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Facilitating Remote Teaching and Learning During the COVID-19

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Definitions

Remote learning takes place in an environment where the learner, instructor, and information sources are separated, and content delivery does not take place in a traditional classroom setting. The instructor uses radio, television, social media, internet, and printed materials to facilitate remote learning (Geneva College 2020).

COVID-19 pandemic is a global health crisis caused by the coronavirus, SARS-CoV-2. The Wuhan province in China has been the epicenter of the COVID-19 outbreak (Penta 2020).

Health crisis refers to a complex health phenomenon whereby individuals from all around the world are affected by the spread of the crisis (Australian Government 2020).

Learners refers to individuals who are enrolled in primary, secondary, and higher educational institutions for learning purposes.

Introduction

Sustainable Development Goal 4 (SDG 4) on the delivery of quality education emphasizes that stakeholders involved in the delivery of primary, secondary, and higher education should deploy sufficient resources to ensure the provision of equitable and lifelong learning opportunities to learners (UNGC 2020; Heleta and Bagus 2020). Administrators of educational institutions should provide resources to deliver education to suit the needs of different learners during crisis periods, for example the COVID-19 pandemic. In recognition of the importance of SDG 4 in empowering women, fighting inequality, and addressing extreme poverty, a new field of education, known as crisis education or emergency education, has emerged in the existing literature (UNGC 2020). This area of study primarily examines the strategies used to deliver education to learners in crisis-prone regions. Globally, humankind is affected by different types of crises, and each crisis imposes unique challenges to education in different geographical regions. For instance, the strategies used to deliver emergency education in war-prone areas would be different compared to the strategies deployed in providing education during the COVID-19 pandemic. International bodies, policymakers, and practitioners need to consider numerous factors while designing a system for delivering education to learners during different types of crisis periods. These factors are

(Sherif 2020; DFID 2015; European Commission 2019):

- Impact of the crisis on humankind
- Resources available to respond to the crisis
- Background of the learners
- Past experiences in delivering education to crisis-prone areas
- Nature of the crisis

Furthermore, the COVID-19 pandemic escalated not only as a global health crisis but also as a socioeconomic and education crisis. Additionally, globalization is also a factor that has escalated the adverse impacts of the COVID-19 crisis on the performance of the international trading system (UNICEF 2020). The COVID-19 crisis has evolved as an international crisis which has affected the global education sector (UNICEF 2020). The national and international stakeholders involved in the delivery of education have responded to managing the COVID-19 crisis by understanding the transmission of the deadly corona virus from one individual to another. Generally, the person infected by the corona virus can transmit the virus from the respiratory droplets when he or she coughs or sneezes (UNICEF 2020). Additionally, if an uninfected individual touches the contaminated surface and touches his or her face, the coronavirus could easily transmit to the uninfected individual (UNICEF 2020). The transmission of the coronavirus is potentially high in densely crowded areas, such as social gatherings, parks, towns, and cities.

The international and national stakeholders involved in the delivery of education therefore proceeded to design various remote learning strategies to suit the needs of learners and instructors adversely affected by the COVID-19 pandemic (World Bank 2020). These remote learning strategies used to deliver the curriculum differ based on the availability of resources and technology in different geographical regions. Some of the vital media used to deliver remote learning are radio, television, online interactive learning platforms, and distribution of printed materials (UNESCO 2020a, b, c). Importantly, the use of these mechanisms to deliver the curriculum ensure that coronavirus infections do not escalate within the education setting. The delivery of remote learning by using blended, online, and distance modes helps each nation to continue with its endeavors to meet SDG 4, mainly focusing on learners who drop out due to COVID-19 pandemic (World Bank 2020).

Against this backdrop, the main aim of this entry is to provide an overview of the global status of the operations of educational institutions during the pre- and post-COVID-19 period, remote learning strategies implemented by different countries, education technology solutions for remote learning, responses by governments to managing the impact of COVID-19 on education, challenges faced by learners while engaging in remote learning, and implications of remote learning to current and future learning practices adopted by educational institutions.

Overview of the Global Education System During the Pre-COVID-19 Period

SDG 4 emphasizes that education is a fundamental human right and that all individuals should have access to a fair and equitable education system. The global community has made significant progress in providing high-quality education to all individuals around the world. Although considerable progress towards SDG 4 is noticeable, there is still a lot of work needed to increase the accessibility of education to everyone (Rieckmann 2017). Statistics indicate that more than 250 million children are still out of school and around 800 million adults are illiterate (United Nations 2020). As far as the statistics on the reading and writing skills of learners are concerned, approximately 56% of the children in primary school struggle to read and write (United Nations 2020). From a financial perspective, the eradication of the barriers to the provision and accessibility of primary, secondary, and higher education requires billions of dollars of financial investment. Astoundingly, the United Nations (2020) recorded a financing gap of $148 billion for the low- and low-middle-income countries to meet

SDG 4 worldwide. The COVID-19 pandemic will increase this financing gap by one third (United Nations 2020).

Figure 1 shows the out of school statistics of children by age group for the year 2018 based on the different regions. Sub-Saharan Africa has recorded the highest number of primary (32214) and lower secondary school dropouts (28251). Central and Southern Asia has recorded the highest number of children out of school for the upper secondary school (64745) (Global Education Monitoring Report 2020). Figure 2 shows the out of school statistics for children based on different income groups. The lower-middle-income countries have recorded the highest numbers for primary (30444), lower secondary (30706), and upper secondary children (87730) who are out of school.

Strategies Deployed to Achieve SDG 4 on Quality Education During the Pre-COVID-19 Period

Several countries have implemented numerous strategies and policies to provide fair and equitable primary, secondary, and higher education to individuals from different cohorts in society (Sterling 2016). These global strategies on the provision of fair and equitable education have persisted to the current time period. Gender discrimination is one of the main reasons why there is a high level of disparity noticed in the provision of primary, secondary, and higher education to learners. SDG Target 4.1 emphasizes that both boys and girls should be able to complete primary and secondary education without any form of discrimination (Sustainable Development Goals Fund 2020). Importantly, quality frameworks indicate to education providers that education should be provided without any form of discrimination.

Not only primary, secondary, and higher education, but early childhood education also plays a vital role in preparing children to achieve learning outcomes. Early childhood education prepares children for primary education. Therefore, SDG Target 4.2 is concerned with providing quality early childhood education so that children are well prepared to meet the challenges they come across in their primary education setting. According to SDG Target 4.2, the international
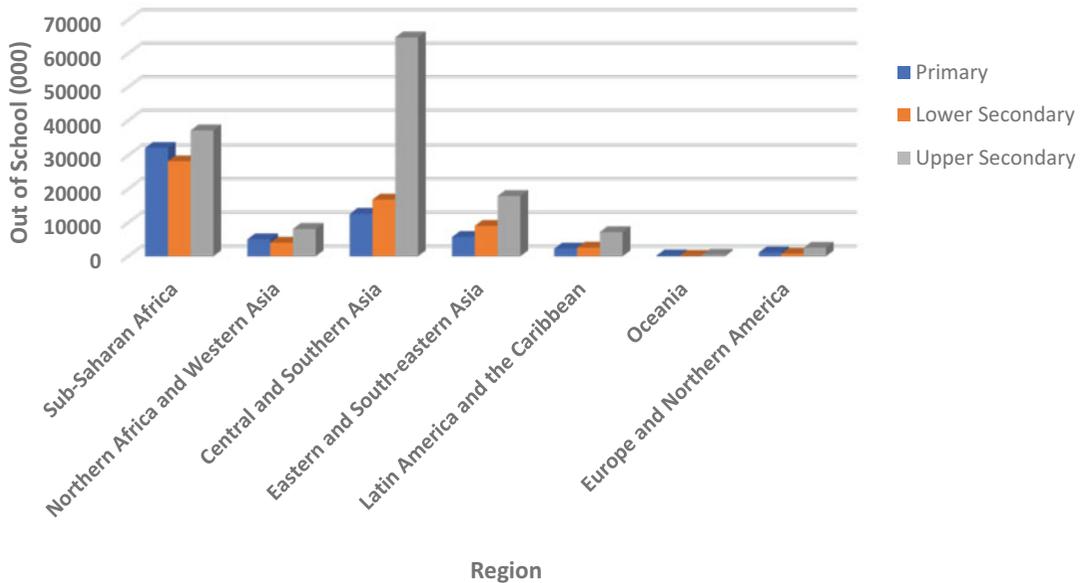
Facilitating Remote Teaching and Learning During the COVID-19, Fig. 1 Out of school statistics of children by age group for the year 2018 based on different regions.

(Created by the authors by using data from the Global Education Monitoring Report 2020)
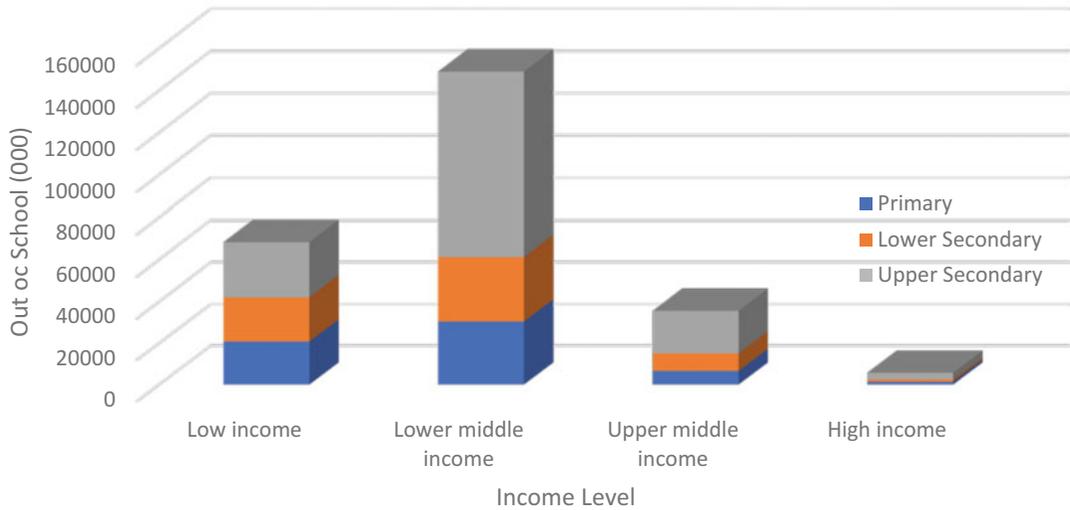
Facilitating Remote Teaching and Learning During the COVID-19, Fig. 2 Out of school statistics of children by age group for the year 2018 based on different income groups. (Created by the authors by using data from the Global Education Monitoring Report 2020)

and national bodies involved in the provision and delivery of childhood education need to train educators and provide sufficient learning facilities and resources.

Furthermore, vocational education helps youths to acquire technical skills that may be difficult to acquire within the formal education system. Traditionally, vocational education is considered as nonacademic and seeks to enhance productivity and self-employment (Pavlova 2008). SDG Target 4.3 emphasizes that youths and adults should be provided with equal access to vocational and tertiary education. Importantly, national governments play a critical role in increasing the number of youths with vocational skills, entrepreneurship, and decent jobs (Sustainable Development Goal 2020). Therefore, SDG Target 4.4 emphasizes the need to increase the number of youths with vocational skills. SDG Target 4.5 seeks to eliminate all forms of gender disparities in the acquisition of vocational education by disabled and minority groups.

Moreover, literacy and numeracy skills are important to all individuals in society, irrespective of gender, race, ethnicity, and disability. SDG Target 4.6 emphasizes that there is a need for both men and women to achieve the required level of literacy and numeracy to survive in the modern economy (Sustainable Development Goal 2020). Finally, SDG Target 4.7 argues that there is a need for all learners to acquire the knowledge, skills, and key competencies to promote sustainable development and achieve global citizenship (Sustainable Development Goal 2020). Sustainable development is necessary to protect our environment from harm and damage.

Global Status of Educational Institution's Operations to Manage Education During the COVID-19 Pandemic

In a traditional classroom, the interaction between learners and instructors is one of the critical components of delivering primary, secondary, and higher education. Instructors may design an instruction package depending on the technology literacy of the learners (Donner and Leahy 2020). Learners have traditionally preferred face-to-face models of delivering curriculum compared to online, distance, and blended learning models (Donner and Leahy 2020). Educational innovations have opened doors for the application of different teaching and learning models for the provision of distance and online education.

Furthermore, the COVID-19 health crisis escalated into a major education crisis as it disturbed normal practices to deliver primary, secondary, and higher education. Most of the stakeholders involved in the delivery of education are affected by the COVID-19 crisis. According to the United Nations (2020), around 94% of the world's learners were severely affected by the pandemic. This represents 1.58 billion children and adults from primary to higher educational institutions in around 200 countries (United Nations 2020). The providers of education had to determine various means of delivering education while at the same time maintaining social distancing and adhering to self-confinement measures.

Most institutions around the world designed a flexible remote learning system suitable for learners from different backgrounds and with differing needs (United Nations 2020). The providers of education rely on technologies such as radio, television, e-learning platforms, social media, printed materials, and the internet to deliver the curriculum to learners. Several constraints inhibited learners from taking full advantage of the remote learning system used by providers of education, and these include the following (United Nations 2020):

1. Availability of technology
2. Accessibility of technology
3. Technology literacy
4. Skills and know-how of instructors
5. Availability of resources
6. Parental support
7. Management support

As far as internal policies and procedures are concerned, one of the primary roles of the administrators of educational institutions is to ensure that they contain the spread of the coronavirus. Several drastic measures have therefore been undertaken by national governments and stakeholders involved in the delivery of education to combat the spread of the virus. These include closures of educational institutions, maintaining social distancing, creating awareness of self-hygiene practices, improving and increasing airflow and ventilation, and promoting handwashing practices.

The types of remote learning strategies as well as the approach to implementation that are undertaken by educational institutions account for how well learners will respond to the closure of educational institutions triggered by the COVID-19 health crisis. Instructors involved in the delivery of education using remote learning platforms need to be highly skilled and knowledgeable (Serhan 2020). Countries that have recorded high literacy rates and a high human development index are in a better position to deliver education by using remote learning platforms compared to countries that have reported low literacy rates and a low human development index (United Nations 2020). Due to the COVID-19 pandemic, 86% of the children in countries with a low human development index are out of school, as compared to countries with a high human development index where only 20% of the children are out of school (United Nations 2020). Learners in countries with a low human development index have a lack of resources to access the curriculum delivered via remote learning strategies.

Moreover, there has been a significant increase in the demand for e-learning platforms to deliver the curriculum. As a result of this, there has been an increase in the number of online tutoring firms providing online tutoring to learners worldwide (Johns and Mills 2020). The Chinese government has itself responded massively to the use of online platforms for teaching and learning purposes (World Economic Forum 2020).

Additionally, numerous companies worldwide are bolstering their capabilities to develop online systems, mainly aimed at delivering courses to the learners. For example, online internet collaboration tools are extensively used by instructors and learners to conduct classes by using video conferencing and auto-translation capabilities (World Economic Forum 2020). There are several applications that can be used to deliver online courses. Most of these technological innovations helps to deliver micro lessons, promote network between learners, conduct classes remotely, and stay organized.

Education Technology Solutions for Remote Learning During the COVID-19 Pandemic

The COVID-19 health crisis proved to be an emergency for the global economy. This crisis escalated as a socioeconomic, political, and education crisis as it affected almost every sphere of human livelihood. Each country responds differently to providing quality education during the COVID-19 crisis (The Brookings Institution 2020). The provision of emergency education during the COVID-19 pandemic required the adoption of social distancing practices to reduce the possibility of virus transmission (Murphy 2020). There is a widespread agreement among public officials that one of the best ways to fight COVID-19 is to implement a remote learning system that reduces face-to-face contact and interactions in classrooms (Murphy 2020).

A new wave of technological innovations has completely revolutionized the remote learning strategies which have been implemented to deliver the curriculum to learners during the COVID-19 health crisis. Closures of educational institution worldwide due to the COVID-19 health crisis are affecting around 1.5 billion children who are struggling to acquire high quality, equitable education. These closures of educational institutions have several adverse impacts on children and adults of all ages (Van Lancker and Parolin 2020). First, the children's learning process should be an ongoing activity whereby children learn as they grow. In most developing and low-income countries, closures of educational institutions have completely halted the learning process (World Bank 2020). Second, closures of educational institutions have adversely affected individuals' economic opportunities as delayed school completion will hinder their ability to eventually join the labor market with up-to-date skills and knowledge (World Bank 2020). Third, the poor and vulnerable have been the most affected group from the COVID-19 pandemic (Adnan and Anwar 2020). Extended closures of educational institutions have negative repercussions on the most vulnerable learners in communities. Vulnerable learners have fewer opportunities for growth and advancement as they lack the technology-enabled resources to make optimal use of technology-enabled learning (Adnan and Anwar 2020). The stakeholders involved in the delivery of primary, secondary, and post-secondary education can use educational technology in four ways to deliver emergency education in ways that curb the spread of COVID-19. These four ways are now explained in greater detail (The Brookings Institution 2020):

Mobilizing Institutional Networks to Create Awareness of Remote Learning

Primary, secondary, and higher education providers should develop remote learning platforms that can host curriculum materials and resources and provide information on lifesaving health and safety measures for the learners (The Brookings Institution 2020). Several educational institutions worldwide have adopted online platforms that provide full details of the safety precautions that learners and staff should undertake to curb the spread of COVID-19 (Shahzad et al. 2020). For example, numerous universities around the world are providing COVID-19 information on safety measures on the Moodle and Blackboard Learning (BBL) login pages. These universities provide specific details on the hygiene and cleanliness measures that learners should respect and follow to contain the spread of the coronavirus (Shahzad et al. 2020).

As far as the case of primary and secondary schools is concerned, several developing countries are entirely relying on printed materials, television, and radio programs to deliver the curriculum to learners. The educational institution's role is not only to provide curriculum materials to the learners but also to ensure that education delivery takes place in an open, clean, and conducive learning environment (The Brookings Institution 2020). In the USA, the Center for Disease Control and Prevention has been providing learners with full information on COVID-19 containment measures. However, they have failed to provide comprehensive

information on how learners can actively participate in national level campaigns on combating the spread of COVID-19 (The Brookings Institution 2020).

Active learners must contribute to creating a COVID-19 free society. Their role is particularly important in disseminating information on COVID-19 safety measures and the importance of these measures to combat the spread of the coronavirus. There are many examples of higher educational institutions around the world that use multiple methods of delivering education to learners (Mishra et al. 2020). Those educational institutions that rely extensively on radios, television, and the internet to deliver the curriculum should provide learners with the full details of the materials that are available online and offline. The offline program coordinators and website administrators can provide learners with an outline of the available materials and how these materials can be used for learning (Mishra et al. 2020).

1. **Designing Remote Learning Platforms to Support Learning for Several Months and Not for a Few Weeks Only**

Remote learning strategies designed to deliver the curriculum to learners should be flexible and accommodative to learners from different backgrounds. The nature of the COVID-19 crisis requires future planning for unpredictable events that may hinder the delivery of primary, secondary, and tertiary education by using e-learning platforms (Assunção Flores and Gago 2020).

Numerous educational institutions have designed remote learning platforms to account for institutions closures much longer than expected (The Brookings Institution 2020). Initially, primary, secondary, and higher educational institutions were closed only for a few weeks, but as the seriousness of the COVID-19 crisis escalated, the end-date for these closures were extended for months. Governments should ensure that a sustainable COVID-19 education management plan incorporates the unexpected and unpredictable nature of the crisis (Rahiem 2020). Importantly, the remote learning system should be

flexible and should have the capacity to address the needs of learners in the event of extended periods of closure of educational institutions (The Brookings Institution 2020). These plans should also account for any future closures even after the educational institutions have reopened again for operations. The COVID-19 pandemic is an unpredictable crisis that has taken a toll on the national economy. All the countries around the world have been affected in one way or another by the COVID-19 pandemic (The Brookings Institution 2020). International donor agencies, national governments, and educational institutions have invested millions of dollars in setting up the infrastructure for remote learning to be delivered by radios, television, online, and the distribution of printed learning materials (Mahmood 2020).

Several higher educational institutions have spent aggressively in setting up online remote learning platforms for the learners. Privately owned schools have also spent millions of dollars acquiring resources and setting up remote learning infrastructure in richer countries. There is huge variation in the use of these applications for remote learning in different countries, particularly the developing countries are lagging far behind in the application of remote learning techniques.

2. **Identify Potential Glitches of Using Remote Learning Systems**

A common problem faced by using any technology is that it is subject to glitches and flaws. The remote learning strategies used by educational institutions to deliver higher education should be resilient and have the capacity to reduce individuals' anxiety during an emergency (Allo 2020; Dhawan 2020). During times of crisis, it is understandable that there will be potential glitches that may restrict the remote learning system to perform at its maximum capacity. Education providers can undertake the following strategies to minimize the impact of glitches on learners while they are using the remote learning system (Garbe et al. 2020; The Brookings Institution 2020):

- Using skilled staff to address the problems of using remote learning systems.
- Information Computer Technology (ICT) staff should inform learners of potential errors in using e-learning systems.
- Educational institutions need to maintain close working relationships with suppliers of e-learning platforms.
- Education providers should continuously train users of e-learning platforms on the best practices of using such platforms.

3. **Continuously Improve Remote Learning Platforms**

Remote learning can be delivered both synchronously or asynchronously. Synchronous learning takes place either online or offline and is time-dependent. Instructors usually integrate e-learning platforms with video conferencing software, while real-time learning takes place in the virtual learning environment (Yin et al. 2020). Common examples of synchronous learning are telephone conferences, webcasts, webinars, virtual online classrooms, and live chat. These technologies are specifically designed to help learners attend training programs from anywhere around the globe.

On the other hand, asynchronous learning is not time-bound and does not occur in a single time-space. Some of the common examples of asynchronous learning are (1) online quizzes, (2) micro learning, and (3) videos. Remote, blended, and online learning use both synchronous and asynchronous learning to deliver online education. Some of the common ways remote learning platforms can be improved are as follows (Galindo et al. 2020; iSpring 2020):

- The software used to deliver remote learning needs to be assessed in terms of its suitability for teaching and learning. If the learners find it challenging to use the software, it would be helpful to provide training to learners or to changeover to more manageable or user-friendly software.
- E-learning authorizing tools need to be checked for built-in quizzing, interactions,

simulations, and assessments. These tools should be updated to provide e-learning users with the latest version of interactive tools that can be used for learning purposes.
- Training should be provided to the e-learning platform users to ensure that they are fully aware of the changes in the e-learning platform.
- Instructors should re-strategize the application of online platforms to deliver education to the learners. As new tools become available for teaching and learning, these tools should be implemented to enhance online quizzes and assessments.

Responses by Governments to Manage the Implications of COVID-19 on Education

Globally, national governments have responded to managing the spread of COVID-19 by temporarily closing educational institutions (You 2020; UNESCO 2020a, b, c). A number of international agencies, e.g., the World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF), and International Federation of the Red Cross (IFR), have issued specific guidelines to ensure that measures are implemented to protect educational institutions from the spread of the coronavirus. These guidelines ensure that national authorities collaborate with local authorities and design emergency plans to protect learners from the coronavirus (WHO 2020). As far as the contents of the guidelines are concerned, specific recommendations ensure continuity of learning by using remote and online learning strategies. These strategies use ICT-enabled devices and radio broadcasts to deliver the curriculum to learners (You 2020; WHO 2020). These plans clearly specify that all necessary steps should be undertaken to reopen educational institutions. In the event that an educational institution has to reopen or remain open, all necessary actions must be undertaken to ensure the following (Hopman et al. 2020; WHO 2020):

- Creating awareness and providing children with information to protect themselves

- Provision of hygiene supplies and encouraging learners to make use of these
- Enhancing ventilation and airflow around the campus
- Disinfecting ablution facilities

National governments have been playing a pivotal role in creating awareness on how to prevent and control the spread of the coronavirus, at home and in educational institutions. Importantly, all educational institution administrators have to follow the national guidelines on the reopening of educational institutions to promote good public health (Hopman et al. 2020; WHO 2020). Educational institutions that have implemented remote learning strategies have to provide learners with all the resources to promote effective learning. Additionally, the educational institutions should be able to provide correct information and mental support to prevent the spread of the coronavirus (Hopman et al. 2020; WHO 2020).

Remote learning strategies differ across the world. These are some countries that are using online learning platforms for teaching and learning purposes to manage the negative implications of COVID-19 on teaching and learning. The resource used by countries to deliver education is determined by the accessibility of learning infrastructure to learners.

Challenges Faced by Learners in Adopting Remote Learning Strategies

Learners from higher education institutions have been adversely affected by the remote learning strategies used by the instructors to deliver education. Numerous countries worldwide have adopted technologies for delivering remote learning (Mohamad Nasri et al. 2020). The accessibility of these technologies determines their adoption and success in delivering courses to learners. There are countries around the world that have set up specialized websites to host course materials for learners. These countries are also using radios and television to deliver courses. This ensures that learners who do not have access

to computer technology are not disadvantaged in any way and that resources are available to learners to facilitate all forms of learning. Learners face numerous challenges in accessing courses via remote learning platforms (Patricia 2020). Some of these challenges are explained below:

- Moving from on-campus to online learning raises questions related to access and equity. Numerous learners do not have access to the technology used to deliver online courses. One possible remedy to solve this problem is to offer stipends, laptops, and internet access to learners (Ramachandran and Rodriguez 2020). This can become costly, and all educational intuitions may not be in the position to offer these resources to learners. For instance, the University of Washington-Bothell, USA, has significantly increased the number of loan equipment provided to its learners (Heitz et al. 2020). However, these resources can only be provided by universities that are financially strong and in a position to supply and implement the necessary supporting infrastructure. In the USA, numerous internet providers have signed the "Keep Americans Connected Pledge" (Heitz et al. 2020). These companies are providing free hot spots with no data caps to enable learners to participate in remote learning. Universities in the USA are also working with the state and local providers to provide equitable and accessible remote learning to learners (Heitz et al. 2020). There are numerous problems that learners have to overcome while using remote learning systems for teaching and learning (World Economic Forum 2020). Learners without access to the internet and relevant technologies may find it challenging to participate in digital learning. A cross-country comparison brings to light several disparities in the availability of the internet and technology to deliver education to learners using digital learning platforms (World Economic Forum 2020). For example, in Switzerland, Norway, and Austria, 95% of students have access to computers and technology to complete their schoolwork. In contrast, in the

case of Indonesia, around 34% of students have access to computers and technology (World Economic Forum 2020). Comparably, the USA case is indicative of the fact that accessibility to education through remote learning systems is subject to the availability of computers and technology to those who are not from a privileged background. According to the World Economic Forum (2020), in the USA, all 15-year-olds from an economically well-off background have access to computers, while 25% of the students from disadvantaged backgrounds do not have access to computers.

- The COVID-19 pandemic has negative repercussions on the emotional, social, and human needs of learners. Numerous families around the world are struggling to provide basic needs to children. Provision of basic facilities is important to facilitate learning in educational institutions (Ramachandran and Rodriguez 2020). Here educational institutions can play a critical role in connecting families to social service organizations that provide food and residential support to learners (Mohamad Nasri et al. 2020). Some universities have partially opened their campuses to provide for these needs of learners. For instance, Mississippi State University seeks creative ways of keeping the campus partially open (Heitz et al. 2020).

- The COVID-19 pandemic has had a significant impact on the health of learners. Some of the impacts of COVID-19 are anxiety, distress, and respiratory illness (Heitz et al. 2020). To manage the health of learners, many universities in the USA are providing mental and physical health services on campus (Heitz et al. 2020). With the shift to remote learning, educational institutions have used numerous strategies for scaling up outreach. Some of these include video options, telehealth, mindful classes, and numerous online applications. During the COVID-19 period, people with disabilities need special attention and care to deal with the COVID-19 health crisis. The remote learning strategies as implemented by educational institutions will undoubtedly contribute to overwhelm available resources.

Implications of Remote Learning for Future Learning

Two streams of thought exist on the impact of remote learning on the quality of learning. The first stream of thought emphasizes that without sufficient training and resources, the abrupt shift to remote learning will result in a poor user experience and compromise the ability of learners to meet learning outcomes (World Economic Forum 2020). The second stream of thought argues that the hybrid model of delivering education is preferable and will rather lead to significant benefits for learners. The integration of information computer technology into education delivery has become an integral part of the remote learning.

Importantly, some universities have made numerous successful transitions to deliver education through remote learning systems (Ramachandran and Rodriguez 2020). For example, Zhejiang University in China moved 5,000 courses online within 2 weeks of transition into the online learning system by using "DingTalk ZJU." Imperial College London has started offering courses on the coronavirus and facilitates remote learning through its Coursera system (World Economic Forum 2020). The University of Jordan uses Lark to facilitate teaching and learning, and this has significantly changed the way courses are delivered to learners. Remote learning systems assist educational institutions to reach out to learners effectively while at the same time maintaining social distancing and self-confinement practices (World Economic Forum 2020). Some of the applications used to reach out to learners are chat groups, video meetings, and setting up online assessments.

Changes to the Future of Remote Learning

The new normal situation that is being adopted by countries around the world requires educational administrators to start reopening institutions, with changes in operations that should be implemented within different time horizons. This new normal situation developed during the later stages of the

pandantic. As far as short-term measures are concerned, educational administrators at educational institutions are required to maintain proper hygiene and social distancing measures to create a healthy and conducive learning environment. As educational institutions are reopening, administrators are required to create trust relationships with stakeholders so that parents feel safe and secure to send their children back to educational institutions to complete their school year (Ramachandran and Rodriguez 2020; World Economic Forum 2020).

Additionally, administrators of educational institutions need to ensure that a flexible learning system is implemented that can easily adapt to the remote learning model. In the long term, there may be some permanent changes to the education system. Disruptions due to the closure of education institutions have led to many innovative practices, and these latest developments in technology can be used to harness teaching and learning in different contexts. The changes which have been observed include the following:

- The COVID-19 crisis enabled the global learning system to realize that learning can take place effectively with the use of internet technology. The insights gained from the delivery of remote learning courses during the pandemic can help educational institutions to take teaching and learning to greater heights.
- There has been increased involvement of the private sector in the delivery of education. The unique nature of the pandemic itself can pave ways for cross-industry collaboration and cooperation.
- The digital divide of education has increased prospects of widening inequality. Essentially, with remote learning systems, the quality of education depends on the accessibility and availability of technology to deliver high-quality education to meet differing needs of individuals from different backgrounds.

Generally arguing, it may be too early to judge whether the lessons learnt from remote teaching and learning activities will result in poor or improved performance by learners (World Economic Forum 2020).

Conclusion

The main aim of this entry was to examine the global status of educational institutions operations pre-COVID-19, during COVID-19, and post COVD-19, and the remote learning strategies to deliver high-quality education to learners. Additionally, this entry also examined the government's response to managing the impact of the COVID-19 crisis on education and the implications of remote learning to current and future learning practices. This entry argues that the decision to open or close educational institutions around the world is determined by the nature of the impact of the COVID-19 pandemic in each country. In countries, where the COVID-19 pandemic has taken a serious toll on people's health and the spread of the virus has reached an uncontrollable level, governments have ensured that educational institutions are closed to protect learners and to combat the spread of the virus. Radios, television, printed media, and the internet are used to deliver remote learning courses in different parts of the world. Remote learning strategies have increased inequalities in access to education opportunities in especially developing countries as many children and adults lack access to ICTs in order to benefit from the availability of remote learning opportunities.

Cross-References

▶ Information Computer Technology
▶ Quality Education
▶ Sustainability

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