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Selected online learning experiences in the Caribbean during COVID-19

Introduction

The COVID-19 pandemic has caused widespread closure of schools and disruption of education systems worldwide, requiring unprecedented adaptation to ensure learning continuity for students. In place of classroom learning, Information and Communication Technologies (ICTs) have been adopted to support online distance learning – with mixed results. While Caribbean governments have piloted a range of online learning modalities, many children in the subregion, especially those from poor and rural households, were not able to leverage those facilities. As a result of a lack of access to the Internet and devices that enable online learning, they lost nearly a year of education. These inequities have laid bare pre-existing barriers to accessing education at all levels in the subregion.

Across the world, the COVID-19 pandemic is having severe negative consequences for Sustainable Development Goal (SDG) 4, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The Caribbean has not been spared the ill effects of the pandemic on education. Yet given the relatively small size of their populations, often spread over several islands with various levels of infrastructural development, Caribbean countries and territories continue to face unique challenges to adapt education in the face of COVID-19.

Key recommendations:

- **Develop flexible and inclusive online distance learning systems across all levels of education with in-built preparedness for future events on the scale of COVID-19**
- **Improve Internet connectivity and affordability in rural and remote areas to increase inclusivity and equity of online learning**
- **Address device shortages and other barriers to access for poor, rural and marginalized students**
- **Cultivate a mindset shift among key stakeholders, particularly educators, towards wider systemic change**
- **Undertake regular student assessments, and promote and coordinate data collection and analysis at the national level**

As Caribbean learners begin another year of online learning amidst slow vaccine distribution and ongoing containment measures, governments must continue to upgrade education systems to ensure

inclusivity, flexibility, and resilience, whether using hi-tech, low-tech, or no-tech learning modalities. If Caribbean countries are to recover lost ground towards achieving SDG 4, national governments must build back better and adapt in order for education systems to deliver equitable, quality learning opportunities beyond the current crisis and in the context of other challenges facing the subregion.

Background

While children are one of the least at-risk groups for COVID-19 health impacts, their lives are being changed in profound and often negative ways by the pandemic. Before the pandemic, Caribbean countries already faced formidable challenges in fulfilling the right to education. COVID-19 has exacerbated pre-existing inequalities and problems in education systems in the subregion, increasing the difficulty of governments to deliver on their duty to millions of learners.

The right to education is both a fundamental human right and an enabler of the realization of other human rights. It is found in the Convention on the Rights of the Child (CRC), which has been ratified by all 16 sovereign Caribbean States, as well as in national laws, constitutions and other international human rights instruments. In keeping with countries' human rights commitments, SDG 4 aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' by 2030.

In response to the COVID-19 pandemic, school closures were implemented across the Caribbean (Murphy and others, 2020). Data from UNICEF show that in several Caribbean countries, schools were fully open for less than 10 days between 11 March 2020 and 2 March 2021 (UNICEF, 2021a).

As one of the most powerful tools for lifting people out of poverty and enabling them to realize their full potential, education systems are a key driver of sustainable development. COVID-19 has exacerbated disparities in learning opportunities in the Caribbean, with the most marginalized learners worst affected. As UNESCO reports, school closures

“disproportionately hurt vulnerable and disadvantaged students who rely on schools for a range of social services, including health and nutrition” (2020). For many Caribbean children, loss of educational instruction has been accompanied by increased undernutrition due to disruptions to school feeding programmes, lost recreational and socialization opportunities, increased mental health challenges, heightened poverty levels in households, and increased exposure to dangers at home such as child abuse and gender-based violence (ECLAC and UNICEF 2020). Lockdown measures may also lead to increased numbers of adolescent pregnancy, with the potentially increased risk of sexual abuse in the home, and the lack of access to health services (UNFPA 2020), further disrupting access to education.

Online distance learning has been embraced worldwide as a means of ensuring learning continuity amidst school closures. Online learning and e-learning (electronic learning) refer to the application of digital media, including computers and mobile devices (i.e. mobile phones, tablets) to develop, organize and conduct education. In contrast, distance and remote learning describe any form of education where the student is not physically present and may be facilitated through non-technical means, such as printed materials, or through one-way means of technical dissemination, such as TV and radio. Typically, online distance learning consists of some combination of these activities, using synchronous and/or asynchronous learning. In cases where both online and traditional classroom-based learning are combined, the term 'blended learning' is used.

Although online distance learning has provided unprecedented means to ensure that education remains possible during COVID-19, research shows that, in general, in-person learning is more effective, especially for students with weaker academic backgrounds (Loeb, 2020). While classroom learning is generally more effective than online lessons, it is nonetheless clear that online learning is better than no learning at all. For this reason, governments worldwide are working to increase access to and improve the quality of online learning,

as well as introduce blended learning environments both within and beyond the pandemic context. To guarantee resilient systems in the event of future disruptions, the entire system of education must be reassessed for robustness and methods must be developed to address the fallibility of each component of the system, ensuring proven techniques and technologies are included where possible (Bleeker and Crowder, 2021).

A prerequisite for online learning is the availability of enabling technologies, including suitable devices and digital infrastructure. As a result, the geographic reach and overall quality of online learning is often dictated by the coverage of these technologies and an uninterrupted power supply. Ensuring the availability of digital infrastructure and equipment requires systemwide planning and implementation, including considerable labour, resources, and expertise, as well as cross-government consensus.

Although Internet penetration is high in most Caribbean countries, with the exception of Cuba and Haiti, quality and affordability of Internet access and infrastructure varies greatly between urban and rural areas and less-populated islands (Bleeker, 2019). Along with challenging terrain and water barriers, many rural areas and islands lack the population size to incentivize public and private investment in infrastructure, resulting in low bandwidth access to the Internet. This has had a negative impact on online learning, which requires sufficient bandwidth to the Internet to sustain continuous connectivity. As a result, the comprehensive roll-out of online distance learning in Caribbean countries in response to COVID-19 has been limited.

Beyond digital infrastructure and equipment for online learning, limitations in human and technical capacity have also negatively impacted the ability of schools in the subregion to migrate their learning systems online. After a year of online learning, logistical difficulties, lack of support and training continue to hamper teachers' ability to lead classroom activities remotely.

The burden on parents to facilitate the online learning of their school-age children has also been a critical challenge. Not all households can afford to use the household computer for education. Often, a household may need to have multiple devices to facilitate the simultaneous online learning needs of children, which, therefore, may stretch the financial resources beyond what is available. In addition, the need for parents to facilitate online learning often results in their not being able to undertake other types of activities, including work. Given women's disproportionate unpaid care burden, and the high proportion of single female-headed households in the Caribbean (Stuart, 2014), this responsibility to facilitate online learning often falls to women, limiting their ability to participate in paid work at a time of increased financial hardship.

The implications of loss of education for sustainable development in the Caribbean

The uneven implementation of online learning has resulted in millions of students losing months and, in many cases, close to a year of education. With most Caribbean countries only at the start of their COVID-19 vaccination campaigns, school closures and online distance learning may continue well into 2021.

While these challenges have had a deeply negative impact on the learning outcomes and well-being of individual children, they also threaten the development of an entire generation of learners, and are likely to deepen already significant education gaps between children from rich and poor, and urban and rural areas across the subregion. Consequently, Caribbean countries must not only regain lost ground towards achieving SDG 4, but work to prevent knock-on effects from education disruption on the achievement of other SDGs, including SDG 3 (health and well-being); SDG 5 (gender equality); and SDG 8 (decent work and sustainable growth).

More than 3 million children in Latin America and the Caribbean (LAC) are expected to drop permanently out of school due to the pandemic

(UNICEF, 2021b). This is likely to affect crime rates, as educational attainment and quality have a negative effect on crime and incarceration rates (Jaitman 2015). Young men from poor households may be the most negatively impacted, since crime in the Caribbean disproportionately affects this group, and Caribbean boys perform worse than girls at school and drop out at higher rates (UNICEF, 2020b). In a subregion that already had very high youth unemployment rates, the pandemic is also expected to further weaken economic opportunities for young Caribbean people (ECLAC, 2020). It has been estimated that school closures and the associated loss of learning could cost the LAC region up to \$1.2 trillion in the eventual lifetime earnings of children currently deprived of education opportunities (UNICEF, 2020a).

These losses in human capital will be most concentrated in marginalized groups, perpetuating intergenerational cycles of poverty and inequality, and are likely to exacerbate deficiencies in human capital that have long stymied economic growth and innovation in the Caribbean (Khadan, 2018). This may result in more young people entering the already large informal sectors of most Caribbean economies instead of the formal labour force, dampening growth in productivity and reducing contributions to income taxes and social safety nets. Addressing education loss sustained during the COVID-19 pandemic is therefore necessary both for a resilient post-crisis recovery and to guard against future crises.

General findings

Considering these implications, the ECLAC subregional headquarters for the Caribbean undertook research on online learning experiences in the Caribbean during the COVID-19 pandemic, through case studies in five countries and territories: Barbados, British Virgin Islands, Guyana, Jamaica and Trinidad and Tobago. The study aimed to highlight online learning adaptations in the subregion and identify best practices and recommendations to support governments in adapting and advancing education at all levels. The general findings of the study were:

Across the profiled countries, COVID-19 has been an accelerant for increased use of online learning technologies and ICT capacity building among educators, students, and parents. Whereas pre-pandemic the integration of ICTs in education was occurring incrementally, the rapid onset of COVID-19 necessitated an ‘all at once’ approach across all education levels. Pre-existing initiatives have been expanded, including the Caribbean Examination Council’s (CXC) remote examination capacity and national learning management systems (LMS) in Jamaica and Trinidad and Tobago. In Barbados, British Virgin Islands and Guyana, where online learning capacity was inchoate or non-existent, school closures required emergency deployment of new technologies and educator training. Multiple approaches have been employed to procure devices capable of facilitating online learning, ranging from government sourcing to private donations and Bring Your Own Device (BYOD) programmes.

Specific distance learning modalities implementation varied based on education level, with primary school education generally being delivered through traditional technologies, such as television and radio, while online learning technologies or LMS have been used at the secondary and tertiary levels. Tertiary institutions had an early adopter advantage, having already built remote learning infrastructure over several decades, with the multi-campus distance education approach of the University of the West Indies (UWI) being one such example. To encourage consistent application of online learning at the primary and secondary levels, guidelines for online learning deployment and hardware use were developed in Barbados and Trinidad and Tobago. While the selection and deployment of online learning technologies is now coordinated and communicated at the national level, emergency and ad hoc decision-making characterized the early stages of the pandemic, leading to high procurement costs and a lack of economies of scale.

Delivering access to online learning for marginalized students remains a challenge, with students with disabilities, students from rural and remote areas, indigenous students, migrant students, and students from lower income backgrounds generally experiencing the most barriers to accessing quality education. Large-scale device procurement exercises are underway in all five profiled countries involving both the private and public sectors. However, for many students from rural and lower income households, Internet access remains out of reach. In Jamaica, for example, Internet penetration in inner-city and rural areas stands at approximately 50 per cent and 10 per cent, respectively. As a result, officials estimate that 50–60 per cent of students have not attended online classes since March 2020 (Bleeker and Crowder, 2021). Likewise, Trinidad and Tobago’s Internet penetration stood at 77 per cent in 2020, with the lowest levels in rural areas. As part of continuing efforts to expand learning access, Caribbean governments have consolidated online learning content on specific websites and introduced zero-rated websites in collaboration with local telecommunications providers to provide access at no charge to users’ data plans.

The pandemic has necessitated the adaptation of national ICT education policies and priorities. Few countries in the subregion have national digital education strategies with a model that takes advantage of ICTs. Among the profiled countries, three out of five have implemented an ICT in education policy, while ICT in education policies are in development in the remaining two countries. For those countries that had ICT policies in place at the onset of the pandemic, many assumptions still required adaptation to enable the urgent, unprecedented nationwide rollout of online learning technologies. Past ICT in education initiatives usually centred around classroom-based learning and were ill-suited for wide-scale online distance learning.

Evaluating access to and efficacy of online learning remains a challenge, with schools commonly using inconsistent data collection mechanisms. Education management information

systems (EMIS) and centralized databases have been favoured approaches for improving monitoring and evaluation of student progress. In lieu of reliable data, stakeholder engagement – between officials, educators, parents, and students – has been critical for making ongoing adjustments to learning modalities.

Blended learning will characterize post-pandemic education in the Caribbean, with a combination of online and traditional classroom learning for maximum inclusivity. Beyond the pandemic, flexible, dynamic education systems with in-built preparedness for large-scale crises can offer learning continuity in the face of extreme weather events frequently experienced by Caribbean SIDS.

Policy recommendations

The following recommendations are made with a view to improving access to quality, inclusive education across the Caribbean both during the pandemic and for resilient post-pandemic recovery:

Promote flexible and inclusive learning systems across all levels of education, through expanded connectivity and adoption of online learning ready devices. Given that online learning depends on enabling technology, expanding Internet penetration in rural and remote areas, and improving bandwidth and Internet speeds will remain a key priority. Investment in disaster-resilient ICT infrastructure should be prioritized so blended learning can be used beyond the pandemic following extreme weather events. To ensure the long-term sustainability of device distribution programs, there should also be centralized leadership, stakeholder engagement, troubleshooting and maintenance of devices beyond election cycles. Importantly, technical specifications and device selection should follow learning goals.

Develop a unified vision for online curriculum and content, with inclusivity, accessibility, and adjustments for specific student groups. Online learning is not simply the digitization of traditional, in-person lessons. Rather, specific capacities need to be developed by both educators and students, and

content should be developed to support learning goals. Trinidad and Tobago's inclusion of a Spanish language interface on its online learning platform, TTLearn, is an example of inclusive content development for student groups who face barriers to access, in this case the Venezuelan migrant and refugee population.

Develop a centralized LMS or content page, with a “one-stop shop” approach. Depending on budget and the size of the student population, Caribbean countries can develop a full LMS or use a content page with listings of approved content for educators, parents, and students. Levels of digital and traditional literacy should be well understood in order to develop online learning content that is easily usable but does not patronize the user group. In either case, maintenance and overall user accessibility can be sustained by training superusers among educators.

Implement training programs for all educators based on the UNESCO ICT Competency Framework for Teachers, to overcome resistance to long-term changes to traditional learning methods and upskill educators in ICT use. Training should be continuous and extended to new educators and administrators as part of onboarding. Parents should also be included in training, particularly those with primary and pre-primary school students and students who rely on caregiver support for learning mediation and continuity.

Provide training on the use of online tools and technologies to students. The need to train students should also not be overlooked, as students' digital knowledge and skills are often uneven despite claims of digital nativism. Such training should emphasize accessibility features of online learning, and be easy to follow, perhaps as open educational resources or video tutorials. A ‘train the trainer’ or superuser strategy may provide the basis for training sessions for student that are decentralized and carried out as needed by knowledgeable educators.

Undertake regular assessments of student progress, given the increased distance between

educators and student and often experimental nature of content-delivery, teaching methods, and technologies in online learning environments. Particularly at the onset of the pandemic, student assessment received low priority compared to ensuring learning content reached students in the first place. As online learning becomes more established, a feedback loop between educators and students should be created so that progress can be determined, and necessary adjustments made where outcomes are poor.

Adopt blended learning systems with in-built preparedness for events on the scale of COVID-19, to ensure flexibility and maximum inclusivity across the student population. In the ongoing pandemic context, a mix of traditional and online learning solutions should be offered for students facing connectivity issues or other limitations that may undermine or obstruct online learning. A cooperative and iterative design process is necessary for both online learning materials and modalities, and ongoing maintenance of systems can be achieved by training educators as superusers. For resilient post-pandemic recovery, blended learning systems should be supported by national digital education strategies, alongside continuous efforts to increase access to connectivity and devices for lower-income, rural and vulnerable populations.

Cultivate a mindset shift among key stakeholders, particularly educators, towards learner-centred redevelopment of education at all levels. More important than the tool or modality used for online learning is that it induces the necessary mental work in the student. Educators should embrace ‘learner-centred instructional approaches’ (Porto, 2019), combining a deep knowledge of their subject areas with best practices of online pedagogy mediated by technology to create rich learning experiences.

Promote and coordinate data collection and analysis at the school and national levels. Beyond the introduction of an EMIS into school systems, comprehensive data collection and analysis at the national level are critical to the development of

evidence-based policy interventions and shaping online learning modalities. Data collection and analysis should include learner demographics, connectivity and hardware availability as well as facilitate the tracking of indicators for SDG 4 and assessment of student progress. In locations where connectivity remains limited, satellite offices may be set up for both operationalizing education policy, such as distributing printed materials, while also collecting relevant data.

Conclusion

The COVID-19 pandemic has heralded unprecedented adaptation to the delivery of education worldwide. Caribbean countries were not alone in being ill-prepared for the nationwide rollout of online distance learning. As occurred in other countries, many students, particularly those in rural and lower-income households, had no or limited

access to formal learning opportunities during this period, thereby further widening inequalities in education across the subregion.

The pandemic has nonetheless paved the way for a rapid rethinking of education delivery, pedagogy and uptake of digital technologies across the subregion. As students embark on another year of online learning, countries should make ongoing investments in upgrading connectivity and device access, while continually adjusting online learning content, methods and technologies based on student feedback and assessments. Governments should also prioritize the development of national digital education policies that support blended learning systems with in-built preparedness for future disruptive events on the scale of COVID-19. While many challenges remain to delivering quality, equitable access to online learning in the Caribbean, the return on investing in our children and closing education gaps will be much greater than the cost of not doing so.

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