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Investigational analysis on crisis caused by Covid- 2019 on sustainability of teaching learning process

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Abstract

The crisis caused by covid-19 has assorted effect on education system. To abate the escalation of COVID-19, most countries across the globe have decided to temporarily close educational institutions. However, learning has not stopped but is now fully taking place online as schools and universities provide remote schooling. As lockdown has palpably break the usual transmission channels and in conjunction with this, has led the abandonment of classes , meetings and long-planned events. The crisis brought education systems across the world to a halt, where school closures affected more than 1.6 billion learners. It was not just academic knowledge what these students has missed out but also they are imperilled of finishing school without the any artifice, comportments , and mind-sets to get success in universities or in the workforce. The collective reaction of the pandemic may have everlasting effect on an all age group of learners. Scholastic achievement and proficiency are not only linked to higher earnings but also to better health and greater civic involvement. There is few missing pieces of information in the literature in regards to how global crisis consequences the sustainability of education system and its development. Therefore , this innovative paper, take on an analysis to that extent which shows pandamic-19 as whole and the lockdown distinctly has impacted education system and the study is highlighting the role played by teachers and students through online education.

Key Words: *Covid-19, sustainable development, crisis, remote learning, education system, virtual learning.*

1. Introduction

Education is globally ratify as a fundamental right of all children, which must be accessible without any bounds and unfairness During Pandemic , Most educational institutions globally cancelled in-person instruction and moved to remote learning and teaching in March 2020 in as an attempt to control the spread of corona virus. The switching of from offline to online learning caused by COVID-19

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has adversely affected the students in primary and lower secondary schools, who had higher difficulties in adapting to the new learning environment. The switch has also intensified the existing educational inequalities. The students from confined back grounds, have been left behind during this crisis period, because they were unacquainted to relevant learning digital measures such as laptop/computer, broadband internet connection etc. and were not having a suitable home learning environment like a quiet place to study or their own desk, moreover they had barely enough support from their parents. In prosperous families, parents were more likely able to work from home and also could have afforded private online tuition. Schools might have been additionally contributed to this inequalities .Children of single parents or large families as well as students with special needs or disabilities have also been likely to suffer from the switch, unless assisted technologies promptly put in place and adapted to the new learning environment.

In fact, student's isolation from their friends and teachers have also resulted in an unequal distribution of behavioural and psychological problems. Throughout the lockdown, students from disfavour backgrounds are doubtlessly exposed to a stressful home environment as they shared a limited space and a limited number of digital devices with other family members. Furthermore, parents in these households, who were under pressure because of financial and job security issues because of the Covid-19 crisis, were not in the position to support their children in these circumstances.

In particular, this investigation we have tried to examine that how the education system has faced the consequences of COVID-19, and highlighted the role played by teachers and students through online education. Also tried to emphasized the little and few positive impact of the online education helpful to student, parents and school teachers.

2.0 Literature Review

Particularly, in view of the implementation of the Sustainable Development Goals (SDGs), sustainable research have need of integrative science and the active involvement of academic institutions and non educational sectors like innovative companies, municipalities and civil society (Bergvall-Kåreborn and Ståhlbröst 2009; Schneidewind 2014; Wiek et al. 2014). To ensure the potency of such research and its societal consequences, a transition to collaborative sustainability approaches may be a successful solution.

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Education can help children deal better with the tribulation what they faced at the times of penury. The education laid out students with the stability and profile that they need to grapple with the loss, fear, stress and violence during and after crises. It is also important that educational officialdom should develop more electronic study materials and establish the obligatory infrastructure so that even a exile student can also access learning materials from wherever they are through different electronic media.

Health disaster caused by COVID-19 impacted research activities tackled by higher education institutions, research centres and research groups in several ways. Researchers all over the world were forced to remoteness and they had to postponed eye to eye meetings with their teammate, which had an adverse effect on the work of investigator group. Furthermore, during the peak of the pandemic, several activities in research laboratories had been interrupted. This has led to postponement in the scheduling of many research proposals. In many cases, researchers were forced to appeal for an extension of the deadlines for their activities.

Many schools redirect to online, video-based learning, children from underrated communities were unable to enduring their education from home, they either were not able to understand the technology or could not afford to pay for internet data.

Globally the Covid-19 crises have resulted in lockdowns, quarantines, and social distancing to control disease transmission. In response to hinder the accelerated spread of disease government has also closed public and private institutions in mid-March 2020. Before the Covid-19 outbreak, the country's education system was already suffering from learning crises unexpected school closures have consequences in a further depression the country's efforts to build productive human capital for the future. The lockdown strategies have been proven more effective to slow down the transmission of disease, but complete lockdowns might not been efficient in the long run.(Rinaldi, C., Cavicchi, A., Spigarelli, F., Lacche, L.,Rubens, A.2017).

The earliest respond of the government during school closures has been related to remote learning such as online or televised broadcasting to ensure continued learning for children (Velazquez, L., Munguia, N., Platt, A. Taddei, J. 2006). The standard atmosphere used for online lectures were student homes, personal laptop, and smartphone. However, the quality of interactions can vary depending on the teachers' access to technology and network stability (Stead, J.G., Stead, W.E., 2010).

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Even with different attempts to continue education, the closures have still produced substantial learning losses (Rogers & Sabarwal, 2020).

Investigational analysis has been done on the previous health crises such as the Spanish flu, the Ebola epidemics etc. and their impact on children education in different countries. It shows that such a crisis had not only cost lives and employment but had also substantially deteriorated learning achievement and dropout of school-age children (Amaral, L.P., Martins, N., Gouveia, J.B., 2015., Annan-Diab, F., Molinari, C. 2017).

Recently in respond to the COVID-19 crisis, few studies have also been done, the pandemic impact on learning outcomes and school dropouts from different countries (Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020; Dorn, Hancock, Sarakatsannis, & Viruleg, 2020). Mundy and Hares (2020) reported that improved access of e- learning tools and study materials is complemented by high parental involvement at home in the learning process enhances educational attainments. Consequently, when the schools reopened the children of the well-off parents performed better than relatively to the children of the impoverished parents (Fuchs et al., 2020). In the similar manner (Lewnard JA, Lo NC. 2020) , the school completion rates among children from less learned families are likely to drop substantially compared to the well educated families' children.

Therefore, family response to school closure has produce significant differences in children's learning opportunities from different social backgrounds (Bizerril M, Rosa MJ, Carvalho T, Pedrosa J. 2018) In addition to learning loss, COVID-19 school closures has increased school dropout rates. Globally, the income shock due to COVID-19 alone had contributed around 7 million more dropouts from primary up to secondary education (Azevedo et al., 2020).

In another study, Dans, E. (2020) estimated that 2 to 9 percent of students have droped out during COVID-19 school closure. The learning loss and increased withdraw rates—are not short terms shocks but could continue to accumulate learning losses even after children return to school. However, the government's progressive remediation measure would lessen long-term learning losses.

3.0 Methodology

Data and information shown in the study are gathered from copious reports and articles published in national and international organization on impact of COVID-19

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pandemic. Particulars are also collected from different authentic websites. Few periodicals are also referred to ascribe the impact of COVID-19 on educational system.

4.0 Discussion

4.1(i) Impact on Teachers :

Both teachers and students were facing many obstacles during remote teaching learning. During, teaching from home, a lack of basic amenities, external circumstances and family interruption were major issues noticed. Educational institution support barriers such as the budget for purchasing advanced technologies, shortage of training, insufficient technical support and a lack of clarity and direction were also observed. Teachers have also faced technical difficulties. The difficulties were grouped under deficit of technical support; it included an inadequate technical infrastructure, limited awareness of online teaching platforms and security concerns. Teachers' personal problems including a lack of technical knowledge, course integration with technology are damper their engagement in online teaching.

4.1(ii) Impact on Learners nationwide school closures (million) and level of education:

Nationwide closures of schools and universities in 192 nations because of the COVID-19 pandemic have destructed the education 90% of the world's learners population. Governments around the world have closed educational institutions from the pre-primary to the tertiary level in an effort to stop the spread of COVID-19 and to minimize health risks for students, teachers and non-academic staff. The Chart 1. below shows the worldwide average

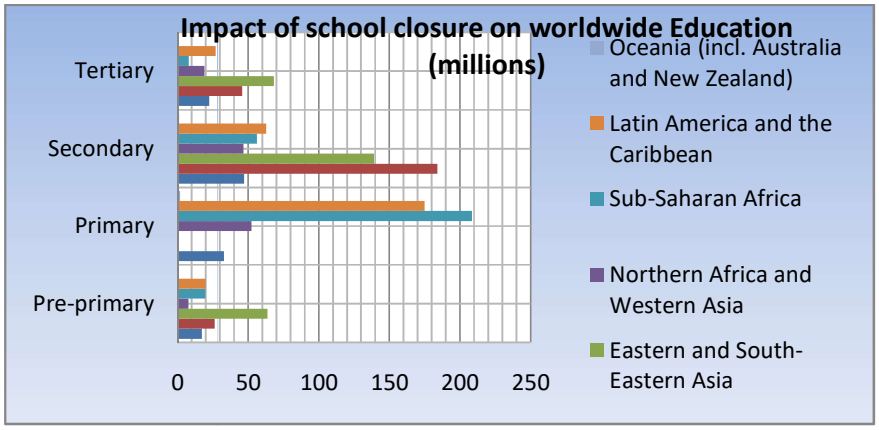

Chart-1

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4.1(iii) Covid-19 induced economic impact on teaching learning:

The worldwide school closures in early 2020 had led to losses in learning that would not be made up for even if schools quickly return to their previous performance levels. These losses would have persistent economic impacts both on the affected students and on each nation unless they are effectively remediated. The accurate learning losses are still not yet known, literature review suggests that the students in grades 1-12 affected by the closures might expect some 3 percent lower income over their entire lifetimes. For nations, the lower long-term growth related to such losses might yield an average of 1.5 percent lower annual GDP for the remainder of the century. These economic losses would grow if schools have not been re-start quickly. The economic losses has been deeply felt by disadvantaged students. All are indications , students whose families were less able to support out-of-school learning have faced high learning losses than more well off families, which in consequently would result into deeper losses of lifetime earnings.

Indeed, the top priorities of dealing with the immediate and obvious issues of the pandemic has ignored any serious consideration of the longer-run costs of the virus-induced school closures. Undoubtedly, the school closures in the first half of 2020 have resulted in significant learning losses to the affected cohort of learners. These losses have followed students into the labour market, both students and their nations are likely to feel the adverse economic outcomes. No one can forecast perfectly how school closures are going to impact the development of the affected children, but past research has investigated that school attendance and learning outcomes affect labour-market and economic development.

Additionally , review of previous data shows the present value of lost GDP due to corona-induced learning loss for G20 nations, as shown in chart-2.

Country	GDP 2019 (billions USD)	Impact of Lost Learning (billions USD)	
		-1/3 year learning	2/3 year learning

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Argentina	990	-683	-1 347
Australia	1 262	-871	-1 716
Brazil	3 092	-2 134	-4 205
Canada	1 843	-1 272	-2 507
China	22 527	-15 543	-30 636
France	3 097	-2 137	-4 212
Germany	4 474	-3 087	-6 084
India	9 229	-6 368	-12 552
Italy	2 557	-1 765	-3 478
Japan	5 231	-3 609	-7 114
Republic of Korea	2 206	-1 522	-3 000
Mexico	2 519	-1 738	-3 426
Russian Federation	3 968	-2 738	-5 397
Saudi Arabia	1 609	-1 110	-2 189
South Africa	731	-504	-994
Turkey	2 350	-1 621	-3 196
United Kingdom	3 121	-2 154	-4 245
United States	20 575	-14 197	-27 982

Chart-2

4.2 Positive impact on education system:

As per my opinion although the outbreak of COVID-19 has negatively impacted the education system, But also have a bit positive impact on worldwide education. Globally educational institutions have accepted the

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crisis challenges and have tried their best to provide support services to the students during the pandemic. Education system got the opportunity for transformation from traditional system to a new era.

The COVID-19 pandemic highlighted: (i)*the ability to adapt quickly to working and learning from home (ii) the necessity to improve rapidly the pedagogical aspects of online learning when online classrooms need to replace physical ones (iii) the availability of targeted, easily accessible, self-paced online learning.*

The ensuing points may be deemed as the beneficial impacts-

4.2(i) Melioration in cooperation work:

There is a new opportunity of collaborative teaching and learning can take on new forms. Teachers and students have learned how to perform their role to a situation in which they have to communicate only through online. Regular and detailed communication between parents, teachers, and the school is a fundamental element of a successful online learning strategy.

4.2(ii) Intensified digital literacy:

The pandemic situation induced people to learn and use digital technology and consequently in increasing the digital literacy. The pandemic has created an advancement in teleconferencing, virtual meetings, webinars and e-conferencing opportunities.

4.2(iii) Intensified use of broadcasting media for sharing information:

Educational broadcasting can be a useful complement to online programmes . It provides learning to those who do not have access the internet and equalises teaching methods and material across schools within a country or region. Learning materials are shared among the students easily and the related queries are resolved through e-mail, SMS, phone calls and using different social medias like WhatsApp or Facebook.

4.2(iv) Global revelation:

Educators and learners are getting opportunities to interact with peers from around the world. Learners adapted to an international community.

4.2(v) Demand for Open and Distance Learning:

During the pandemic situation, most of the students preferred Open and Distance Learning mode as it encourages self- learning providing opportunities to learn from diverse resources and customized learning as per their needs.

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5.0 Replenishment of the learning losses due to crisis

5.0(i) Through support of Technology:

Many school systems are moving to technology as an alternative to in school instruction. Class have gone online while many educators talk of "reimaging" education in ways that will shift it from a classroom and teacher-centred model.

Students with Special Educational Needs and /or Disabilities (SEND) are among those who are more likely to suffer from physical school closure. Digital technologies can provide useful support to SEND students, especially if they are part of a coherent and overarching process. Present days technologies can improve communication, allow mobility, and increase participation, are an important tool to enhance learning for individuals with specific ailment. In order to successfully implement learning strategies for SEND students, it is essential to: i) identify who they are and their special needs or disabilities; ii) identify the assistive technologies that can best support SEND students (depending on the type and degree of disability), iii) involve SEND students and their families in the process, in order to get their support and commitment; iv) monitor progress and act accordingly (eventually modifying the initial strategy).

5.0(ii) Through Support of teachers:

Teachers are the most important element in the whole process, and especially so in relationship with disadvantaged students, for whom the family can often offer only limited assistance ,in fact teachers have to perform mediating role between students and their family. Teachers should have learn how to adapt their role to a situation in which they can communicate only online. It is essential to improve teachers' digital competences across all ages, and this can be done by the workshops and training courses (Redecker 2017),which is required for the part of their continuous professional development. Supporting collaborative types of professional development between teachers (e.g. teacher networks) should also enhanced , as it would allow them to learn from their peers. Additionally, relevant stakeholders like policymakers, school leaders, teachers, parents are need to adopt a coordinated approach.

In particular, the overall strategy for online education, together with teaching and learning ,materials must be developed through a coordinated process, in order to avoid that each teacher or school chooses its

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own approach, which would simply increase duplications without delivering higher efficacy. This does not imply that different models could not coexist, but even in this case it will be well organized and managed.

5.0(iii) Through Support of parents :

Parents are also an essential element of this teaching learning system, and more so for younger students who cannot be left alone facing the challenges of online learning. Parents should be involved in the design of the strategy and in its implementation as they need to fully understand what is taught and why. Parents should also be informed of the emotional challenges that online learning entails, which are likely to be greater for young children, but which could also affect adolescent students. Parents have to learn how to support their youngsters emotionally and in their daily school tasks. Constant and detailed communication between parents, teachers, and the school is a fundamental element of a successful online learning strategy.

5.0 (iv) Through Educational broadcasting:

Educational broadcasting is the dissemination of education programmes by public television or radio, can be a useful complement to online programmes as it delivers teaching to those learners who do not have access to the internet, and equalises teaching methods and educational contents across institution within a country or region. However, there are also concerns related to the efficiency of educational broadcasting as a means of transferring knowledge to students. Relevant studies are scarce and they were published back in the 1980s or 1990s (for a more recent study, see Ha 2017), as the rise of private television corporations and, most importantly, the internet, changed the landscape in later decades. Educational broadcasting has strong traditions in a number of countries, such as the UK (Sumner 1991), Sweden (Runcis and Sandin 2010), the US (Kentnor 2015), Australia (Richard L.Oliver, et al. 1994), South Africa (Barnett 2002; Nwanko 1973), or Uganda (Kiwanuka-Tondo 1990). During the COVID-19 pandemic, educational broadcasting has been used to support remote learning in a number of countries (e.g. Croatia, Czechia, North Macedonia, Serbia, Spain, or Poland.

5.0 (v) Through Virtual Learning Environments(VLE)-

VLE can give learners access to educational resources, connect students with teachers and facilitate remote lessons. Choice and the overall impact of VLE crucially depend on teachers' pedagogical and technological readiness and on students' and parents'

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digital competences such as accessibility of the internet and availability of appropriate ICT tools are preconditions. The choice of the appropriate VLE will also depend on the degree of uniformity that governments intend to guarantee across different geographical areas. Various types of VLE exist, all have slightly different types of mode of action but ultimately perform the same function. Different models must go through trial in different contexts and the selection should be based on an accurate analysis of the relative pros and cons of each VLE.

6.0 Conclusion

To sum up, based on the existing literature and recent available datasets, main conclusions emerge on the possible impact of COVID-19 on teaching learning process. Although online learning has a lot of potential and more effective when instructor and learner both have time to prepare and get used to it and institutions have adequate time to go through its implementation. Unfortunately, COVID-19 has forced all the educational institutions to move a sudden switch to remote learning. The data shown by School Education Gateway survey, which was conducted between 9 April and 10 May 2020 and attracted 4,859 respondents from more than 40 countries of whom 86% were teachers or school heads, shows that the majority of teachers (66.9%) have to teach online for the first time. Additionally, many teachers have faced problems in using the technology (computers, software, reliable internet connection, etc.).

School closure and shift to online learning might have a particularly detrimental effect on the learning of younger children who have need to start building their softer skills such as communication skills, teamwork and may also have troubles in sustaining attention to a computer screen for long. Students with disabilities are at risk of significantly falling behind. Most children with learning difficulties cannot work independently in front of a computer and their supervision is especially challenging. Additionally, losing the daily routine what school offers may also have an adverse effect on students with disabilities who are particularly sensitive to changes in the learning environment.

During this emergency period inequality in socio-emotional skills may also increase. Children from lower socio-economic status are more likely to be exposed to a stressful home environment than their peers from higher socio-economic status. Additionally, parents from more advantaged backgrounds may be better equipped in terms of socio-emotional skills to handle problems emerging during a long confinement period.

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Although COVID-19 has immensely impacted the education sector globally, but still it has created many challenges and various opportunities. Many stakeholders of education have explored the possibility of Open and Distance learning by adopting different digital technologies to cope up with the present crisis of COVID-19. Before covid-19, all nations were not fully equipped to make education reach all corners of the world via digital platforms.

7.0 Suggestions

The priority should be to employ the digital technology to create an upper hand for millions of young learners. It is present obligation of the educational institutions to strengthen their knowledge and Information Technology infrastructure to be ready for facing COVID-19 like situations. Even if the COVID-19 crisis stretches longer, there is exigent to take efforts on maximum utilization of remote learning platforms. We should develop creative strategies to ensure that all children must have sustainable retrieve to learning during crisis. As online practice has benefitted the students immensely, it should be continued after the lockdown.

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