Student blog posts in the context of "Sustainable, resilient, and inclusive societies beyond COVID-19"

Integrating education technology in schools can support learning beyond the COVID-19 pandemic but widen the gap between haves and have-nots

Martina Marsili

May 2022

"The pandemic has forced teachers, students, and policymakers to rethink the idea of 'school.' With some reservations, education technology (EdTech) has emerged as a policy direction for education worldwide. In developing countries, text messages and phone calls are an example of innovative solutions that could benefit the education sector even after the pandemic. EdTech is, however, not without criticism or challenges. Thus, it is crucial to provide governments with evidence on EdTech interventions and suggestions to support under-resourced communities."

In 2020 at least 1.5 billion children and youth worldwide were forced home by governments attempting to control the rapidly increasing COVID-19 infections. After over one year, close to half of the world's students have not fully returned to school. Such drastic and extended policies have had a devastating impact on learning and human capital, which will, in turn, hurt future income.

A model estimates that total earning losses from the pandemic would equal US$11-15 trillion at the global level. In September, OECD reported that losses "might yield an average of 1.5% lower annual GDP for the remainder of the century." In this context, information and communication technology in the education sector, or education technology (EdTech), has become a necessity. However, this policy shift is not without challenges. Access to technology and the necessary skills to use it vary significantly across countries.

With policies such as school closure, the pandemic has exacerbated inequality *within* and *among* countries because education technology resources and expertise are not equally accessible to all households or regions. While 90% of high-income countries offered remote learning, less than 25% of low-income countries have been able to provide any remote learning opportunity. According to a report by the World Bank,

the deriving lifetime earning losses could range from US$3.4-4.9 trillion in high-income countries to US$252-360 billion in low-income countries.

The quality of remote learning services has also varied significantly, widening the gap between the Global North and the Global South. As the access to online learning with the internet and computers diminishes with income, families in the developing world have been forced to rely on what is available, be it TV, radio, or telephones.

Education technology (EdTech) can serve a purpose beyond the COVID-19 pandemic despite the risk of widening inequality. Recent studies look at text messages as a possible solution to improve students' performance and increase school attendance. Messaging parents reminding them of their children's tests or reporting test scores had a significant positive effect on students' performance. Similarly, informing parents about their children's missed days could increase attendance.

These results are significant because they show an effective and affordable intervention that could be implemented across countries of different income levels, such as Malawi or Chile. However, the use of EdTech should not be limited to improving students' performance. Instead, EdTech can be thought of as a series of digital and online tools which could support the education sector in several ways and address countries' pressing educational needs.

In many developing countries in Asia, major and pressing issues in the education sector include poor school management, inadequate learning competencies, low enrolment, and high dropout rates, especially for marginalized or disadvantaged groups. In this context, EdTech can aid teachers by providing a supporting source of information, or it can be used to support the management of schools. However, doubts remain regarding the possibility of *effectively* implementing EdTech.

The International Telecommunication Union (ITU) reports how a large portion of the population lacks the necessary skills to effectively use ICT in several countries. The report shows that in 22 countries (of the 40 for which data is available), less than 40% of the population holds basic ICT skills such as sending an email with an attachment. In light of the widespread digital illiteracy, the effectiveness of EdTech interventions could be questioned.

While education technology may be the future, the reality of insufficient funding in developing countries and the costs that a shift to EdTech would imply could cast doubts on this solution. Indeed, public sectors in developing countries already struggle with inadequate budgets to fund textbooks, teacher training, and school management. Prioritizing these deficiencies could be preferred, as they may be thought to bring more immediate educational gains. Governments' spending on education is not insignificant. In 2017 education expenditure as a share of GDP accounted for 3.8% in low-income countries, 4.2% in lower-middle-income countries, and 4.5% in higher middle-income countries.

On the bright side, through the dramatic experience of the pandemic, we have seen the emergence of creative and relatively inexpensive EdTech, such as text messages and phone calls. Exploiting existing technological resources to the benefit of the education sector could represent a cheaper approach to EdTech.

What is missing in our discourse on EdTech is a consideration of impact evaluation. How do we measure whether an EdTech intervention has successfully addressed a country's educational needs? Two complimentary criteria to evaluate EdTech interventions are long-term learning impact and user experience. The former looks at students' performance. The latter considers the satisfaction with users' intervention, such as teachers and students.

The World Bank has proposed a new, global measure of EdTech. This instrument is concerned with assessing *EdTech readiness* or the impact of investments in EdTech. Standardized measures of this kind could enable comparison and benchmark, thus giving countries a sense of what interventions could effectively address their needs. At the same time, EdTech policies should ultimately be evaluated against each country's specific educational targets, and we should guard against monolithic views of what EdTech is.

Implementing EdTech should not be done just for the sake of EdTech. Applying information and education technology to education is not simply purchasing expensive technological devices. It indicates integrating technology in schools to *support* students' learning and/or school management. As technology becomes cheaper, we can expect more countries to be able to afford EdTech. In this process, it is essential to support governments with data on the effectiveness of EdTech interventions (for example, evidence on which interventions have worked, where, and how).

Lastly, it is crucial to be aware that introducing EdTech has a concrete potential for widening inequality and can pose opportunities and challenges to the world's have-nots. For this reason, it would be advisable to direct funding to more disadvantaged communities for have-nots not to be unfairly left behind in this transition.

About the author
Martina Marsili is a second-year master's student at The University of Tokyo's Graduate School of Public Policy. She holds a Bachelor's Degree in Political Science and Economics from the University of Milan in Italy. She wrote her undergraduate thesis on democratic systems and democratization in East Asia with a focus on the role of economic development and culture. Her current interests include sustainability and development, with a focus on technology.