



United Nations
Educational, Scientific and
Cultural Organization



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ICT for Development
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Guidance Note 3

Digital technologies and girls' education

From the Report: Education for the
most marginalised post-COVID-19:
Guidance for governments on the use
of digital technologies in education

ACT THREE (OF THREE): GUIDANCE NOTES

Date November 2020

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Guidance Note: Digital technologies and girls' education¹

Context

There has long been growing concern about the imbalances between men and women's access to digital technologies, and their engagement in the tech sector at all levels. However, progress is being made in innovative ways to use digital technologies to reduce these inequalities. There have thus been numerous local initiatives to help girls learn to code, as well as increasing global attention to redress the trend towards increasing gender digital inequalities.² Some recent evidence also suggests that providing access to technology can also have a disproportionately positive impact on empowering girls relative to boys.³ To date, though, such initiatives have not yet made a fundamental change to the gender inequalities that exist in many countries surrounding women and technology.⁴ In large part this is because they are an expression of far deeper social and cultural structures, and unless these are changed the increasing use of digital technologies — as accelerators — will serve to increase rather than reduce such inequalities.

This Guidance Note therefore encourages governments to adopt a three-pronged approach: first to focus specifically on ways through which digital technologies can themselves serve to include rather than exclude girls and women in education; second, to ensure that digital skills are taught throughout the education system in a gender sensitive way; and then to address the wider issues surrounding the involvement of women in the tech sector. All are important, and require fundamental changes in men's attitudes and behaviours. They also, though, need a systemic approach that builds upon all of the basic recommendations elsewhere in this Report and its other *Guidance Notes*, not least with respect to connectivity, safety, informed access, and affordability of devices.

Digital technologies have very significant potential to include girls in education, even in contexts where they are frequently excluded. For example, even in isolated areas where women and girls are prevented from travelling to educational establishments, radio/TV education programmes can be provided to help girls (and their mothers) learn appropriate knowledge and skills. Where internet access is available, many greater online learning opportunities are possible, not only for girls but also for older women who may never have had opportunities to learn at school. To maximise the potential for girls to learn through digital technologies it is essential to understanding their specific learning needs, and design learning approaches and content that are appropriate.

1 Lead authors Alicja Pawluczuk, Juliette Unwin, Paul Spiesberger, and Tim Unwin.

2 See for example: EQUALS, <https://www.equals.org/>; Girls Who Code, <https://girlswhocode.com/>; AnitaB.org, <https://anitab.org/>; Laboratoria, <https://www.laboratoria.la/>; eSkills4Girls, <https://www.eskills4girls.org/>; and pro mujer, <https://promujer.org/>.

3 Webb, D., Barringer, K., Torrance, R. and Mitchell, J. (2020) *Rapid evidence review: girls' education and EdTech*, EdTech Hub, <https://edtechhub.org/wp-content/uploads/2020/07/RER-girls-education-3.pdf>.

4 See for example, ITU (2019) *ITU report on global gender digital connectivity finds gender digital gap is growing*, <http://digitalinclusionnewslog.itu.int/2019/11/05/itu-report-on-global-digital-connectivity-finds-gender-digital-gap-is-growing/>.

Numerous examples are now available of ways through which governments can both encourage systemic change and also provide specific interventions that will enable women who wish so to study science, technology, engineering and mathematics (STEM) subjects at all levels in the education system and to gain careers in digital technology.⁵ There are many reasons why this is desirable, not least because of the skills and expertise that they can bring to these male dominated disciplines and industries.⁶ Governments should also lead by example, employing women at all levels in their administrations, particularly in the fields of science and technology.

Guidance

The guidance below focuses on the most important first steps that governments can take specifically to reduce gender digital inequalities in learning through digital technologies, and also to encourage the wider engagement of women in the science and technology sectors:

1. Governments should ensure that girls have as equal access to digital technologies (both devices and content) as do boys throughout the education system.
2. Governments should ensure that there is appropriate legislation, enforcement and guidance to help protect girls and women from all forms of abuse, bullying and harassment through digital technologies. Clear guidance should also be provided in locally relevant languages and images for girls about the safe use of digital technologies.
3. Governments should focus explicitly on culturally specific ways through which they can empower girls to become informed and proactive agents of future social and technological change.
4. Governments should ensure that they collect gender disaggregated data with respect to digital technologies, so that they can accurately monitor changes in gender digital inequality.
5. Governments should ensure that they put in place effective initiatives to change men's attitudes towards women and digital technologies; emphasis should not be placed simply on providing programmes to support girls and women in technology.

5 See for example, Mashable (2016) *These STEM initiative are inspiring women and girls around the globe*, <https://mashable.com/2016/01/22/women-in-stem-global/?europe=true>; McCullum, K. (2014) *15 innovative initiatives bringing women into STEM*, <https://www.worldwidelearn.com/education-articles/15-innovative-initiatives-bringing-women-into-stem.html>.

6 Wisnioski, M. et al. (2019) *Confronting the absence of women in technology innovation*, in *Does America need more innovators?*, MITP, 2019, pp.323–343, <https://ieeexplore.ieee.org/document/8675811>.

6. Governments should encourage **education to be seen as a collective and networked experience**, in which learners, parents, guardians, educators and facilitators all have important roles to play, and all of whom require appropriate digital access and skills training (see also [Guidance Note on partnerships](#)).
7. **Be careful and selective in choosing the most relevant and appropriate digital 'solutions' for girls.** There are very many organisations offering digital 'solutions' for girls' education, and great care is needed in selecting those that are most relevant and appropriate for girls and women in your own context.
8. **Examples of successful women should be used appropriately in all educational content.** Women scientists, for example, should be shown as often as men scientists in textbooks and online content.

Examples

The following provide good examples of specific things that can be done to include girls in learning more broadly as well as acquiring relevant digital skills:

- BMZ (2019) *Women in tech: Inspiration, no fairy tales*, Berlin: Federal Ministry for Economic Cooperation and Development (BMZ).
- Education Development Trust (2020) *Wasichana Wote Wafaulu: GEC Kenya*, <https://www.educationdevelopmenttrust.com/our-research-and-insights/case-studies/wasichana-wetu-wafaulu-gec-kenya>.
- eSkills4Girls, <https://www.eskills4girls.org/tech-needs-girls-programme-for-sustainable-economic-development/>.
- Girls' Education Challenge: project profiles, <https://reliefweb.int/sites/reliefweb.int/files/resources/GEC-Project-Profile-booklet-March2015.pdf>.
- TEQtogether, <https://teqtogether.org>, guidance notes to change men's attitudes and behaviours.

Suggested further reading

- Al-Ghaib, O. A., Andrae, K., and Gondwe, R. (2017) Still left behind: Pathways to inclusive education for girls with disabilities. *Leonard Cheshire Disability*. http://www.ungei.org/Still_Left_Behind_Full_Report.PDF.
- Global Partnership for Education (2017) *Guidance for developing gender-responsive education sector plans*, <https://www.globalpartnership.org/sites/default/files/2018-02-gpe-guidance-gender-responsive-esp.pdf>.
- Naylor, R., Gorgen, K., Gaible, E. and Proctor, J. (2020) *Overview of emerging country-level response to providing educational continuity under COVID-19. What are the lessons learned from supporting education for marginalised girls that could be relevant for EdTech responses to COVID-19 in lower- and middle-income countries?* <https://edtechhub.org/wp-content/uploads/2020/05/marginalised-girls.pdf>.
- OECD (2018) *Bridging the digital gender divide: Include, upskill, innovate*, Paris: OECD.
- Sey, A. and Hafkin, N. (Eds.) (2019) *Taking stock: Data and evidence on gender equality in digital access, skills, and leadership*, Macau and Geneva: UNU and ITU, for EQUALS.

- Sperling, G. and Winthrop, R. (2015) *What works in girls' education: Evidence for the world's best investment*, Washington: Brookings Institution. <https://www.brookings.edu/wp-content/uploads/2016/07/What-Works-in-Girls-Educationlowres.pdf>.
- Thakkar, D., Sambasivan, N., Yardi, P., Sudarshan, P and Toyama, K. (2018) The unexpected entry and exodus of women in computing and HCI in India, *CHI 2018: Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, Paper No. 352, 1–12. <https://doi.org/10.1145/3173574.3173926>.
- UNESCO (2017) *Cracking the code: Girls' and weomn's education in science, technology, engineering and mathematics (STEM)*, Paris: UNESCO, <https://unesdoc.unesco.org/ark:/48223/pf0000253479>.
- Webb, D., Barringer, K., Torrance, R., and Mitchell, J. (2020) *Rapid evidence review: Girls' education and EdTech*, <https://edtechhub.org/wp-content/uploads/2020/07/RER-girls-education-1.pdf>.



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