UN Women

Expert Group Meeting

'Innovation and technological change, and education in the digital age for achieving gender equality and the empowerment of all women and girls'

10-13 October 2022

Education in the Digital Age for Women and Girls:

Recommendations from the Transforming Education Summit (TES)

Observer paper prepared by:

United Nations Educational, Scientific and Cultural Organization (UNESCO)[1]

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[1] The views expressed in this paper are those of the author and do not necessarily represent those of the United Nations.

Introduction: What is at stake?

We are at an inflection point in human history. As summarized in the vision report 'Our Common Agenda', humanity faces a stark and urgent choice between 'breakdown' and 'breakthrough'. The choices we make – or fail to make – today will be critical to achieving a better, more peaceful and more sustainable future for people and the planet.

The urgency and need for breakthroughs – particularly as they concern sustainability – hinge on education. It is the ultimate investment in the future and an engine of sustainable change, what can power a turn from 'breakdown' to 'breakthrough'.

Education is also a fundamental human right and an unparalleled source of personal dignity and empowerment as well as a driving force for the advancement of social, economic, political and cultural development. Yet today, beset by deep structural flaws, inequalities and struggling to adjust to the needs of the 21st century, education requires renewal across the dimensions of equity and inclusion as well as quality and relevance. Too often education systems today are failing to fulfill the rights and needs of learners. Often slow and unseen, education problems cast dangerous ripples. They often carry a devastating impact on the futures of children, youth and adults.

The Transformation of Education Summit (TES), convened at the high-level segment of the 67th session of the UN General Assembly in New York in September 2022, is the first of a series of high-level summits emerging from Our Common Agenda, to build towards a new social contract. This contract should be anchored in human rights and prioritize investments in present and future generations to meet the challenges of today and tomorrow. At the TES, world leaders from over 130 countries and key representatives of the international education community convened for this once-in-a-generation opportunity to take decisive action to reboot education systems and to equip all learners with the knowledge, skills and values needed to thrive in a rapidly changing world, marked by increasing complexity, uncertainty and precarity.

The central promise of Sustainable Development Goal 4 – ensure inclusive and equitable quality education and promote lifelong learning opportunities for all – requires a rethinking of the purpose, content and delivery modalities of education in the 21st century. It demands more equitable and effective financing for education, including stepped up investments in teachers. It also requires paying increased attention to the most marginalized and left behind learners.

Ambition and evidence: the role of technology in transforming education

In our digitalized societies, delivering on SDG 4 entails a constructive and critical reflection on how to harness the digital revolution and technology in an optimal fashion.

The TES examined with a dedicated Action Track on 'Digital learning[2] and transformation' how technology can play a role as part of a larger systemic effort to transform education and lifelong learning, making it more equitable, inclusive, effective, relevant and sustainable.

Technology alone cannot achieve these goals, but it can be a catalytic component of education reforms that will prepare young people and adults to lead necessary changes.

Digital technology does not exist in a vacuum – it has enormous potential for positive change but can also reinforce and magnify existing fault lines of social injustice and exclusion, and worsen inequalities, as the COVID-19 pandemic made all too apparent.[3] If harnessed properly thought, the digital revolution could provide powerful tools for assuring quality education for all and transforming the way teachers teach and students learn. Technology can – and must – help advance our aspirations for inclusive education based on principles of social and economic justice, gender equality, and respect for human rights and the digital commons.

When considering technology and its relationship to education, it is critical that stakeholders are guided by the question, "How can technology help all children – girls and boys, youth, men and women adult learners, caregivers, teachers, and education system leaders in their efforts to access and provide high quality learning opportunities?", rather than the narrower question "How can we use technology?" The former question avoids technocentric approaches that rarely facilitate sustained educational improvement.

Challenges to education for women and girls in the digital age

Over the past 20 years, huge strides have been made in girls' and women's education. Today, almost as many girls as boys can access learning and complete their studies – globally, the gap between genders in enrolment and attendance is now less than 1% at all three levels of education.[4] Girls outperform boys in reading in primary education, and in in science in secondary school in middle- and high-income countries. The gender gap that once worked against girls at the start of the millennium in mathematics has narrowed or equalized with boys in half of all countries with available data.[5]

While these gains deserve to be celebrated, we remain far from achieving full equality in education. Global figures mask stark regional inequalities, and identity, background and

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[2] The term "digital learning" refers to the use of technologies – including hardware, software, and digital resources – that are either designed or appropriated for educational purposes.

[3] UNESCO. 2022 (forthcoming). An Ed-Tech Tragedy.

[4] UNESCO. 2022. Global Education Monitoring Report – Gender Report: Deepening the debate on those still left behind. Paris, UNESCO

[5] UNESCO. 2022. Leave No Child Behind: Global report on boys' disengagement from education. Paris, UNESCO.

ability dictate educational opportunity, with gender, location, poverty, disability, ethnicity, religion, language, displacement, sexual orientation, gender identity and expression and legal status intersecting and compounding disadvantage. Sub-Saharan Africa is the region furthest from parity at the expense of girls, with no progress since 2011 at the lower secondary level and since 2014 in upper secondary.

Extreme exclusion of women and girls still characterizes some countries, and significant pockets of exclusion remain in others. In Afghanistan, where girls have now been banned again from secondary schools, there had been rapid progress in completion rates. For example, girls' primary completion increased from 8% in 2000 to 56% in 2020, although the gender gap remained at 20 percentage points. In some provinces, such as Uruzgan, just 1% of girls completed primary education in 2015. A 20% gender gap in access to upper secondary education is also observed in sub-Saharan African countries, including Chad and Guinea.[6] The most marginalized learners face several layers of discrimination: In at least 20 countries, largely in sub-Saharan Africa, few poor rural young girls complete secondary school,[7] and only 11% of the poorest girls in crisis-affected countries do so.[8]

Among adults, women are still more likely to be illiterate than men. The gender gap in adult literacy is 7%, compared with 2% among youth. In rural areas, women are even further behind. In sub-Saharan Africa, more than one in four young women are illiterate.[9]

Where do these gender inequalities lead us with regard to **digital learning**? The global move toward online learning and other forms of educational technology[10] during the COVID-19 pandemic-related school closures is likely to have further widened educational inequalities. While it is too early to assess the full impact of COVID-19 on gender equality in education, it is clear that gendered expectations on time use, early pregnancy risk and access to devices affected boys and girls differently in some countries. At the peak of the pandemic in 2020, school closures had an impact on nearly 1.6 billion learners in over 190 countries, leading to the largest global education disruption in history, with learning losses likely to last decades and affect generations to come. By 2021, 11 million girls were estimated to never return to schools, adding to the staggering 130 million girls who were already out of school before the pandemic hit, and the disproportionately high number of women illiterate adults. Growing backlash against gender equality and women's and girls' rights is further reversing hard-won progress. These alarming

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[6] UNESCO. 2022. Global Education Monitoring Report – Gender Report: Deepening the debate on those still left behind. Paris, UNESCO

[7] UNESCO. 2020. Global Education Monitoring Report 2020: Inclusion and education. Paris, UNESCO.

[8] Inter-agency Network for Education in Emergencies (INEE). 2021. Mind the Gap: The state of girls' education in crisis and conflict. New York, INEE. Note: This data refer to completion at "graduation age" (p. 15). See also Internal Displacement Monitoring Centre for data on internally displaced populations' access to education.

[9] UNESCO. 2022. Global Education Monitoring Report – Gender Report: Deepening the debate on those still left behind. Paris, UNESCO

[10] At one point in the pandemic, 134 of the 149 countries surveyed were using high-tech modalities, such as online platforms or portals that require digital access, to assure continuity of learning during school closures, see UNESCO, UNICEF and the World Bank. 2020. Survey on National Education Responses to COVID-19 School Closures. First Round of Data Collection. UNESCO Institute for Statistics

numbers not only threaten the right to education of millions of women and girls worldwide, with drastic negative effects for societies in the long-term, it also puts girls at even greater risk of adolescent pregnancy, early and forced marriage, and violence, demonstrating again that for many women and girls, education is more than a key to a better future, it is a lifeline. While this reality does not concern the use of technologies alone, it is part of a learning system and environment against which the role of technology and digital learning must be arbitrated.

Gender roles and expectations that determine how girls and boys must use their time during school closures also played a decisive role in whether girls were able to participate in, and benefit from, remote and largely digital learning strategies.[11] Household demands on girls increased, as reported in studies in Bangladesh, Ecuador, Niger, Sierra Leone and other low- and middle-income countries and contexts.[12] Persistent gender inequality and the inaccessibility of remote learning for many girls and women with disabilities may also have widened learning gaps, with the potential for "a setback for a whole generation."[13]

Parental concerns about girls' safety online, and the prioritization of limited resources for boys in some contexts contribute to unequal access to digital tools for girls.[14] One study conducted in 2021 found that, in countries with data, girls aged 15 to 19 were less likely than boys to have used the internet in the past 12 months, and they also had lower mobile phone ownership. The greatest disparities were in South Asian countries.[15] In research in three districts in Pakistan, for example, 44% of girls, compared to 93% of boys, reported owning a mobile phone. Girls who didn't reported relying typically on their fathers' devices, when available.[16]

[11] UNESCO. 2021. When Schools Shut: Gendered impacts of COVID-19 school closures. Paris, UNESCO.

[12] As documented in: Asanov, I., Flores, F., McKenzie, D., Mensmann, M. and Schulte, M. 2020. Remote-learning, time-use, and mental health of Ecuadorian high-school students during the COVID-19 quarantine, *World Development*, Vol. 138, 105225. Baird, S., Seager, J., Sabarwal, S., Guglielmi S., and Sultan M. 2020. Adolescence in the time of COVID-19: Evidence from Bangladesh. Policy Brief, November 2020. Gender and Adolescence: Global Evidence; South Asia Gender Innovation Lab. Washington, D.C., World Bank.; Banati, P., Jones, N. and Youssef, S. 2020. Intersecting vulnerabilities: The impacts of Covid-19 on the psychoemotional lives of young people in low- and middle-income countries, *The European Journal of Development Research*, Vol 32, pp. 1613–1638. Ford, K. and Singh, R. 2021. Supporting vulnerable girls and young women in India: Evidence from the Listening to Young Lives at Work COVID-19 Phone Survey. Policy Brief 47. Oxford, Young Lives, Oxford Department of International Development (ODID).; Jones, N., et al. 2021. 'Some got married, others don't want to attend school as they are involved in income-generation': Adolescent experiences following Covid-19 lockdowns in low- and middle-income countries. London, Gender and Adolescence: Global Evidence.; Makino, M., Shonchoy, A. S. and Wahhaj, Z. 2021. Early effects of the COVID-19 lockdown on children in rural Bangladesh, *Studies in Economics*, Vol. 2102, School of Economics, University of Kent. Malala Fund. 2020a. Girls' education and COVID-19 in Ethiopia. Summary Report. London, Malala Fund.; Malala Fund. 2020b. Girls' education and COVID-19 in Nigeria. Summary Report. London, Malala Fund. Malala Fund. 2020c. Girls' education and COVID-19 in Pakistan. Summary Report. London, Malala Fund. Sierra Leone Ministry of Basic and Senior Secondary Education. 2021. Back to School Study. Mixed methods technical report. Freetown, Sierra Leone Ministry of Basic and Senior Secondary Education.

[13] UNFPA and Women Enabled International 2021. The impact of COVID-19 on women and girls with disabilities. New York, UNFPA and Women Enabled International.

[14] Plan International. 2018. Digital Empowerment of Girls. Woking, Plan International.

[15] Tyers-Chowdhury, A. and Binder, G. 2021. What We Know about the Gender Digital Divide for Girls. UNICEF Gender and Innovation. Evidence Briefs – Insights into the Gender Digital Divide for Girls. New York, UNICEF.

[16] UNESCO. 2021. When Schools Shut: Gendered impacts of COVID-19 school closures. Paris, UNESCO.

There is also a gender gap in digital skills, which appears to be widening in developing contexts.[17] As digital skills and competencies have moved from "optional to essential"[18], this is especially relevant and consequential. Against this backdrop, education systems are trying to ensure equitable, inclusive and high-quality digital skills education and training. These efforts carry special urgency because digital skills open pathways to further learning and skills development. Indeed, today it would be difficult to name two more powerful engines for lifelong learning than knowing how to read and write, and how to harness the power of digital technology and navigate the internet. Nevertheless, the record on digital skills education is worrisome, as women and girls are being left behind. Globally, digital skills gender gaps are growing – despite at least a decade of national and international efforts to close them.[19] Among 10 low- and middle-income countries with detailed data, women are less likely to have used a basic arithmetic formula in a spreadsheet in the 7 poorest countries, while parity exists in the 3 richest countries.[20]

Negative effects are compounded by not enough women entering into information, communication and technology (ICT) fields of studies. While women make up the majority of students in higher education, they are the minority in ICT and broader science, technology, engineering and mathematics (STEM) fields. Only 28% of engineering and 40% of computer science graduates are women.[21] Women are also not pursuing careers in ICT, despite the fact that girls are doing at least as well as boys in mathematics and science in the majority of countries. Only 22% of professionals working in the field of AI are women[22] – a factor that certainly contributes to the pervasiveness of harmful gender bias and misogynistic stereotypes in popular AI applications such as voice assistants.[23]

Without dramatically upscaled efforts to close the gendered barriers to digital access, skills and careers for girls and women, it will be impossible to harness the potential of the digital revolution to close access gaps to education and advance gender equality.

<u>**Recommendations on the way forward**</u>

As a first step in this direction, the TES has issued calls to action to galvanize political will, investment and action at every level. Along the axes of advancing gender equality and girls' and women's empowerment in and through education, and to assuring and

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[17] UNESCO, EQUAL Skills Coalition. 2019. I'd blush if I could: closing gender divides in digital skills through education. Paris, UNESCO.

[18] Ibid.

[19] Ibid.

[20] UNESCO. 2020. Global Education Monitoring Report – Gender Report: A new generation: 25 years of efforts for gender equality in education. Paris, UNESCO.

[21] UNESCO. 2021. UNESCO Science Report: The race against time for smarter development. Paris, UNESCO.

[22] Ibid.

[23] See UNESCO, EQUAL Skills Coalition. 2019. I'd blush if I could: closing gender divides in digital skills through education. Paris, UNESCO, for an in-depth examination of these stereotypes.

improving quality public digital learning for all, this political imperative entails the following recommendations:

We must harness the power of the digital revolution to ensure quality education is provided as a public good and a human right, with a particular focus on the most marginalized, including women and girls. This has been affirmed by the UN Secretary General's Our Common Agenda, the UN Secretary-General's Roadmap for Digital Cooperation, the Sustainable Development Agenda, the Transforming Education Summit process, the Global RewirEd Declaration on Connectivity for Education, and the International Commission on the Futures of Education. It will seek to inform key emerging key processes such as the UN Global Digital Compact.

We must marshal the strengths of digital technology to advance our national and international aspirations for education and lifelong learning. Such action will help catalyze beneficial transformations to various aspects of education, including pedagogy, curriculum, assessment, social caring and the organization of learning, both in and outside of formal educational institutions. It will further help improve student learning outcomes, thereby better ensuring that all those who access education, whether girls, boys, youth, or adults, acquire foundational literacy skills, develop knowledge and competencies relevant to their lives and livelihoods, and contribute to more sustainable futures.

Confronting this challenge requires unlocking the three 'keys' of digital learning: connectivity, capacities, and content.

For the **connectivity** key, we need universal access to broadband connectivity for teachers, students, schools, and other educational environments. Too often, technology benefits already privileged learners and educators first (and sometimes exclusively). Only later do strategies emerge to make them more inclusive and accessible to those who are economically, socially, or legally disadvantaged. Such approaches reflect and widen educational inequity. We must therefore recalibrate our policies, actions, and investments to center learners most in need of opportunities. This will help bridge inequalities, spark needed innovation, and make solutions easier to 'scale out' to more privileged groups. Asking how approaches can work for girls and women, refugees, for learners with disabilities, for teachers in remote areas, and for other disadvantaged learners and educators needs to be a point of departure.

For the **capacity** key, we must assure universal digital literacy for education and other empowering purposes, with particular attention to preparing and supporting teachers to use technology effectively. At their best, digital spaces can foster new and effective pedagogies that increase educational equity, expand knowledge and skills, nurture creativity, and foster responsible digital citizenship. Efforts should be made to ensure that the digital transformation of education pursues these aims and proactively avoids the potential of technology to restrict and limit information and intellectual freedom,

through censorship and excessive surveillance, for example. Digital learning must open rather than close learning possibilities and help students understand how to use connected technologies in productive and healthy ways. Too much effort is expended trying to replicate models of in-person schooling in digital spaces. Online and virtual environments demand new types of learning content and new pedagogies. Innovation is needed to develop and test new digital and hybrid pedagogies that are less reliant on the proprietary and closed systems of many private sector digital providers. This requires platforms and tools designed to support rather than replace teachers, and integration of technology and technology-enabled pedagogies in pre- and in-service teacher training. Capacity development is needed to enable evidence-based approaches to effective digital learning which will provide benefits well beyond academic outcomes. Across the world a lack of digital skills ranks among the most commonly cited barriers to using the internet for education and other purposes, often eclipsing even barriers of cost. One in three people lack even the most basic digital skills, and even for those who have digital skills, very little training is available to teachers to enhance their pedagogical practices for using technology effectively. Moreover, gender gaps in digital skills remain unacceptably high. Women and girls are 25 per cent less likely than men to know how to leverage digital technology for basic purposes.

As to the **content** key, and for learning outcomes to improve at scale, including for the most marginalized, content must be freely available, easy to access and use, and, when feasible, aligned with formal curriculum. It should also be available in many languages, adaptable, and contextually relevant. To this end, the promotion and use of open educational resources can be especially powerful. Technology is valuable for educational purposes to the extent that it opens doors to high-quality educational content and interactions that facilitate learning and development. In the context of education, meaningful digital learning should catalyze human-centered learning experiences. Age-appropriate, gender sensitive and transformative and high-quality digital learning programmes should be made accessible for all and, ideally, under open licenses to encourage sharing and reuse. High-quality digital learning content will incentivize students, teachers, caregivers, and educational institutions to establish and maintain portals to digital learning and help bridge formal and non-formal learning. In this context, Gateways to Public Digital Learning, the new multi-partner initiative to create and strengthen inclusive digital learning platforms and content, led by UNESCO and UNICEF, holds special promise. It is an initiative and global movement to ensure that there are public spaces for public education on internet. All countries should support public education in digital environments and prioritize the development of excellent quality public digital learning platforms accessible to boys and girls, and men and women.

This means in particular:[24]

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[24] Please refer to the TES Calls for Action for a full list of recommended action areas.

- ✓ Put gender equality at the heart of education sector plans, budgets and policies. Identify gender disparities and their underlying factors from the early years and beyond, and scale up budgets, strategies and commitments that eliminate harmful gender norms in pedagogy, build the institutional and human capacity of education sector staff, focus on the most marginalized, and support learning.
- ✓ Close the digital divide and develop digital solutions that ensure the full and equal participation of **all** learners. Harness the potential of technologies for inclusion and avoid over-reliance on single technology solutions, closing gaps in digital access, knowledge, digital skills and leadership.
- ✓ Harness the potential for education technology to tackle and prevent online bullying, gender-based violence and harmful gender norms, and to build students' and teachers' attitudes, behaviours and skills to support justice, inclusion, health and gender equality.
- ✓ Build the capacities of teachers, counsellors and the whole school community to offer transformative education and career orientation to deconstruct stereotypes and redress gender and other gaps in digital literacy and participation in STEM.
- ✓ Invest in robust research on education technology, assessing impact, cost-effectiveness and equity implications before committing resources to scaling up interventions.