Report

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?

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May 2020

Part of our EdTech and coronavirus (COVID-19) series: edtechhub.org/coronavirus

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Funded by UKaid from the British people

Executive summary

Scope of study

- This report provides a rapid evidence summary of the impact of school closures on marginalised girls and presents strategies which involve elements of education technology to mitigate these negative impacts.
- In considering the broader evidence on what works in supporting marginalised girls' education, this report focuses on those that could be facilitated, through use of education technology, to support continuation of girls' learning in a context of school closures and to support their return to school once they reopen.
- Given that the most marginalised girls have very little access to education technology, and that this access will be further limited by school closures, this report includes strategies that require some face-to-face contact (for example, home visits, girls' club meetings), that can be facilitated or monitored using technology.
- Evidence on how education technology solutions can support learning among marginalised groups (including children with disabilities, special educational needs, and populations affected by conflict and crisis) during the Covid-19 pandemic is covered in other papers in this series (see #3 and #4). This paper therefore focuses in particular at addressing the gendered barriers to learning experienced by girls.

Key themes

School closures in response to the Covid-19 pandemic threaten the education of millions of girls. Without urgent action, gains made in girls' education over recent decades could be reversed.

Strategies shown to be effective for the education of marginalised girls can be adapted to the Covid-19 pandemic context using appropriate technology. These include:

- mobile cash transfers;
- providing girls with devices, connections and data as part of a distance education package;
- media campaigns supporting return to school and promoting the economic returns to education for girls.

Gender considerations need to be included in the design and production of content for distance education courses which use technology. Strategies likely to be effective at increasing learning for girls include:

- ensuring a good representation of females among presenters and producers of content;
- supporting group learning, high-engagement learning, real-world learning and project-based learning;
- ensuring girls have access to safe spaces (virtual or physical) where they can interact and learn together.

There is a clear need for life skills and Sexual and Reproductive Health and Rights (SRHR) education. While there is a limited body of evidence indicating that such programmes can reduce the risk of early pregnancy, there is strong evidence of the protective effect of formal academic education.

Safeguarding considerations need to be considered, specifically regarding the increased risks of abuse in responses to the emergency (for example, in lockdowns) and the increased risks of online abuse associated with providing girls with internet access for educational purposes.

Education responses to the Covid-19 crisis should seek to leverage local networks and volunteers and coordinate with other sectors to deliver learning and protection support to marginalised girls at the household and local community levels.

Gendered barriers limiting access to education technology need to be identified and addressed, alongside infrastructure, hardware and cost-related barriers.

Education technology can offer solutions for collecting timely, disaggregated data to identify the most vulnerable girls and monitor their learning, yet few interventions involving ICTs are currently utilising this potential.

Evidence and policy

Evidence from past crises demonstrate that emergencies exacerbate existing gender inequalities and put adolescent girls – especially the most marginalised – at increased risk of falling further behind in their education, of early and forced marriages, and of early pregnancy, making it less likely that they will return to schools once they reopen[1]. This is for several reasons:

- School closures increase the burden of household chores and childcare, leaving girls less time available to study.[2]
- School closures limit girls' access to social and nutritional support, further impacting on their wellbeing and capacity to learn.[3]
- Child marriage and transactional sex may be adopted in attempts to deal with the economic shocks caused by emergencies.[4]
- Girls in emergencies are at increased risk of gender-based violence (GBV). There is evidence that Covid-19 has led to a sharp rise in such violence.[5]
- Emergencies limit girls' access to Sexual and Reproductive Health and Rights (SRHR) information and services, which can further contribute to an increase in adolescent pregnancy. In the most disrupted areas in Sierra Leone during the Ebola crisis, adolescent pregnancy increased by up to 65%.[6]

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[1] Albrectsen, A. & Giannini, S. (2020). *Covid-19 school closures around the world will hit girls hardest.* Plan International and UNESCO. Blog post. 31st March 2020. [Online]. Accessed at: https://en.unesco.org/news/covid-19-school-closures-around-world-will-hit-girls-hardest; Plan International (2019). *Left Out Left Behind: adolescent girls' secondary education in crisis.* Plan International UK; London. [Online]. Accessed at: https://www.planinternational.nl/uploaded/2019/06/Left-out-Left-behind-report.pdf?x65987. Salem 2018

[2] UNESCO (2020) *Covid-19 education response webinar: addressing the gender dimension of COVID-related school closures.* Synthesis report. 3rd April 2020. [Online]. Accessed at: https://apa.sdg4education2030.org/sites/apa.sdg4education2030.org/files/2020-04/UNESCO%20COVID-19%20webinar-Addressing%20the%20gender%20dimensions%20of%20school%20closures.pdf

[3] UNICEF (2020). *Five Actions for Gender Equality in the COVID-19 Response.* UNICEF technical note. https://www.unicef.org/media/66306/file/Five%20Actions%20for%20Gender%20Equality%20in%20the%20COVID-19%20Response:%20UNICEF%20Technical%20Note.pdf

[4] O'Donnell, M., Akmal, M., Hares, S. (2020). *A New Survey on the Risks of School Closures for Girls. Centre for Global Development.* Blog Post. [Online]. Accessed at: https://www.cgdev.org/blog/new-survey-risks-school-closures-girls. Also Plan International (2013). *State of the World's girls report 2013: in double jeopardy: girls and disasters.* London: Plan International. [Online]. Accessed at: https://plan-international.org/publications/girls-learning-investigating-classroom-practices-promote-girls-learning; Salem, H., (2018). *The Transitions Adolescent Girls Face: Education in Conflict-Affected Settings.* Literature Review. REAL Centre, University of Cambridge. https://doi.org/10.5281/zenodo.1247332

[5] Care and International Rescue Committee (2020). *Global Rapid Gender Analysis For COVID-19*. [Online]. Accessed at: https://inee.org/system/files/resources/globalrgacovidrdm33120final.pdf

[6] Albrectsen, A. & Giannini, S. (2020).

Early childbearing and marriage are common causes of school dropout[7], with social norms, stigma, and government and school policies all acting as barriers to pregnant girls, young mothers and young brides attending school. Following the Ebola crisis, the Sierra Leone government excluded visibly pregnant girls from school[8], a ban that has only recently been revoked[9]. The most disrupted areas of Sierra Leone (which, as we have seen, witnessed an increase in adolescent pregnancies) saw a 16% decrease in girls' enrolment once schools reopened[10]. Without urgent action to support and protect marginalised girls in the current pandemic, similar decreases in girls' access to education could be seen globally, prematurely ending the education of millions of girls[11].

Strategies shown to be effective for the education of marginalised girls can be adapted to the Covid-19 pandemic context using appropriate technology.

Such strategies can be used in a variety of ways, to mitigate the impact of different elements of the crisis on girls' learning.

1. Addressing economic shocks and the costs of education

Cash transfers have been shown to be an effective means of increasing girls' participation in education and can be delivered through mobile phones[12]. Whilst it should be noted that cash transfers do not appear to be a cost-effective way to improve learning outcomes of girls in school[13], there is a reasonable body of evidence from lower- and middle-income countries that cash transfers can reduce early pregnancies[14]. Cash transfers can mitigate the negative

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[7] Sperling, G. & Winthrop, R. (2015). *What works in girls' education: evidence for the world's best investment.* Washington: Brookings Institution. [Online]. Accessed at: https://www.brookings.edu/wp-content/uploads/2016/07/What-Works-in-Girls-Educationlowres.pdf

[8] Bruce, J. (2016). *The difficulties of 'living while girl'*. Journal of virus eradication, 2(3), 177. [Online]. Accessed at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4967971/

[9] British Broadcasting Corporation (BBC) (2020). *Sierra Leone overturns ban on pregnant schoolgirls.* BBC news article, 30th March 2020 https://www.bbc.co.uk/news/world-africa-52098230

[10] Bandiera, O, Buehren, N., Goldstein, M., Rasul, I. & Samurra, A. (2019). *The Economic Lives of Young Women in the Time of Ebola: Lessons from an Empowerment Program. World bank policy working paper 8760.* Washington DC: World Bank.

[11] Fry, L., & Lei, P. (2020). *Girls' education and COVID-19: What past shocks can teach us about mitigating the impact of pandemics.* Malala Fund. [Online]. Accessed at: https://downloads.ctfassets.net/0oan5gk9rgbh/6TMYLYAcUpjhQpXLDgmdIa/dd1c2ad08886723cbad85283d479de09/GirlsEducationandCOVID19_MalalaFund_04022020.pdf

[12] Sperling & Winthrop (2015).

[13] Snilstveit, B., Stevenson, J., Phillips, D., Vojtkova, M., Gallagher, E., Schmidt, T., Jobse, H., Geelen, M., Pastorello, M., and Eyers, J. (2015). *Interventions for improving learning outcomes and access to education in low- and middle- income countries: a systematic review*. 3ie Systematic Review 24. London: International Initiative for Impact Evaluation (3ie).

[14] McQueston, K., Rachel Silverman,R., Glassman, A. (2012). *Adolescent Fertility in Low- and Middle-Income Countries: Effects and Solutions.* CGD Working Paper 295. Washington, D.C.: Center for Global Development.

impacts of the economic shock of the pandemic for girls in lower-income households, which can include increased reliance on income from transactional sex and child marriage[15]. However, there have been limited rigorous studies of the impact of cash transfers during emergencies on protecting girls. A systematic review of the impact of cash transfers in humanitarian contexts found only one related impact evaluation. This study, from Ecuador, found that cash transfers significantly reduced the risk of GBV[16]. The review also concluded that in humanitarian contexts, mobile transfers may be more effective than physical cash transfers.

A review of interventions aimed at reducing pregnancy rates in lower- and middle-income countries[17] found that interventions providing material incentives to support school attendance (specifically conditional cash transfers and provision of free uniforms) consistently resulted in a significant reduction in the likelihood of early marriage and, in most cases, to a reduction in early pregnancy rates. The protective effect of the cash transfers on girls in these studies appears to have been realised through school attendance. In the context of school closures, their protective effect may be more limited, and may need to be delivered alongside interventions providing safe spaces for girls during the crisis (see below).

Reducing the direct cost of accessing education is one of the most effective ways to increase marginalised girls' participation in education[18]. During school closures, the direct costs of distance education that need to be considered include the costs of devices, access to quality educational software and content, electricity costs and data costs. It should be noted that the evidence strongly indicates that simply providing hardware alone is unlikely to impact on learning outcomes. Effective education technology interventions in emergency settings that provide hardware and data mostly do so as part of a package of digital services and other support linked to a clear programme of learning, and for productive learner engagement with technology, there needs to be scaffolding provided by a teacher or other adult to structure, guide and motivate the learners.[19]

2. Gender considerations in the design and production of content for distance education courses

With distance education becoming essential to education delivery during school closures, distance education programme designers and content providers should consider ways to include pedagogical approaches that have been proven to improve girls' learning in particular.

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[15] O'Donnell et al. (2020).

[16] Doocy, S. and Tappis, H. (2016). *Cash based approaches in humanitarian emergencies: a systematic review.* 3ie Systematic Review Report 28. London: International Initiative for Impact Evaluation (3ie)

[17] McQueston et al. (2012).

[18] Sperling & Winthrop (2015).

[19] Tauson, M. & Stannard, L. (2018). *EdTech for Learning in Emergencies and Displaced Settings. A Rigorous Review and Narrative.* Synthesis Save the Children UK; London. [Online]. Accessed at: https://resourcecentre.savethechildren.net/node/13238/pdf/edtech-learning.pdf

These include group learning, high-engagement learning, real-world learning and project-based learning[20]. Distance education content also needs to be gender-sensitive, promoting female role models and avoiding the use of gender stereotypes.

The presence of female teachers in schools has been linked to higher enrolment, retention and learning of girls[21]. Statistical studies from a wide range of contexts demonstrate a correlation between teachers of the same gender as their students and improved learning outcomes[22].

As new distance educational content and resources are generated for both the internet and mass media, funders and producers need to consider how to ensure that females, as well as other disadvantaged groups, are well represented among the generators and presenters of educational content.[23]

There are a number of distance education programmes that have successfully provided access to basic and secondary education for marginalised girls using a mixture of printed media, online content and television, in combination with tutorials and workshops[24]. However, it should be noted that successful approaches generally include the provision of study centres and in-person facilitation by a teacher or trained community facilitator.

Gender also needs to be considered in the design of assessments. There is evidence that multiple-choice format assessments and assessments requiring memorisation of unambiguous facts and quick answers in timed examinations tend to favour boys, whilst girls tend to perform better on assessment based on coursework and open-ended questions[25]. These differences may partly explain while girls in some contexts perform as well as – or better – than boys in low-stakes learning assessments, but perform worse than boys in high-stakes tests such national examinations. If Covid-19-related school closures remain in place long enough to necessitate summative evaluations of student learning conducted at a distance, differences in how girls and boys respond to different assessment types must be

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[20] Abbott, G., Benvenue, L., Damain, S., Kramarae, C., Jepkemboi, G., and Strawn, C. (2007.) Gender equity in the use of educational technology. In S. Klein, et al. (Eds). *Handbook for achieving gender equity through education* (2nd ed., pp. 191-212). New York, United States: Taylor & Francis.; Postles, C., Moore, K., Reilly, A., Naylor, R. (2013). *Girls' Learning: Investigating the classroom practice that promote girls' learning.* Plan International UK; London.

[21] Lloyd, C.B., and Young, J. (2009). *New Lessons: The Power of Educating Adolescent Girls—A Girls Count Report on Adolescent Girls.* New York: Population Council.

[22] Postles et al. (2013).

[23] USAID (2020). *Delivering Distance Learning in Emergencies: A Review of Evidence and Best Practice.* [Online]. Available at: https://www.edu-links.org/sites/default/files/media/file/DELIVERING%20DISTANCE%20LEARNING%20IN%20EMERGENCIES.pdf

[24] Banerjee, A., Glewwe, P., Powers, S. and Wasserman, M., (2013). *Expanding Access and Increasing Student Learning in Post-Primary Education in Developing Countries: A Review of the Evidence.* Abdul Latif Jameel Poverty Action Lab (J-PAL). https://www.povertyactionlab.org/sites/default/files/publications/PPE%20Review%20Paper%20April%202013.pdf

[25] Postles et al. (2013).

taken into account. Whilst multiple choice and closed questions are relatively easy to administer at scale from a distance, and can be marked automatically, using them as the sole form of assessment may disadvantage.

There is strong evidence that group learning and learning outside of the classroom (for example, in girls' clubs) have a positive impact on girls' empowerment[26] and help girls to develop greater aspirations and commitment to study[27]. Providing opportunities for girls to learn and discuss their challenges together in a safe space is likely to support their academic learning. The section below discusses how such safe spaces can be facilitated in the context of lockdowns, focusing particularly on safe spaces for SRHR education. These safe spaces can also be used to provide broader social support and spaces for academic learning in groups for girls.

3. Life skills and Sexual and Reproductive Health and Rights (SRHR) education.

Multiple evaluations have shown evidence that life skills interventions for adolescent girls in emergencies[28], along with sexual and reproductive health distance education programmes[29] tend to have significant positive outcomes in terms of knowledge and attitudinal changes. But the evidence regarding the impact on rates of adolescent pregnancy and child marriage is much more limited, as very few studies have collected reliable data on this. There are a small number of studies demonstrating evidence that such programmes can have a direct impact on reducing adolescent pregnancy rates[30].

A review of mobile phone programs for adolescent sexual and reproductive health in low-to-middle income countries found that use of mobile technologies, particularly SMS messaging, was an attractive and efficient way to connect users to SRHR information and services, particularly in more conservative societies[31]. However, it found that the reach of mobile SRHR programmes among younger adolescents (aged below 15) was more limited, partly due to their limited access to mobile phones. The review also noted that maintaining security and confidentiality of user information and data remained a challenge for many programmes.

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[26] Unterhalter, E., North, A., Arnot, M., Lloyd, C., Moletsane, L., Murphy-Graham, E., Parkes,J., Saito, M. (2014). *Interventions to enhance girls' education and gender equality. Education Rigorous Literature Review.* Department for International Development

[27] Marcus, R. and Page, E. (2016). *An Evidence Review of School Environments, Pedagogy, Girls' Learning and Future Wellbeing Outcomes*. Available from: www.ungei.org

[28] Rafaeli, T. (2020a). *The link between girls' life skills intervention in emergencies and their return to education post-crisis and prevention of unwanted pregnancies and early marriage.* K4D Helpdesk Report 520. Brighton, UK: Institute of Development Studies

[29] Rafaeli, T. (2020b). *Girl focused life skills interventions at a distance.* K4D Helpdesk Report 520. Brighton, UK: Institute of Development Studies.

[30] Rafaeli, T. (2020a).

[31] Ippoliti, N. B., & L'Engle, K. (2017) Meet us on the phone: mobile phone programs for adolescent sexual and reproductive health in low-to-middle income countries. Reproductive health, 14(1), 11

Evidence and best practice in distance education approaches to life skills for girls suggest that programmes should take an integrated approach, incorporating both media and non-media elements. Interventions that include a number of communication components achieve stronger impacts. Effective programmes generally involve creating a space for interaction, reflection and dialogue, which engage both girls and their gatekeepers[32]. For girls with access to mobile technology in their homes, this can be facilitated through social media platforms and creating virtual safe spaces for girls during lockdowns. However, in many contexts, marginalised girls will still need to meet physically with other girls and facilitators/teachers for these interactions to take place. Existing programmes supporting safe spaces for girls now need to consider how these can be adapted to reduce the risk of infection in the context of the pandemic.

Under normal circumstances, participation in formal education tends to be a more powerful predictor of reduction in underage pregnancy than participation in SRHR programmes. While the provision of SRHR education for girls during school closures is important, it should be acknowledged that the evidence of any additional impact of school-based SRHR education programmes in reducing early pregnancy, over and above the impact of participating in formal education, is very limited. A Cochrane review of six trials of school-based interventions found that there was no apparent effect on the number of pregnancies, but two incentive-based programmes promoting school attendance did lead to significant reductions in pregnancy rates[33]. These findings indicate that SRHR education programmes should not replace formal education programmes (albeit at a distance) during school closures.

While it is not possible to fully replicate the protective effect of formal school-based education during the Covid-19 crisis, efforts to ensure that marginalised girls are able to fully participate in formal education – alongside communications around these programmes, enabling continuation of their formal education and attainment of qualifications – may confer some of the protective effects of schooling.

4. Safeguarding

Two important considerations regarding child protection and safeguarding arise in the context of technology and the protection of marginalised girls during Covid-19. Firstly, as mentioned above, girls face increased risks of GBV, abuse and exploitation in an emergency context. It is already very difficult to provide adequate support for marginalised girls who fall victim of abuse and violence[34], and this is likely to become more difficult in cases of physical and social

[32] Rafaeli, T. (2020b).

[33] Mason-Jones, AJ., Sinclair, D, Mathews, C., Kagee, A., Hillman, A., Lombard, C. (2016). *School-based interventions for preventing HIV, sexually transmitted infections, and pregnancy in adolescents.* Cochrane Database of Systematic Reviews 2016, Issue 11. Art. No.: CD006417. DOI: 10.1002/14651858.CD006417.pub3.

[34] UNGEI & NRC. (2016, November). *Addressing school-related gender-based violence is critical for safe learning environments in refugee contexts* (briefing paper). Retrieved from http://www.ungei.org/srgbv/files/Refugee_Brief_Final.pdf

isolation[35]. However, technology can be used as a crucial means for victims to report abuse and to seek support, even when this is no longer possible in-person. Phone messages can also be used for safeguarding, either for targeted, bi-directional communication or, in a kind of broadcast function, for example, with mass text messages that provide girls with information and pathways to support[36].

Secondly, through increased moves to remote and online education, girls are at risk of a new range of abuses, such as cyber-bullying or online sexual abuse[37]. To mitigate the risks girls are exposed to online, it is crucial that supervising adults, such as parents or teachers, are made aware of safeguarding issues and that protocols for the protection of children are put in place. The Minimum Standards for Child Protection in Humanitarian Action (also called Child Protection Minimum Standards) sets out a complex, multi-modal approach to protect vulnerable children, requiring a broad coalition of actors.[38]

5. Approaches supporting girls' return to school once schools reopen.

As the Covid-19 pandemic will lead to extended absences from school and increase the financial pressure on households, returning to school after the end of quarantine and social distancing measures might be difficult for many girls[39]. Furthermore, young girls who have been married or became pregnant during the crisis are unlikely to return to education[40]. Technological platforms can be an effective way to launch back-to-school campaigns for girls. Radio and TV campaigns can ensure they have a broad reach, reaching a wide audience, including girls who do not have access to the internet[41]. Past back-to-school campaigns in Ivory Coast, Somalia and Afghanistan have successfully used radio and TV broadcasting

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[35] Office of the Special Representative of the Secretary-General on Violence against Children (2014). *Releasing children's potential and minimizing risks ICTs, the Internet and violence against children.* [Online]. Available at: https://violenceagainstchildren.un.org/sites/violenceagainstchildren.un.org/files/documents/publications/6._releasing_childrens_potential_and_minimizing_risks_icts_fa_low_res.pdf

[36] Cornish-Spencer, D. (2020). *Girls' Education Challenge. Keeping in contact with girls COVID-19 Communication and Safeguarding Guidance. Social Development Direct, on behalf of the Girls' Education Challenge.* [Online]. Accessed at: https://dfid-gec-api.s3.amazonaws.com/production/assets/36/GEC_Keeping_in_Contact_with_Girls_-_COVID-19_guidance.pdf

[37] INEE (2020). _Gender and Education during COVID-19._ Webinar 4th May 2020.; Broadband Commission (2019). *Child Online Safety: Minimizing the Risk of Violence, Abuse and Exploitation Online.* Final Report. Broadband Commission. [Online]. Accessed at: https://broadbandcommission.org/Documents/working-groups/ChildOnlineSafety_Report.pdf

[38] Alliance for Child Protection in Humanitarian Action (2019). Minimum Standards for Child Protection in Humanitarian Action. [Online]. Accessed at: https://emergency.unhcr.org/entry/80339/minimum-standards-for-child-protection-in-humanitarian-action

[39] INEE (2020). *Gender and Education during COVID-19*. Webinar 4th May 2020. Accessed at: https://inee.org/resources/gender-and-education-during-covid-19

[40] Bruce (2016).

[41] UNICEF (2013). *Back to School Guide – Evidence-Based Strategies to Resume Education in Emergencies and Post-Crisis Transition.* [Online]. Accessed at: https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF_Back_To_School_Guide_2013.pdf

services to increase the enrolment and return of girls to school after crises. However, such campaigns also included household, community and policy meetings and, in the case of Somalia, were combined with targeted messaging for hard-to-reach groups, such as teenage mothers and nomadic populations[42]. It is also crucial to consider how the education system can be tailored to the needs of vulnerable girls, who face the difficult task of balancing their domestic responsibilities and their education. Flexible schooling options, such as independent study programmes or evening programmes, can make it easier for young mothers and working girls to continue their education after the Covid-19 pandemic[43].

It should be noted that strategies supporting girls return to school should include policies to reduce the direct costs of schooling (including uniforms, registration and examination fees)[44], as well as policies to ensure that pregnant girls and young mothers are able to attend school. These strategies are not covered in detail in this paper, as there is relatively limited application to education technology, but back-to-school campaigns are unlikely to be effective in re-enrolling the most marginalised girls where school fees and bans on pregnant girls' attending school are in place. A study on the Girl-Child campaign in Zambia and its effect on retention and return of girls and young mothers to schools found that a public awareness campaign, which included technological solutions such as radio and TV messaging, increased the retention and return of girls to school. However, the study also points out that this success would not have been possible if a concurrent policy change had not made it possible for young mothers to return to school[45].

Education responses to the Covid-19 crisis should seek to leverage local networks and volunteers and coordinate with other sectors to deliver learning and protection support to marginalised girls at the household and local community levels.

As discussed above, for effective learner engagement with technology, some form of scaffolding (provided by a teacher or other adult) is necessary. Depending on learners' access to communications technology, this supervision and support can be provided through internet and social media, phone calls, home visits or group sessions in local safe spaces. Policy makers need to think through who is best placed to provide this support for different groups of learners in different local contexts. Ideally, it should be teachers, working together with parents, providing this support, as this would best enable continuity of learning. However, where teachers live far away from learners, local volunteers or professionals from other sectors may need be relied upon to provide face-to-face support (i.e. home visits or in

[42] Ibid, p 54

[43] INEE (2020).

[44] O'Donnell et al. (2020).

[45] Nkosha, C., Luchembe, M. & Nsama Chakufyali, P. (2013). *Girl-Child Education Campaigns and Enrolment/Retention in Zambian Basic Schools: Impact Analysis.* Journal of International Cooperation in Education, 15(3). pp.113-133. [Online}. Accessed at: https://home.hiroshima-u.ac.jp/cice/wp-content/uploads/publications/15-3/15-3-07.pdf

local learning groups), and to provide scaffolding (both directly, and working with parents). Evidence from the Ebola crisis in West Africa indicates that local networks can be effective in supporting the rights of marginalised girls and that locally successful interventions can be adapted to the pandemic context[46]. Local women's groups, youth rights networks and parent-teacher associations, together with the non-governmental organisations that already support these groups at the local level, are key resources which could be leveraged for this role. Teachers and other adults providing such support need training, and also require mobile phones and/or phone credit to ensure that they can make calls without incurring costs. Where possible, training, supervision and monitoring could be conducted using smartphones.

A wide range of informal and alternative basic education programmes have demonstrated that local facilitators are effective in delivering foundational literacy and numeracy skills for marginalised girls, when they are equipped with structured pedagogical materials, ongoing training and regular supervision[47]. Equipping local facilitators with smartphones would enable them to be trained and supervised at a distance to facilitate learning in small local groups. Facilitators with smartphones and zero-rated mobile-broadband could also communicate "upstream" about learners' progress, about local barriers and other issues. This approach would require less hardware than approaches that rely on the girls themselves having direct access to education technology.

Reaching the most marginalised girls will, in many contexts, require household visits. A coordinated approach across health, education and child protection services can limit the number of different professionals and volunteers that need to visit. In a DFID-funded project in Kenya, for example, Community Health Volunteers, equipped with smart phones, have been mobilised to distribute printed learning materials, inform girls and parents about the scheduling and frequencies of education radio broadcasts, and to monitor girls' wellbeing and learning. The volunteers also pass on health safety messages. Contact is being maintained through home visits, as well as SMS messaging and phone calls to ensure the safeguarding of girls. The project has noted that many marginalised girls from urban areas have migrated back to rural areas during the crisis and mobile phone contact has been an important means of providing safeguarding[48].

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[46] Hallgarten, J. (2020). *Evidence to mitigate the negative impacts of past disease outbreaks.* K4D Helpdesk Report 793, Reading, UK: Education Development Trust

[47] Sperling & Winthrop (2015).

[48] Education Development Trust (2020). *Covid 19 response plan for Wasichana Wote Wafaulu (Girls Education Challenge transition project in Kenya)*. [Online]. Accessed at: https://www.educationdevelopmenttrust.com/our-research-and-insights/case-studies/wasichana-wetu-wafaulu-gec-kenya also see Education Development Trust (forthcoming) Supporting the most vulnerable girls to access learning. How Community Health Volunteer roles adapted during COVID-19 school closures in Kenya.' Reading, UK: Education Development Trust

Gendered barriers limiting access to education technology need to be identified and addressed, alongside infrastructure, hardware and cost-related barriers.

Education technology interventions for education delivery can work equally well for both boys and girls, provided the gendered barriers to access are addressed[49]. In some cases, education technology interventions have demonstrated greater benefits for the learners who are furthest behind and have reduced gender learning gaps[50]. There is also evidence that of those that have access to the technology hardware, uptake and utilisation of education technology is often higher among females. For example, of those that used the Worldreader mobile learning resources, females read almost three times as much as males[51]. However, in lower-income countries, there is a large gender digital divide, with girls having significantly less access to mobile phones[52], the internet[53], radio and television[54]. For example, in the least developed countries, only 14% of females used the internet in 2019, compared to 24% of males (and 48% of females globally), a gender gap that has been growing in recent years.

Many of the barriers to accessing education technology are the same for marginalised girls and boys alike. These include infrastructure barriers (limited network coverage, lack of electricity etc), lack of ICT hardware in the household, and the cost of data. Low levels of literacy, including ICT and media literacy, and lack of fluency in the language of the educational content further limit access, so already disadvantaged learners – who are most often marginalised girls – may fall further behind.

Outside of the home, girls may have more limited access to shared community internet and media facilities (libraries, study centres, shared televisions etc.) than their male counterparts, due to concerns for their safety and security. They are also at greater risk of online abuse[55]. Girls therefore need safe spaces where they can access education technology together safely.

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[49] Tauson & Stannard (2018).

[50] Pitchford, N.J., Chigeda, A. & Hubber, P.J. (2019). *Interactive apps prevent gender discrepancies in early-grade mathematics in a low-income country in Sub-Sahara Africa*. Developmental Science, 22(5), e12864. DOI: 10.1111/desc.12864; Muralidharan, K., Singh, A. & Ganimian, A.J. (2019). *Disrupting education? Experimental evidence on technology-aided instruction in India.* American Economic Review, 109(4), 1426–60

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Gendered household attitudes and behaviours can limit girls' access to technologies such as radios, television and phones, even when these are available in the home. Marginalised girls often bear a disproportionate burden of household chores and caring responsibilities, so have limited time for listening, watching or reading educational material. Strong oversight and restrictions on girls' access by various gatekeepers can further limit their access[56]. In households where computers are available, parents are more likely to encourage boys to use them than girls[57]. Scheduling of broadcasts should take into account girls' workloads, and female preferences. Evidence around gendered patterns of radio usage indicate that women prefer to listen in the evening and prefer listening to women's voices[58].

Providing information about employment returns to education for females has been shown to impact positively on adolescent girls' participation in school.[59] Interventions aimed at raising parents' awareness of the distance education resources available and of the benefits that girls' access to education technology could bring, could increase girls' access to distance learning opportunities in the home[60]. The channels used to deliver distance education (radio, television, smartphones and mass SMS messaging) can also be used to deliver wider campaigns around the importance of girls' education in general, and of the importance of enabling girls to engage with distance education resources during school closures.

Education technology can offer solutions for collecting timely disaggregated data to identify the most vulnerable girls and monitor their learning, yet few interventions involving ICTs are currently utilising this potential.

UNICEF and others have highlighted the need for data disaggregated by sex, age, disability status and other potential markers of marginalisation. The pandemic renders such data essential for identifying marginalised girls – including those marginalised as a result of the pandemic – and for understanding the reach and effectiveness of remote education initiatives. Education technology has great potential to generate real-time data on the utilisation of resources and learning among different groups, which can be used to identify which learners are falling behind. Lower-cost data-focused initiatives, such as the SMS-based EduTrac system in Uganda, could be customised and deployed swiftly to help capture

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[56] Sugg (2014).

[57] USAID (2020). *Delivering Distance Learning in Emergencies: A Review of Evidence and Best Practice.* [Online]. Available at: https://www.edu-links.org/sites/default/files/media/file/DELIVERING%20DISTANCE%20LEARNING%20IN%20EMERGENCIES.pdf

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[59] Bannerjee et al. (2013); Unterhalter et al. (2014)

[60] Sugg (2014); Girl Effect and Vodafone Foundation (2018).

disaggregated data[61]. Meanwhile, digitalised personalised learning software, such as Mindspark, can diagnose and treat gender gaps in learning[62].

However, despite the potential for generating rich and detailed data, evidence of the effectiveness of education technology at improving the education of marginalised girls is limited. A review of education technology in emergencies noted that very few published studies differentiated outcomes by gender, disability status, or other markers of marginalisation[63]. A review of over a thousand education technology interventions found that only 11% were evaluated externally[64].

[61] See https://www.rapidsms.org/, a communication platform developed under the leadership of the UNICEF Innovation Unit.

[62] David, P., Pellini, A., Jordan, K., Phillips, T. (2020). Education during the COVID-19 crisis. Opportunities and constraints of using EdTech in low-income countries. Policy Brief. EdTechHub, Digital Pathways at Oxford and Blavatnik School of Government. [Online]. Available at: https://www.bsg.ox.ac.uk/sites/default/files/2020-04/Education-during-covid-19-crisis.pdf

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Recommendations for policymakers

1. Protection of marginalised girls is an urgent priority in the current crisis, requiring a rapid and coordinated response from education, health and social protection services.

There is extensive evidence that school attendance has a powerful protective effect on adolescent girls and is strongly linked to reductions in early pregnancy and child marriage. In the context of school closures, policymakers need to consider how the protective functions of schools can be achieved through alternative services. These services need to be provided as a matter of urgency in order to avoid millions of girls dropping out of school. Emergency responses need to directly address the increased risks – for example, through SRHR education and services, phone calls, text messages and home visits from health and social workers – and making channels such as hotlines available, through which girls can seek help. However, policymakers also need to acknowledge the other routes through which schools confer protection on girls. Beyond providing girls with basic knowledge and literacy, numeracy and life skills, schools also provide the main route to gaining qualifications and skills for employment, giving girls and their guardians a strong economic rationale for delaying childbearing and marriage and continuing their education. It is therefore important that education programmes, which allow continuity of learning and are aligned to the national curriculum, are made available to all girls as soon as possible. Education should be viewed an integral part of any emergency protection response for girls.

2. Addressing economic barriers to education is a vital first step in ensuring that girls have access to learning.

Policymakers should consider the use of cash transfers to the poorest households as a mechanism to protect girls and facilitate their access to out-of-school learning opportunities. Where cash transfers were provided on the condition of school attendance, they should be maintained during school closure in order to limit the economic shocks experienced by households and to signal to that girls should be supported to continue to participate in education at home. Policymakers also need to consider how to ensure that access to distance education programmes does not incur additional user costs, for example, by considering the costs of electricity, devices and data. Households – and the girls themselves – need to be made aware of the economic advantages of continuing their education. Awareness-raising programmes on education services available during school closures should make these economic returns to girls' education explicit.

3. Policymakers need to consider how they can provide safe spaces – either virtual or physical – for girls, for protection and learning during school closures.

Schools provide a safe space where girls can learn together and offer each other social support. In the contexts of school closures, policymakers should support the development and use of virtual platforms where girls can interact and learn together, but they should have oversight of these platforms to ensure that they are safe for girls to engage with. In contexts where girls do not have access to social media, physical safe spaces (such as schools, religious buildings or outdoor spaces), should be considered, where girls can meet together at set times in small, local groups. Policymakers need to consider how lockdown regulations may need to be adapted to allow such meetings to take place, whilst limiting the risks of infection.

4. Distance education programmes need to be gender responsive.

The design of distance education programmes, including content, pedagogical style, scheduling, and choice of presenters should be informed by the international evidence of how to effectively support girls' learning. Programmes also need to take gendered barriers to learning at home into consideration. These barriers are likely to be highly contextual. Those working at the national level to design distance education solutions should consult with local women's and adolescent rights groups, as well as with local organisations with experience of delivering home- and community-based education for women and girls, in order to fully understand the gendered barriers and how they can be overcome. The choice of which media to use should also be informed by local context and data on girls' access to different forms of education technology.

5. Education responses need to consider the extent to which marginalised girls are able to access educational technology for quality, interactive education.

Distance education programmes reliant on any form of technology need to ensure that girls either have direct access to the technology or are provided with no-tech alternatives. Options to consider include:

- ensuring that households that already have access to the relevant technology are aware of the learning opportunities available and of the importance of supporting girls' education at home;
- putting relevant education technology in the hands of girls at home;
- giving girls safe access to shared education technology facilities with social distancing and good sanitation;
- equipping local facilitators, through education technology, to facilitate learning for small local groups of girls.

6. Education technology distance learning programmes should integrate some form of direct contact with girls by a teacher, learning facilitator or other adult.

This can be conducted through social media, phone calls, home visits or small local group sessions. Policymakers need to identify which professionals or volunteers are best placed to fulfil such a role. In some cases, it may be teachers, but the use of local volunteers, including members of local women's groups, youth groups and parent-teacher associations, should also be considered. Workers from other sectors who maintain regular contact with girls (such as social workers or community health workers) could serve as intermediaries between girls and their teachers in cases where teachers are unable to maintain direct contact.

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