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# Pandemic 2020 and Education: Responding from Kiribati

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**Abstract:** Growth of unprecedented innovation in Education Technology for several decades faced a major challenge with the pandemic of 2020, characterised by disruption and opportunity. While educational services in high-income economies have benefitted from digital learning solutions during the disruption, most low- and middle-income economies have struggled to provide undisrupted access to learning during the pandemic lockdown. Framed by the global context of the pandemic, this paper identifies a global oversupply of advice from academic and industry experts about best practices during such circumstances. In contrast, the capacity of an education system from a low-income economy such as Kiribati, a small island country in the Pacific Ocean, is profiled. Key questions are identified for conducting qualitative research to gather further data for the case-study so that it might inform a related research agenda focused on developing technology-based solutions for out-of-school children in underprivileged contexts.

**Keywords:** COVID-19, pandemic, low-income economies, education system, educational technologies (EdTech), Kiribati

## 1. Introduction

COVID-19 is the biggest pandemic and global health crisis the world has faced in the last 100 years. It has also created sudden and unprecedented challenges in education where formal learning has been disrupted in 194 countries affecting 1.57 billion learners (91.3%) of total enrolled learners globally (UNESCO, 2019). Governments have been forced to close schools, colleges and universities for an indefinite period, and learning shifted to home-schooling sometimes without providing clear directives. The pandemic strikes the world when education systems even in advanced countries were not prepared to adapt digital learning opportunities. The situation in underprivileged areas is even worse, with some education systems almost completely deprived of Education Technology-based (EdTech) learning platforms. It is predicted that the hasty global shift towards online education will further exacerbate inequality in the attainment of education around the world (Petrie et al., 2020).

Leading up to this crisis, the world also experienced exponential growth of Educational Technology (EdTech) networks. For high-income countries, many stakeholders are undergoing a *crash course* in online learning. These alternate technology-based learning opportunities are not only providing a stop-gap solution during the crisis but also stimulating innovative responses. Digital technology is pivotal to this.

This paper presents a case study of the situation in Kiribati, a small country in the Pacific Ocean with minimal technology resources, as an example response of adapting technology to the challenges of underprivileged education systems during the crisis. As such, it represents a useful reference to a broader issue facing low- and middle-income countries: the provision of learning services to out-of-school children (OOSC). The paper initially outlines the impact of COVID-19 on the education sector worldwide, global efforts to look for solutions for going forward, and how within a very short period, an oversupply of advice from academic and industry *experts* occupied the learning arena concerning *best practices*. In contrast, Kiribati's capacity to respond is profiled followed by a proposed methodology for probing deeper that challenges and opportunities that might inform the response of the government education system are in Kiribati.

## 2. Global shift in Education during COVID-19

### *2.1 COVID-19 – Impact on Education*

The COVID-19 pandemic represents a global crisis that has triggered an unprecedented shift in educational practices on a global scale. The key question for all stakeholders is how to continue providing access to formal learning during this disruption. In the words of UNESCO Director-General Audrey Azoulay, "We are entering uncharted territory and working with countries to find hi-tech, low-tech and no-tech solutions to assure the continuity of learning" (UNESCO, 2020). Recent literature in education research highlights the need for global resilience and continuity of formal education. Although children have been found minimally susceptible to COVID-19 schools have been closed worldwide (Abdulamir et al., 2020; Faherty et al., 2018; Germann et al., 2019). Studies are also showing that prolonged school closures and staying at home may bring negative impacts on children's physical and mental health, and the "psychological impact of quarantine is wide-ranging, substantial and can be long-lasting" (Brooks et al., 2020; Brazendale et al., 2017). Nonetheless, technology represents a key part of the solution and earlier studies also show this (Ash et al., 2014).

### *2.2 Opportunity in Adversity – EdTech in COVID-19 Era*

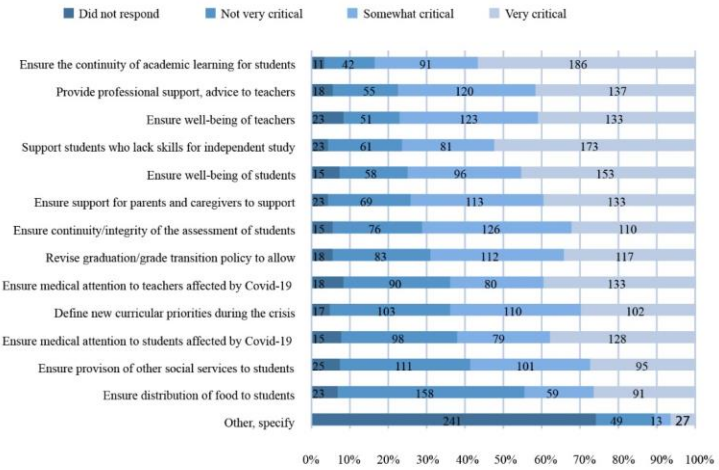
The positive aspect of COVID-19 is that it brings a great opportunity for EdTech to continue to deliver on innovative education solutions. Already, the pandemic has transformed many learning communities into online learning communities, forcing all stakeholders to embrace online learning. Technological innovations in education over the past two decades have already enabled a transformed education landscape (Mason & Pillay, 2015). Intelligent Digital Systems can now efficiently adapt the learning experience to suit personal learning preferences, often with better precision than any traditional classroom can. Similarly, virtual laboratories provide an opportunity to practically design, conduct and learn from experiments, rather than just learning about them (Petrie et al., 2020). Such examples, however, are not equally available to learners worldwide.

Due to format limitations, it is not possible to cover all initiatives in this paper; however, we highlight some key global initiatives that may help students, parents, teachers, and other education stakeholders. UNESCO has developed a live portal *COVID-19 Education Disruption and Response* to present everyday status updates of schools worldwide in addition to other useful information (UNESCO, 2020). The OECD has provided a framework to guide an education response to the pandemic including a 25-point checklist of education response to COVID-19 with 13 priority responses by countries. HundrED (April 2020) published a report captioned *Spotlight: Quality Education for all during COVID-19 crises* including a repository of hundreds of resource pages, innovations, learning approaches and educational tools created by teachers, organisations and governments for students, parents and teachers to consult for everyday educational activities, ideas, initiatives and platforms (Petrie et al., 2020). They further conducted a survey through 150 stakeholders in education from 31 countries to understand current responses. The survey takeaways include that (i) 87% respondents were concerned that pandemic will increase educational inequality, (ii) only 6% responded that their education system was highly prepared for the pandemic, and (iii) only 17% of respondents believe that education leaders were learning from other countries' responses.

One of the primary issues emerging from COVID-19 school closures is the shift in the role of parents and guardians. Government decisions to close schools and to shift to an alternate learning mode has come as an abrupt shock for many families as this crises-mode home-schooling has also impacted their regular productivity in their jobs. Another stakeholder group impacted dramatically are the teachers who are, in most cases, not skilled enough to continue teaching in online mode. A survey conducted by the OECD including 330 responses from 98 countries explored how countries are responding to the pandemic (Reimers et al., 2020). Stakeholder responses included schoolteachers, principals and other staff, civil society organisations, government advisors and policymakers, staff in international organisations, and education consultants. Most respondents highlighted that while governments issued directives for staff and teachers no specific instructions for continuity of education

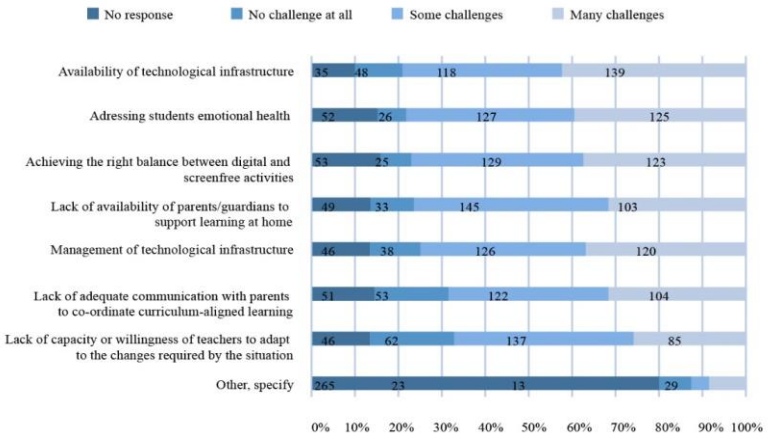
during closure and no prioritisation of curriculum and resources was done. Table 1 summarises perceived stakeholders' priorities while Table 2 shows challenges in implementation.

Table 1: *How critical are the education priorities in response to the crisis*




(Source: Global Education Innovation Initiative at Harvard and OECD Rapid Assessment of Covid-19 Education Response. March 18-27, 2020)

Table 2: *How challenging has it been to implement the education response*




(Source: Global Education Innovation Initiative at Harvard and OECD Rapid Assessment of Covid-19 Education Response. March 18-27, 2020)

UNESCO (May, 2020) has also published a comprehensive handbook guiding the use of Open Educational Practices (OEP) during school closure and how to utilise Open Education Resources (OER) under COVID-19. OER and OEP are inter-related but different terms, and both leverage the basic open architecture of the internet itself (Mason & Pillay, 2015). Figure 1 illustrates the shift in the focus of researchers and educators from creating and publishing OER to practices that can be implemented using OER, referred to as OEP.

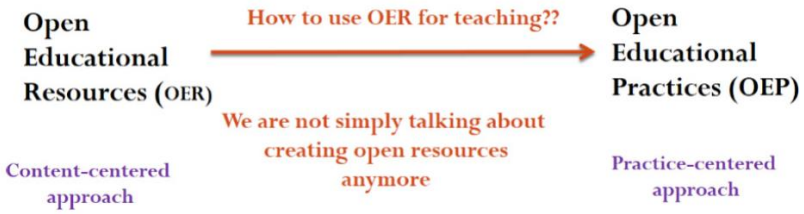


*Figure 1.* A shift of focus from OER to OEP (UNESCO OEP during School Closure, May 2020)

The handbook discusses the use of OEP and OER during COVID-19 through vivid stories and experiences, OER competencies for OEP, and provides guidelines to both teachers and learners to facilitate OEP and OER application. These guidelines are based on five UNESCO (2019) objectives namely: (i) Building the capacity of stakeholders to create access, re-use, adapt and redistribute OER; (ii) Developing supportive policy; (iii) Encouraging inclusive and equitable quality OER; (iv) Nurturing the creation of sustainability models for OER; and (v), Facilitating international cooperation. The handbook provides a comprehensive review of OEP definitions and based on these definitions, the five settings were identified for the applications of OEP in education, i.e. use of OER learning material, open teaching, open collaboration, open assessments, and enabling technologies (Huang, Tlili, et al., 2020). The inter-relationship of these settings is shown in Figure 2.

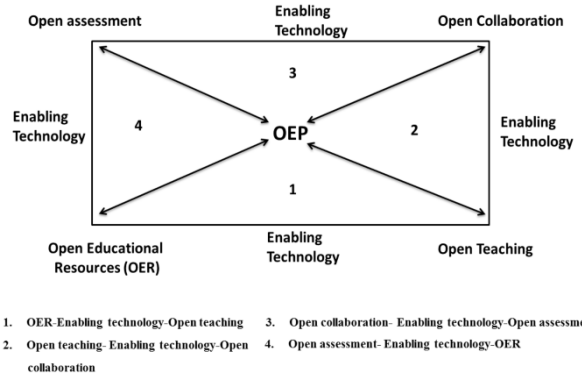



*Figure 2.* OEP framework for open education (Huang, Tlili et al., 2020)

The handbook further discusses challenges in applying OEP, OER competencies for applying OEP, OER-enabled distance learning strategies and guidelines for applying OEP.

Another joint effort by UNESCO, International Research and Training Centre for Rural Education, and Smart Learning Institute of Bejing University is the *Handbook of Flexible Learning during Educational Disruption* (SLIBNU, March 2020), focused on the Chinese experience in maintaining undisrupted learning in COVID-19 Outbreak. The handbook re-conceptualizes flexible pedagogy as a learner-centred educational strategy, which provides choices from the main dimensions of study, such as time and location of learning, resources for teaching and learning, instructional approaches, learning activities, support for teachers and learners. It further describes online learning under the theme "Disrupted Classes, Undisrupted Learning" based on seven factors, (i) reliable communication infrastructure, (ii) suitable digital learning resources, (iii) friendly learning tools, (iv) effective learning methods, (v) instructional organizations, (vi) effective support services for teachers and learners, and, (vii) close cooperation between Governments, Enterprises and Schools (G-E-S cooperation). Several flexible online learning strategies are highlighted based on six dimensions, namely (a) infrastructure, (b) learning tools, (c) learning resources, (d) teaching and learning methods, (e) services for teachers and students, and (f) cooperation between enterprise, government, and schools, that can help other educators, researchers and practitioners implement similar case studies in their context. The following discussion on Kiribati places all this guidance in a real-world context of a proposed in-depth case-study.

## 3. COVID-19 response from Low-income Economies: Kiribati Case-study

### *3.1 Kiribati: Demographics and Education System*

The Republic of Kiribati is one of the smallest island nations in the world but is also considered to be the largest atoll country in the world with a total land area of 811 square km shared across approximately 33 low-lying coral atolls spreading across 3.5 million square km in the Central Pacific Ocean, of which

only 20 are inhabited. Kiribati has a population of 110,136 (in census 2015). About 90% of that population lived in the Gilbert Islands, with 40% of them on South Tarawa.

Kiribati has a basic literacy rate of over 90% (State University, 2020). The basic education system in Kiribati comprises of primary school, junior secondary schools and senior secondary schools. There are 110 primary, 24 junior secondary, 18 senior secondary and 9 combined secondary schools. The government provides supplementary support to lower-level students from Years 1 to 9, and those students in senior secondary levels mostly achieve the government's benchmarks (Kiribati Government, 2016).

Major problems in the Kiribati education sector include (i) insufficient places in senior secondary schools (ii) high rates of dropouts due to lack of government financial support and limited schools, (iii) lack of resources to provide quality education and qualified educators, (iv) inadequate English skills compared to other Pacific Islanders, and (v) lack of ICT integration in the education system. These problems hinder the progress of education in Kiribati as well as increasing the poverty rate in terms of unemployment.

### *3.2 Future Research*

In probing the situation in Kiribati for further detail we propose a qualitative research study to analyze the education system response due to COVID-19, including the actions taken by the stakeholders, challenges faced during the implementation phase, responses from other stakeholders, and outcomes of their actions. The following research questions provide the focus:

*RQ1: What measure has the Kiribati Education System put in place to minimise the impact of COVID-19 on student learning?*

*RQ2: What has been the readiness of the Kiribati Government and other stakeholders in utilising digital technology for continuity of education during the lockdown and what challenges were faced during implementation?*

*RQ3: What measures can be taken to continue education in Kiribati to be ready for the reoccurrence of any such situation in future?*

Data will be collected via interviews with the stakeholders, such as government officials from the Education Department, School Principals and Teachers, Church authorities involved in educational services and parents of the school-going children. Around 12-15 respondents will be approached through a snowballing technique, and a semi-structured interview will be conducted to gather information from relevant stakeholders.

## 4. Discussion and Conclusion

This short paper has emphasized the capacity of Kiribati to respond to the crisis of COVID-19. Importantly, we note that while high-income economies have generally been able to respond through deploying digital technology solutions, low-income economies like Kiribati have not yet demonstrated any commensurate recovery. Children in many low- and middle-income countries have been left behind as their governments and education systems could not adequately respond to such a severe lockdown.

With over 90% of learners affected worldwide, COVID-19 has impacted the world immensely and has broadened the gap between haves and have-nots in education globally. The education deprived majority of the world has been pushed further away from their counterpart who could continue their learning, maybe partially, even during the biggest learning obstruction of the century. Our preliminary research is aimed at informing policymakers, educators and EdTech designers to ensure that underprivileged communities during the COVID-19 pandemic are not left behind as the global economy recovers. The paper may also provide better visibility to the EdTech industry regarding the needs and limitations of these communities and may help them design adaptable, sustainable, and scalable solutions that are suited to the local contexts of these underprivileged learning communities.

In the Kiribati context, where availability and affordability of digital infrastructure (such as computers and connectivity) is a serious issue for individual families, and practical implementation of ICT teaching and learning is a weak area, we suggest formation of multiple *Digital Learning Centres* (DLCs) at various locations as substitute learning platforms, with the following objectives:

- DLCs be managed under the government or community control, with password-protected time-bound access to all teachers and students during after-school timings with computer usage restricted to assigned work only.
- Regular compulsory ICT-related and practice-focused training for teachers and students, with reflection on learning outcomes in classroom settings be included in career milestones of teachers and academic grades of students.
- Establishment of a digital learning and assessment portal utilising local learning content and OERs to provide a viable alternate learning platform to enhance learning capacity of students.
- Design and development of inquiry and project-based assignments for students, which may be accessed and solved through computers in DLCs.

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