need for holistic approaches, the role of the private sector to attract, train, retain females in ICT careers and the need to scale up impact:

Attract: strategies to help attract more girls in ICT careers include integrating digital skills in curricula, raising awareness about the importance of ICT (e.g. in health), role models and quotas in employing female professionals. SAP's initiative, "Women in leadership", aims to ensure that by 2022, 30% of the company leaders are women. By 2017, 25% of the company's leaders were women, who also act as role models and inspire other female employees.

Train: SAP's key training programmes include the organization of coding workshops for girls, in partnership with BMZ and Africa Code Week, through which 538,000 girls were trained in 2017. SAP employees train as trainers local organizations, social enterprises, governments and teachers to enable them to facilitate workshops in their local communities. In 2017 follow up workshops were organized in 35 countries across Africa, including during the Africa Code Week.

Retain: women tend to abandon ICT careers due to various challenges. Role models can help girls stay in ICT careers through mentoring and coaching. SAP's 'Business Women's Network' is an initiative that helps women share professional insight and support one another in their careers.

Scale: SAP's 'Social Sabbatical Programme' enables employees to engage or work pro-bono with non-profits in emerging markets. For example, SAP executive staff spent two weeks in Ghana working to build the strategic business plan for the Soronko Academy – a coding school for girls.

Outcomes and conclusions

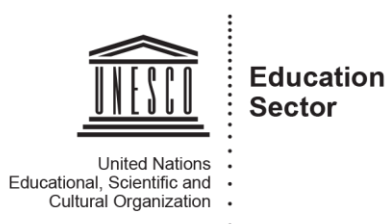
The side event concluded with a call to action to close the gender digital divide and enhance girls' and women's access to and empowerment through digital skills. To do so, recognition was made of the need for efforts across a range of settings, reaching learners in their early years with a lifelong learning perspective. Learning can happen in formal education contexts, as well as through non-formal approaches, and through self-learning opportunities available online. Panellists also addressed the spectrum of digital skills, from basic digital literacy, to digital content creation, digital safety, as well as foundational skills like problem-solving, communication and cooperation. Interventions that take particular steps to build girls' self-efficacy and self-confidence were felt to be critical, as data shows that girls' confidence levels are lower than boys even in contexts where they are outperforming them in computer science. Opportunities for exposure and hands-on practice, role models and mentors can also break some of the stereotypes about girls in ICT and STEM, and provide important information on pathways related careers. Investments, political commitment and will are also obvious ingredients for success, and need to be accompanied by systems-related changes in the education sector to ensure gender-transformative pedagogy, learning materials free from bias, and learning environments that treat all children as equals. Holistic approaches are needed, engaging a wide range of stakeholders and establish partnerships at all levels, creating a web of support and empowerment for girls and women to make the most of digital transformations happening and those to come.

UNESCO and BMZ, as co-organizers and co-leads for the EQUALS Skills Coalition, vowed to bring the inputs and conclusions from the side event into the broader EQUALS Partnership. By promoting awareness, building political commitment, leveraging resources and knowledge, harnessing the capacities of partners, and supporting action, EQUALS seeks to achieve digital gender equality and through this, to improve the livelihoods of millions around the world.



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.



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.



More information



[Event webpage](#)

[Live video of the event](#)



stem4girls@unesco.org



[@UNESCO](https://twitter.com/UNESCO)



[UNESCO](https://www.facebook.com/unesco)

[**#GirlsCrackTheCode**](#)

[**#EQUALSinTech**](#)

[**#eSkills4Girls**](#)

