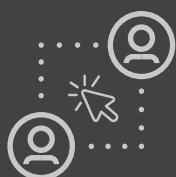


The role of digital education in future shocks: priorities from the Global South

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Key messages



Implement context-sensitive strategies to reduce the rural-urban and gender disparities in digital access and connectivity.



Invest in the development of an operational data management system with sufficient and easily accessible data regarding students and their needs.



Integrate multiple learning modalities in the design of digital education delivery systems, so as to ensure an inclusive digital learning environment.



Establish appropriate indicators of 1) students' engagement in online learning, and 2) quality of instruction, as well as suitable assessment mechanisms.



Develop a digital culture among students that allow them to leverage evolving technologies to face future external shocks.

Would students be able to afford losing school time again because of a new external shock like a climate change crisis or another pandemic? Given current circumstances and without affecting their education gains, the short answer is no. However, in case such extreme measures need to be taken again, the rapid digitalisation of education in the Global South during COVID-19 has taught us lessons we can use in the future. This policy brief outlines critical issues that need to be addressed for online learning to succeed in the face of future external shocks and prevent the loss of education gains, paying special attention to vulnerable populations such as female students.

COVID-19 caused mass disruption to public service delivery worldwide, including the provision of public education. Authorities closed public schools in an attempt to prevent the spread of the virus. The most affected regions in terms of loss of instruction time due to full school closures were Latin America and the Caribbean with an 80% loss, South Asia with 57%, and the Middle East and North Africa with 51% (United Nations Children's Fund [UNICEF], 2021). In response to this external shock, governments accelerated the digitalisation of public education services. While some governments were more prepared than others to face the challenge, the student community as a whole was ill equipped. It is estimated that 94% of total learners across the globe, or 1.6 billion children and youth shifted to distance learning during the pandemic (United Nations [UN], 2020). This shift exposed existing gaps, created new ones and posed challenges for students and teachers alike. It also provided policymakers with the opportunity to begin to prepare better to face future shocks by rethinking education solutions.



Access to digital technologies is not only mediated by material conditions but also by social perceptions and ideas about who should have access to digital spaces and for what purposes.



On the bright side, online education has the potential to reach wider audiences than in-person schooling and to contribute to the universalisation of quality lifelong learning for all. It also offers opportunities for innovation in pedagogies, learning mechanisms, and practices through digital content and tools. The use of online learning certainly sharpens students' digital skills. Asynchronous classes limit students' social interactions but provide them with more flexibility to access online learning resources from anywhere, at any time. Online education also facilitates access to a broader range of applications, topics, and languages and simplifies the exchange of information that can enrich the learning processes.

Despite these advantages, using technology in public education poses complex challenges too. The digital divide became more apparent during

the pandemic. Globally, only a third of children and youth have access to the internet at home (UNICEF, 2021). In the Global South, the situation is worse. Poor infrastructure along with lack of devices, digital skills, and literacy are common challenges for its population.¹ Despite governments' efforts to increase accessibility and to improve users' skills, setbacks in education were unavoidable. The UN estimates that COVID-19 erased 20 years of global education gains, describing the impact as a 'generational catastrophe' (UN, 2020; UNICEF, 2021). Southern Voice's members' reports also indicate that the pandemic has made it less likely that the education targets of the 2030 Agenda, especially for preexisting vulnerable groups, will be achieved. For example, according to UNESCO (2020), in Latin America fewer high school students from the poorest quintiles were graduating and the pandemic has likely worsened the situation. The major lesson of COVID-19 is that we need to be better equipped to deal with external shocks to prevent loss in education.

This policy brief is based on the findings of two studies conducted in India and Peru in 2021 by the Centre for Budget and Governance Accountability (CBGA) and the Instituto de Estudios Peruanos (IEP), respectively. CBGA gathered evidence on the experiences of secondary-level students in Delhi in the transition to online learning, and IEP explored the impacts, opportunities and challenges experienced by tertiary-level students in two public universities in Peru.

■ Lessons from the rapid digitalisation of education

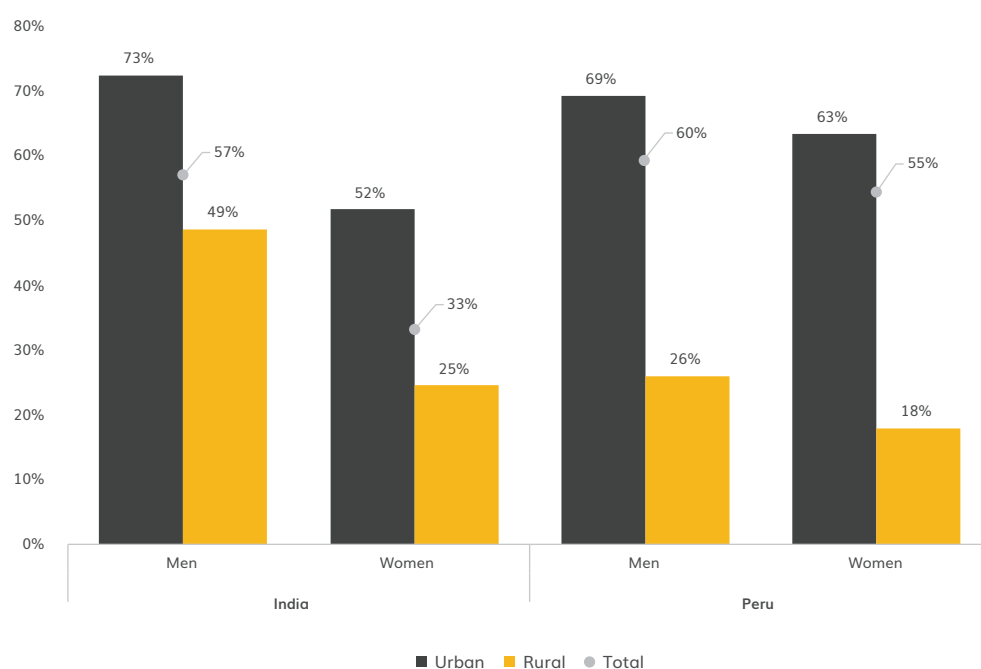
The need to overcome obstacles created by limited accessibility to the internet and unaffordability of devices

Making the most of online education gains requires reliable internet access and electronic devices (Kundu & Ambast, 2022). While a minority of students benefit from a steady connection at home, the vast majority have to find ways to adapt to the lack of it and face the trade-offs adaptation entails. In 2019, before the pandemic, barely half of the world's population (51%) had access to the internet (UN, 2020). In low-income countries, only 6% of the population 25 years old or younger had access to the internet at home (UNICEF, 2021). Two Southern Voice case studies explored the effect of the pandemic on online learning in India and Peru. As Kundu and Ambast note in their study on India, "poor network connections, inadequate data plans, software, and hardware access were common constraints among surveyed students" (2022, p. 27). In Peru, according to the National Institute of Statistics and

¹ For more information and publications visit Southern Voice's COVID-19 Digital Knowledge Hub at <http://southernvoice.org/covid-19-by-sdg/?sdg=248>.

Informatics (2021) cited in (Barrantes et al., 2022) 65% of the population uses the internet, although a closer look indicates a gender gap of five percentage points between men and women. Even those students with access to the internet face challenges. For example, students from the UNAP Iquitos needed to adapt their study time to when the internet connection quality was the best. As a result, they had classes between 4 a.m. and 7 a.m. or after 10.00 p.m. Lack of a stable connection also prevented students from accessing live courses, forcing them to share content and communicate with their peers on email or WhatsApp (Barrantes et al., 2022). While both platforms are easily accessible, they do not make up for a specialised learning one.

■ **Figure 1. Percentage of people using the internet in India and Peru, by gender and area**



Note. Data based from *Peru: Gender gaps*, by INEI, 2021 and *National family health survey*, by the Government of India, 2021.

Studies' findings also show that access to a device is as important as an internet connection when it comes to inclusive digital education. In some cases, the lack of a device demotivates students from attending school (Kundu & Ambast, 2022). According to GSMA (2020), the cost of devices and the lack of digital skills are the two main reasons why people across genders and countries do not own mobile phones. Smartphones seem to be a popular alternative in developing countries, although several family members often share only one device, which often means students will only be able to use the device for a certain number of hours in the late evening or early morning when their parents do not need it (Kundu & Ambast, 2022). This limits the benefits students can get out

of digital resources. Students end up borrowing other family members' phones and studying outside their house. Only 8% of households in India with children and youth² have access to a computer and an internet connection (Ministry of Statistics and Programme Implementation [MOSPI], 2019). In Peru, resourceful students have developed collaborative strategies to manage limited access to a device, including meeting up to attend class or to study altogether.

Both, these studies and others, produced by members of the Southern Voice network³ have also emphasized the essential role that radio and television broadcastings still play in education delivery in hard-to-reach areas (Gathuru & Mweyeri, 2021; Jones et al., 2021). Therefore, in the event of a new external shock, the coexistence of multiple learning modalities is necessary to make possible a more inclusive digital education.

The importance of leaving no student behind

A responsive education system must reach out to its students and meet their needs. However, lack of information about students sometimes has the effect of excluding those already disadvantaged in the digital sphere. In India, establishing communication with students after school closures during the pandemic to inform them about distance and remote learning options was particularly challenging. Even though schools had records of their phone numbers, they could not reach out to all students. Not even door-to-door mobilisation guaranteed that all children returned to class (Kundu & Ambast, 2022).

Similarly, universities in Peru had significant difficulties coordinating responses to the pandemic and reaching the most affected, especially in rural settings. Peruvian key stakeholders emphasised the need for better articulation between public institutions to maintain, access, and manage updated student data (Southern Voice & Institute of Peruvian Studies, 2022). Authorities had the same difficulties in reaching out to students with disabilities (Ramos et al., 2021). Despite governmental efforts to ensure inclusive access to education, these measures were insufficient due to barriers created by the COVID-19 crisis. Facilitating online education in the face of such circumstances requires an operational management system that has sufficient data on students and that can be easily accessed.

² "Children and youth" refers to the population under 25 years old.

³ See SDG 4 under Southern Voice's [COVID-19 Digital Knowledge Hub](#)

Besides economic and geographic barriers, the evidence shows that gender gaps heighten the digital divide. Access to digital technologies is not only mediated by material conditions but also by social perceptions and ideas about who should have access to digital spaces and for what purposes. A roundtable discussion in India⁴ confirmed that cultural expectations regarding how girls' should be using their time at home hindered their access to online education. It was mentioned that girls' use of technology raises concerns among parents, who closely monitor their daughters' use of ICTs, especially in marginalised communities. Uncertainty about who girls are talking to and a general fear on the part of parents about the consequences of using the internet on girls' choices were mentioned as constraining factors limiting access for girls (Southern Voice & Centre for Budget and Governance Accountability, 2022).

Gaps in access to quality education widened during the pandemic with the shift to online and remote learning both in India and Peru. This shift resulted in reductions in enrolment in and attendance of secondary and postsecondary learning institutions (Kundu & Ambast, 2022; Barrantes et al., 2022), which in India in particular negatively impacted recent progress that had been made in gender parity in secondary education. The situation is better in Peru than in India. The gap between men and women who use the internet being 6 percentage points in Peru but 23.8 percentage points in India. Furthermore, gender inequalities can be exacerbated for those studying from home, reinforcing existing gender roles and having a poor effect on girls' and women's quality of learning. All girls participating in the Kundu & Ambast (2022)'s study indicated that the amount of time they spent on care and domestic tasks during the pandemic increased. Women attending tertiary institutions in Peru likewise found themselves devoting more time to domestic and care work during the pandemic, particularly those living in remote areas (Barrantes et al., 2022).

The amount of time spent in domestic, care, and unpaid work was further influenced by household composition and socioeconomic status (Kundu & Ambast, 2022; Barrantes et al., 2022). Girls attending online school spent more time on online education and were more likely to use recorded lessons (Kundu & Ambast, 2022). Not being able to participate in live classes or listen to asynchronous lessons can create difficulties in keeping up with school work and decrease the benefits of online learning. However, it is worth noting that gender desegregation of household chores, including child care, does not always follow the same pattern.

⁴ Participants included policymakers and representatives from research institutions, national education networks, teacher unions, NGOs, and the Directorate of Education.

According to a study conducted in Ethiopia, Bangladesh, and Jordan, more older boys than girls reported increased childcare responsibilities and household chores during the pandemic (Jones et al., 2021). Even though the difference was small, with 86% of boys and 81% of girls reporting increased at-home responsibilities, it shows that this additional burden can go both ways.

Girls and boys experience the digitalisation of education differently. Access to education for boys and girls depends on many factors and varies widely even within the Global South. This is why having gender contextualised information is vital to making the right policy choices. Measures implemented to respond to an external shock need to consider existing and new gender roles and time allocation due to household and economic constraints.

The crucial role of adaptive content, pedagogies, and innovation for online education

Lack of time to adapt to online learning systems was a significant cause of loss in the quality of the content delivered during the pandemic for both students and teachers alike (Kundu & Ambast, 2022; Barrantes et al., 2022).

Emergency responses crafted to ensure the continuity of education during the pandemic in the Global South relied primarily on video conference software and platforms such as YouTube and WhatsApp (Kundu & Ambast, 2022; Barrantes et al., 2022). In both case studies, students reported using WhatsApp as the main tool for interaction and access to materials. Even though WhatsApp can be easily accessed, it does not necessarily offer the best user experience from a pedagogical point of view. Some students could not understand the material and were not able to clarify doubts in real time and thus lost interest in learning (Kundu & Ambast, 2022; Barrantes et al., 2022). Similar findings have been reported in other studies; frustration, anxiety, panic, and a wish to drop out of school have been documented (UNICEF, 2021). Spaces of discussion, socialisation and dialogue were missing.

■ **Building a digital culture goes beyond teaching people digital literacy skills; to build such a culture demands a broader understanding of how people can interact with technology to support everyday life.** ■

Teachers for their part experienced an increased workload during the adaptation process. New administrative tasks such as the migration of contents to digital formats (Barrantes et al., 2022) and class scheduling required additional resources and time. Teachers also dedicated extra time to connecting with the students, tracking their engagement in the learning activities, answering questions, and providing guidance

(Kundu & Ambast, 2022; Barrantes et al., 2022). A proper online learning strategy calls for rebuilding pedagogies, methodologies, and teaching practices, considering the possibilities and limits of digital platforms. Therefore, preparing for the online class goes hand in hand with designing appropriate assessment mechanisms that can gauge the extent to which students are engaged in online learning processes and indicators that measure the quality of instruction. Another key issue from the teaching point of view is the viability of online education for subjects that require a high degree of practical and experiential learning, like natural sciences, engineering, and health-related fields (Barrantes et al., 2022). Similarly, outcomes from the roundtable discussions show participants' concern about the possibilities of providing education on sensitive topics such as sexual and reproductive rights and healthcare (Southern Voice & Institute of Peruvian Studies, 2022; Southern Voice & Centre for Budget and Governance Accountability, 2022).

Ensuring that all students can benefit from online education requires using learning materials adapted to the context where students live and the language they speak (Kundu & Ambast, 2022) in a format they can relate to. Both roundtable discussions in Peru and India also revealed a need to rethink the roles of students and teachers in online learning. Guided and self-study spaces, synchronous and asynchronous activities, and the articulated use of educational platforms were mentioned as good practices going forward. Online spaces for socialization and dialogue are important to consider especially when planning to introduce education measures that rely only on the use of radio or TV broadcasting, for both do not offer the possibility of asking questions and providing feedback (Farheen Ria et al., 2020).

Using interactive platforms, gamified learning, or personalised profiles may help students become active participants in and producers of the education process rather than passive consumers of online content. In addition, the use of adaptive learning tools has the potential to address each student's learning needs, thereby contributing to reducing learning heterogeneity. These innovations are likely to help the student community manage external shocks in the future as long as basic connectivity and accessibility issues are addressed.

The importance of keeping in mind the constraints of digital culture

A critical element the case studies uncovered is the need to advance a cultural transformation in the use of digital technologies. Building a digital culture goes beyond teaching people digital literacy skills; to build such a culture demands a broader understanding of how people can interact with technology to support everyday life.

The challenge begins with the willingness to use learning platforms and to instil awareness of the benefits of acquiring digital skills. Stakeholders in Peru pointed out that a large part of the population did not use digital technologies and mentioned that online education in that country was perceived as being of low quality (Barrantes et al., 2022). In India, an NGO made efforts to offer programs in digital skills during the pandemic, but not many parents signed their children up for them, and the ones that did, signed their sons up rather than their daughters (Southern Voice & Centre for Budget and Governance Accountability, 2022).

A digital culture requires that citizens develop the skills to constantly adapt to evolving technologies and to leverage them according to their needs. Engaging with, owning, and transforming digital spaces is key to ensuring future learning inclusivity.

Finally, a cultural transformation in the digitalisation of education prepares the ground for a digital response to future crises. The first step in this process is the recognition of the potential of digital spaces to serve as a virtual place where society can build knowledge collectively. Such a cultural transformation could encourage people to relate to information, communication and knowledge in a new way (Maass et al., 2012). Therefore, ensuring that the digitalisation of education supports the participation of historically marginalised people and empowers their engagement in digital spaces urges the advance of a digital culture at all levels of society.

Conclusion

School closures due to COVID-19 deepened inequalities and reversed progress toward meeting SDG 4. It also made us think about different ways to do all sorts of things, including online learning. Online education poses many challenges for students worldwide, especially in the Global South. Unpacking the knowledge gathered during the rapid digitalisation of education prompted by the pandemic can help leverage students' learning experience and better prepare the whole student community in case of a new external shock.

Online education can have many advantages. However, governments need to constantly gather information on students and their needs for it to be fully beneficial. A steady internet connection and a device are minimum requirements for online education, and for the vast majority of the Global South, accessibility and connectivity are ongoing problems that contextual factors like rural-urban disparities and gender gaps contribute to. Connectivity issues render questionable the suitability of alternatives that heavily rely on access to the internet and devices instead of hybrid learning options whenever possible.

While it is essential to recognise the different ways students are impacted by online learning, the challenges of online education in the Global South go beyond these differences. The sudden shift to online learning that COVID-19 compelled led to an improvised response, at least in the beginning. Common online platforms like WhatsApp and YouTube were the favourite choices of students and teachers, but they had limitations, since they are not specialised educational platforms. Many students reported struggling to understand content. Practical learning was nonexistent due to online dynamics, and teachers reported having difficulties assessing students' engagement in learning activities. The fact that students are enrolled in or are attending online classes does not necessarily mean they are receiving a higher quality education. These limitations again raise the question of the suitability of using these tools for prolonged periods. The use of online education in case of a new external shock demands specialised platforms that keep students motivated, methods—new or old—that ensure that students genuinely benefit from the learning experience, and preparation for teachers so that they to keep up with the workload of online learning.

Last but not least, the COVID-19 crisis put more pressure on the already economic fragility of many households and students. Boys and girls who spent more time at home were often asked to support care and economic activities, reducing their time for school work. This puts at risk the learning gains of this whole generation of students.

Students adapting to technologies and technologies adapting to students' needs seem to be the key to a better response to external shocks. However, making this an inclusive transition demands policies that consider the lessons from COVID-19 and that level the playing field for girls and women.

■ References

Barrantes, R., Burneo, J., & Duffó, D. (2022, June). Gender gaps in Peru: The effects of rapid digitalisation on tertiary-level education during the COVID-19 pandemic. (Occasional Paper Series No. 76). Southern Voice. <https://southernvoice.org/gender-gaps-in-peru-the-effects-of-rapid-digitalisation-on-tertiary-level-education-during-the-covid-19-pandemic/>

Farheen Ria, A., Ahmed Raha, S., Rana, S., Roy, P., Aktar, T., Al Mamun, S., Hasan Anik, M., & Alam, F. (2020, June). *Listening to young people's voices under COVID-19: Exploring the impact of covid-19 on adolescents in urban slums in Dhaka, Bangladesh*. Gender and Adolescence: Global Evidence. <https://www.gage.odi.org/wp-content/uploads/2020/06/>

Exploring-the-impact-of-covid-19-on-adolescents-in-urban-slums-in-Dhaka-Bangladesh-2.pdf

Gathuru, G., & Mweyeri, M. (2021, September). *The impact of Covid-19 on education in Kenya*. Institute of Economics Affairs. <https://ieakenya.or.ke/blog/the-impact-of-covid-19-on-education-in-kenya/>

Government of India. (2021). *National family health survey 5, 2019-2021*. Ministry of Health and Family Welfare. http://rchiips.org/nfhs/NFHS-5_FCTS/India.pdf

GSMA. (2020). *Connected women: The mobile gender gap report 2020*. <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf>

Instituto Nacional de Estadística e Informática. (2021). *Perú: brechas de género 2020: Avances hacia la igualdad de mujeres y hombres*. INEI. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1801/libro.pdf

Jones, N., Sanchez Tapia, I., Baird, S., Guglielmi, S., Oakley, E., Yadete, W. A., Sultan, M., & Pincock, K. (2021). Intersecting barriers to "adolescents" educational access during COVID-19: Exploring the role of gender, disability and poverty. *International Journal of Educational Development*, 85, 102428. <https://doi.org/10.1016/j.ijedudev.2021.102428>.

Kundu, P., & Ambast, S. (2022, June). *Digitalisation of secondary school education in Delhi during the COVID-19 pandemic: How does gender factor in?* (Occasional Paper Series No.75). Southern Voice. <http://southernvoice.org/digitalisation-of-secondary-school-education-in-delhi-during-the-covid-19-pandemic-how-does-gender-factor-in/>

Maass Moreno, M., Almaguer Kalixto, P., Meza Cuervo, M., Amozurrutia de María y Campos, J., & González Morales, L. (2012). *Sociocibernética, cibercultur@ y sociedad*. Colección de debate y reflexión, Centro de Investigaciones en Ciencias y Humanidades, UNAM. <http://computo.ceiich.unam.mx/webceiich/docs/libro/sociociber.pdf>

Ministry of Statistics and Programme Implementation. (2019). *Key indicators of household social consumption on education in India, 2017-18, NSS 75th Round*. MOSPI. <https://ruralindiaonline.org/en/library/resource/key-indicators-of-household-social-consumption-on-education-in-india-nss-75th-round-july-2017-june-2018/>

Ramos, G., Cueto, S., & Felipe, C. (2021). *La educación de niños y niñas con discapacidad en el Perú durante la pandemia del Covid-19* [Documento

de Investigación No. 119]. Lima: GRADE; Sodis. <https://www.grade.org.pe/en/publicaciones/la-educacion-de-ninos-y-ninas-con-discapacidad-en-el-peru-durante-la-pandemia-del-covid-19/>

Southern Voice & Centre for Budget and Governance Accountability. (2022). *Leaving no one behind in digital delivery of public services—India* [Roundtable]. Virtual event.

Southern Voice & Institute of Peruvian Studies. (2022). *Leaving no one behind in digital delivery of public services—Peru* [Roundtable]. Virtual event.

United Nations. (2020, August). *Policy brief: Education during COVID-19 and beyond*. UNSDG. <https://unsdg.un.org/resources/policy-brief-education-during-covid-19-and-beyond>

United Nations Children's Fund. (2021). *Preventing a lost decade: Urgent action to reverse the devastating impact of COVID-19 on children and young people*. UNICEF. <https://www.unicef.org/media/112841/file/UNICEF%2075%20report.pdf>

UNESCO. (2020). *Informe de seguimiento de la educación en el mundo, 2020, América Latina y el Caribe: inclusión y educación, todos y todas sin excepción, mensajes clave y recomendaciones*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000374790_spa.locale=en

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