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# Challenges and Improvements for Virtual Teaching during the Time of Corona-virus Pandemic

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## Abstract

The first quarter of 2020 was a hard time for the global community. The COVID-19 pandemic has forced sudden transformation in many sectors of the global community, turning the world upside down. One of the social areas that faced the strongest challenges, without being really prepared for it, is that of education. Teachers, students, parents, schools and local communities and, last but not least, the state was suddenly put in a position to change their rules of operation, teaching techniques or examination methods overnight. Stakeholders and management of higher education institutions had no other option but to make use of internet technology, thus virtual teaching for the continuation of academic activities across all schools worldwide. The sudden transition to online pedagogy as a result of COVID-19 in developing countries has exposed some inequalities and challenges as well as benefits. These challenges and inequalities have now become the new realities in the educational sector of developing countries. Recommendations are provided here so that the challenges presented by the new approach can be mitigated while we come to terms with the disruptions occasioned by COVID-19 to our education sector.

**Keywords:** Challenges and Improvements; COVID-19 Pandemic; Education; Fundamental Human Right; Virtual Teaching

## Introduction

Following significant school closures enforced as part of public health efforts to limit the circulation of corona virus, (United Nations Educational, Scientific and Cultural Organization (UNESCO), <sup>1</sup> education systems around the world are confronting an unprecedented challenge. The Coronavirus outbreak has been and continues to be a severe menace to humanity, even if it does not pose a direct threat to national lives. According to UNESCO, the Coronavirus outbreak would have affected over 1.37 billion children and teachers by April 2020, including at work. <sup>2</sup> In other words, 80% of all students in a global educational system are at risk of

falling behind intellectually in the next years, risking future growth rates and income from their fields of activity.<sup>3</sup>

Education is one of the social arenas that have faced the most significant difficulties without being adequately equipped. For students and teachers, the pandemic resulted in the closure of schools and universities, resulting in significant changes in the educational process in a short period of time, as well as a significant loss of time allocated to learning by many students, with potentially negative consequences for their educational progression and profession.<sup>4</sup> Government agencies are collaborating with international organizations, commercial sector partners and civil society to deliver education remotely using a variety of technology to ensure that all students have access to a curriculum-based education.<sup>5</sup> New technologies, which were difficult for all parties involved to assimilate in the short term, as well as material, financial and educational resources that were inaccessible to many students, particularly in less developed regions or states around the world, constituted a magnifying glass of inequalities.

Many governments encouraged schools to shift from traditional to virtual education and online learning in the aftermath of the corona virus spread, when kids were barred from going to school and face-to-face schooling discontinued.<sup>6</sup> Virtual education (online education and learning) is a type of online learning that distinguishes itself by separating the student and the instructor.<sup>7</sup> Therefore, the purpose of this paper is to unveil challenges and improvements for virtual teaching during coronavirus pandemic.

### **The meaning of virtual teaching.**

Virtual education is an academic institution that employs internet approaches or the online to provide education classes.<sup>8</sup> Online education largely uses social media to provide teaching and material of education.<sup>9</sup> According to Kundu, Bej, and Dey,<sup>10</sup> internet service today ensures educational opportunities at the cheapest prices, if not for free and is effective in increasing active learning and accomplishment. Thamarana<sup>11</sup> reported that distant education via E-learning and Virtual Learning Environment (VLE) was efficient and creative in accomplishing language acquisition outcomes in a research. A literature review of a private college employing the 'Google-Meet' technology to provides internet learning during the COVID-19 outbreak illustrates that the swift conversion can be used in the long term.<sup>12</sup> As a consequence of coronavirus outbreak, 96 countries around the world have implemented various online technologies to sustain the education system, such as telecasts, tools, instructions, digital resources, internet media, and multimedia presentations.<sup>13</sup>

Whereas, the in-school interaction cannot be substituted, a virtual classroom learning environment can encourage learners in purposeful and effective activities to help them avoid academic setbacks.<sup>14</sup> In the structure of elementary schools, virtual schooling is rapidly getting prominence.<sup>15</sup> Various research, Boston,<sup>16</sup>; Lazarus,<sup>17</sup>; Kundu<sup>18</sup> have found that in virtual contexts, educators' responsibilities, curricular methodologies and teaching techniques as well as facial education, must be adapted. Virtual education and internet based instructional methods could be actively promoted to complement teaching if they are supported by sufficient professional settings and assistance, according to the data.<sup>19</sup>

Educators integrate their expertise of the subject area (subject material) with their understanding of methodology (how to educate) within respective teaching methods to enhance learning objectives.<sup>20</sup> This is also true in virtual education, in which it is critical to properly regulate the implementation of inclusive education focused on the teacher's pedagogical and content understanding.<sup>21</sup> The instructor's major role is to identify and organize technologies, methodology, and material in order to prepare learners with high-quality online education experiences.<sup>22</sup>

For technological advancements, instructors and teenagers, the fast change to distance education during corona virus outbreak was challenging.<sup>23</sup> Based on anecdotal evidence, loss of commitment, concentration, and ability to focus are believed to be the more significant hazards in a virtual world, which are greatly amplified in infants and toddlers.<sup>24</sup> In the framework of virtual education, it's vital to keep track of influence on student active participation, especially among learners with poor self-control and self-organization abilities. Curriculum design material that is ready for all levels of education and fields of study and can be presented to all students is often a concern.<sup>25</sup> Planned measures of utilizing a diversity of social networks and collaboration technologies are vital to ensure online education beneficial for youngsters.<sup>26</sup> Educational institutions, instructors, and households or homes should all be encouraged to make a swift radical change to a current daily pattern of virtual education delivery and stick with it for months. Teachers have been able to revive distant learning in new ways as a result of the corona virus outbreak, and this knowledge can be applied in the post-epidemic phase and other similar situations.

### **Virtual education enhances curriculum**

Education programme operators must explain to learners, faculty, and external regulators the programme's curriculum and how it matches with desirable results. A virtual education programme regurgitates and maps components from an existing programme related to a given topic to provide explicit visual aids by marking each time the topic is addressed, performed and examined.<sup>27</sup> Particular aspects remain in existing current courses, and there is no disturbance to the school curricula but there is an improvement in terms of demonstrating relationships inside a topic in a transparent manner.

Curriculum revision to incorporate new information could basically entail adding more teaching and learning process; nevertheless, curricular are probably sufficiently overburdened, so adding more material may be unnecessary. As a result, a different way to simplifying "adding additional curricular material" could be a thorough examination of the previous curricula with the goal of recognizing where larger abilities are already present subtly within the programme.<sup>28</sup> These periphery topics can now be 'road-mapped' into a cross-cutting virtual educational program, allowing the providers to pinpoint and visibly exhibit the full scope of the curricula instead of creating achievements de novo. We agree that this kind of curricula topic signposting for learners or faculty is suitable. It can also be a good way to show regulatory agencies that you're complying with new competency criteria with little or no disturbance to your present curriculum.

Every programme has a designated leader who is in charge of all aspects of the programme, along with the design of learning outcomes and regulatory compliance course features a guide

that identifies the goals, learning outcomes, schedule of study, accompanying reading, and a description of how the subject will be tested, facilitating student involvement.<sup>29</sup> The notion of virtual education courses will be designed to illustrate where cross-curricula topics are taught and assessed. Every virtual education programme has genuine content and takes the form of lectures, seminars, and practical sessions, but each activity is contained within a core course in the programme. The goal is to create a thorough course guide for each virtual education course that follows the same design as a conventional classroom.

### **The right to education – a fundamental human right**

The right to education is recognized as a fundamental human right.<sup>30</sup> It is enshrined in the national laws through constitutions and laws and guaranteed in international law under international treaties.

Article 26 of the Universal Declaration of Human Rights (1948) practically provides the universal framework for the enshrinement, under subsequent international treaties or national constitutions, of the fundamental right to education:

- a. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.
- b. Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.
- c. Parents have a prior right to choose the kind of education that shall be given to their children.

The main component is the right to learning, as the right to education has a much broader nature.

It can include other components as well, such as professional training, scientific research and dissemination and use of its results, including even the education of convicted persons. The right to education in its broadest sense implies the right of students to training, the contribution of parents and family, community, colleagues at work, which provides the context and social experience that accomplishes the educational process *lato sensu*.<sup>31</sup>

Therefore, the right to education, as a main element of the right to education, implies the assurance by the state of equal opportunities for all, which implies the rejection of discrimination.

### **The impact of the COVID-19 pandemic on human development and education**

The COVID-19 pandemic has significantly affected humanity both in terms of health, due to the numerous victims who died or due to the people who became more or less seriously ill and who benefited from medical recovery, as well as on a larger socio-economic scale, due to the severe economic crisis and the social impact resulting from the loss of jobs, temporarily or for a longer period of time, the decrease in income, the dramatic restriction of the free exercise of

the fundamental rights and freedoms. And, last but not least, due to the closure of schools and universities, which generated deep negative consequences on the educational process worldwide.

According to United Nations Development Program (UNDP), the Mankind has faced many crises over the last 30 years, including the Global Financial Crisis of 2007-2009. Each of them has generated serious negative consequences for Human Development, but overall, the Development has grown globally every year. According to the mentioned reports, COVID-19, with its triple negative action in terms of health, education and income, will change this trend. The decline in the fundamental areas of Human Development will be felt in most states - rich or poor - and in every region of the world. It is estimated that global per capita income in 2020 will decrease by 4% (United Nations Development Programme, Human development reports, 20 May 2020).

UNDP refers to the negative impact on Education as being one of the severe consequences of the COVID-19 pandemic and a reason for the decline of Global Human Development in 2020. For example, the report indicates that due to the decision to close schools, it was estimated that the rate of students actually left out of the primary school education process, due to the lack of Internet access, was of 60% worldwide, leading to unprecedented levels since the 1980s. At the same time, due to the deep discrepancies in terms of access to online education, UNDP estimates that 86% of primary school children were left out of the educational process in countries with low levels of human development, compared to only 20% in countries with very high levels of human development (United Nations Development Programme, Human development reports, 20 May 2020).

It is certain that the post-pandemic recovery effort of the international society, including in the economic and social-educational plan will take several years, but the way in which the states will react in the short and medium term is decisive, because, for example, the quality at graduation of the generation of students in the final years of high schools, colleges and universities and the quality of the management of their education process at the peak of the pandemic, in a decisive year for their future professional career, will depend not only work and income individually, but also the performance, to a certain extent, of the employing companies and institutions and the Gross Domestic Product (GDP) of their countries.

### **Readiness for virtual learning**

The effectiveness of virtual learning strategies is conditioned by levels of preparedness from various perspectives:

- (i) *Technological readiness*: This generally includes levels of readiness in both technological capacities of digital learning platforms or TV and radio broadcasting systems to provide curricular courses remotely to all learners, as well as in household access to electricity, telephones, televisions, radio, digital devices, internet connectivity and data. <sup>33</sup>
- (ii) *Content readiness*: This includes accessibility to teaching and learning materials aligned with national curricula that can be delivered through online platforms, TV or radio

programmes, or used for print-based home learning. Readiness of curricular content that cover all grade levels and all subject areas and can be delivered to all learners often remains a challenge (Clark, 2001). In many countries, gap exist in terms of the resources and local expertise needed to rapidly develop national curricula courses readily accessible through online platforms or TV and radio programmes.

- (iii) *Pedagogical and home-based learning support readiness*: This includes preparedness of teachers to design and facilitate online learning, TV or radio based distance learning, or print materials based home learning; and availability and ability of parents or caregivers to facilitate effective home-based virtual learning. Most teachers are not adequately prepared for the transition of provision of school education, and families are not ready to facilitate and monitor daily home-based learning especially with multiple children.<sup>35</sup> It is much more challenging when parents lack the language and literacy skills and the time to follow schedules of studies and manage learning processes.
- (iv) *Monitoring and evaluation readiness*: This include capacities: to monitor distance learning processes, to track the access to courses and engagement, to assess learning outcomes, and to sustain immediate distance learning responses for achieving long-term goals. In the context of online learning, it is critical to monitor differences in the level of participation and engagement of students who often have weaker self-regulation and self-organization skills.<sup>36</sup> When TV or radio programmes, which are one-way knowledge transmission systems, are adopted as the main solution, it is more challenging to measure the extent to which students, teachers, and parents or caregivers are engaged with distance learning.

### **Challenges of virtual teaching**

Insights into the challenges encountered by teachers while moving to virtual teaching practice reflect a broad range of challenges around the following eight themes: (a) student engagement; (b) training need; (c) parents' engagement; (d) access to digital equipment; (e) monitoring learning; (f) teaching difficulties; (g) systematic challenges; (h) hectic and frustrating.<sup>37</sup> The description of each theme is detailed below:

#### **(a) Student Engagement**

Five aspects associated with the lack of students' engagement are:

- (i) Interaction – teachers found it difficult to interact with students, as is possible in a classroom setting. It was particularly challenging to deliver concepts and engage young students.
- (ii) Attendance – attendance and focus, particularly after a prolonged period of virtual learning, became an issue.
- (iii) Distractions – home environment, noise, and availability of toys were sources of distraction emanated as sources of distraction exogenous to teaching pedagogies. In addition, distractions also arose from a lack of ability to manage discipline in the online classroom, when students were not following directions and purposefully causing disruptions.

- (iv) Self-directed Learning – teacher responses imply difficulty for elementary school students to engage in self-directed learning, posing a significant challenge for implementing asynchronous learning.
- (v) Motivation and Boredom – some students “entirely disappeared from learning” owing to lack of motivation and engagement while many students were “lonely and depressed”. Repetition of tools, routine, and lack of diversity in approach also resulted in boredom.

#### **(b) Training Need**

Teachers were extremely cognizant of being ‘ill-equipped’ to handle virtual education, both on the side of technology, as well, as pedagogy adaptation to digital platforms. ‘Learning by doing’ is not an efficient and optimal way of getting trained in a live education environment, where many other factors, detrimental to student-learning outcomes, are simultaneously in play. Some teachers used virtual teaching practice for the first time in their whole teaching career.

#### **(c) Parents’ Engagement**

A vast majority of teachers found parents to be lacking in basic knowledge and skill for adjustment to the whole virtual education scheme, resulting in them being not cooperative and frustrated. Some parents managed great strategies to keep their kids engaged in virtual learning but were only able to support teachers during the online class; they could not independently use those strategies at home. The level of engagement of parents was a key determinant of the benefit derived by their children through virtual learning. However, a key influencer in the ‘inequality in learning’ was the families’ comfort level with technology varied which led to inequality.

#### **(d) Access to Digital Equipment**

The digital divide inequalities posed a monumental challenge owing to complete lack of or frequent disruptions in the internet connection, both for teachers and students, even for well-resourced schools and homes. In addition, access to appropriate and adequate digital devices was a major problem in relatively disadvantaged households.

#### **(e) Monitoring Learning**

The digital learning environment made monitoring a humongous task for teachers and affected the feedback loop owing to delayed or missing assignments; particularly, below-average learners suffered. Teachers were also concerned about the integrity in examinations and assignments, thereby nullifying an objective measurement of progress in pupil learning outcomes.

#### **(f) Teaching Difficulties**

Lack of physical connection and the inability to use body language and gestures to teach emerged as an impediment in effective teaching. Altering the tone of voice was creatively used as an alternate but had limited scope for effectiveness. The difficulty in reading through “photos of students’ work” meant that “feedback on work was not always appropriate”. In addition, the limitation of the range of online teaching tools meant teaching effectiveness remained significantly hampered.

#### **(g) Systematic Challenges**



Teachers wanting to deploy a range of activities, tools, or platforms for effective learning encountered systemic constraints (either school or by local government body). These controls put an additional limitation on the creativity and effectiveness of the virtual teaching practice.

### **(h) Hectic and Frustrating**

An overwhelming majority of teachers found virtual teaching to be a hectic task getting in the way of work-life balance on the one hand, while requiring a number of non-educational administrative aspects on the other. Teachers found that technology can not handle what we are asking it to do; it is tiring, frustrating and demotivating.

### **Improvements for virtual teaching**

Some of the improvements for virtual education according to Taimur & Mursaleen <sup>38</sup> are: (a) planning; (b) access to digital equipment; (c) school's policy; (d) collaboration.

#### *➤ Planning*

The literatures indicate that various aspects need planning to ensure improvements in digital teaching. Those aspects are as follows:

- (i) Synchronous teaching - teachers found synchronous teaching more effective for digital learning as compared to asynchronous teaching.
- (ii) Video Lessons - producing video lessons can be time-consuming, and therefore pre-existing videos on platforms like YouTube can be used. Starting a YouTube channel for our students is another advantage.
- (iii) Activities and Tools - there is a need to focus specifically on modifying teaching activities and using the right tools to make teaching more engaging and ensure that the experience is not monotonous for students.
- (iv) Class size - small class size is preferred for effective teaching in an online setting.
- (v) Attendance - incentivizing students is needed to ensure presence in the virtual classroom.
- (vi) Social interactions discourse, and relationships - social interactions, discourse, and relationship building is needed while teaching online, as digital learning creates a physical divide.
- (vii) Independent time - while teaching online, giving independent time to each student can make teaching more effective.
- (viii) Syllabus - syllabus is reduced while adapting it to a digital setting.
- (ix) Training - teachers and students must be trained before implementing digital education.
- (x) Teaching material - appropriate teaching materials i.e. digital platforms and teaching resources are required to be made available to the teachers.
- (xi) Parental involvement - raising parental awareness to ensure parental involvement in digital education is necessary.
- (xii) Monitoring and Feedback Mechanism - monitoring and feedback mechanism needs to be well-thought through, while ongoing assessments are mandatory to ensure monitoring.

#### *➤ Access to Digital Equipment*

Literatures suggest that it is crucial to ensure that every child has access to digital equipment. Literatures mentioned that the importance of access to the internet and digital gadgets to ensure

digital learning does not create a learning divide, as providing strong internet facilities and ensuring the availability of gadgets with every student is crucial.

➤ *School's Policy*

The design of digital teaching and learning depends on the school's policies. Practitioners suggested giving more freedom to teachers for designing their lessons in the digital settings to ensure effective learning. Teachers should have complete independence for conducting their lessons.

➤ *Collaboration*

While implementing digital education, connecting and collaborating with other teachers to exchange best practices is crucial, sharing teaching resources will also give teachers space and time to give more attention to their students and learn from each other. This will promote connection and collaboration vs. competition for everyone involved. Allowing different members of the team to do different video lessons that we can all use would maybe free us up to spend more time connecting with students and learn from each other as colleagues.

### **Conclusion**

Digital adaptation associated with pedagogies in teaching practice during the unprecedented crisis posed by the COVID-19 pandemic, have highlighted that the respective education systems were not prepared for this transformation. While implementing these pedagogies in a virtual setting, teachers faced multiple challenges and most of these challenges were extrinsic in nature. This paper also sheds light on the insightful suggestions for improvement that can be used to inform virtual learning and bring about an improvement in the digital teaching practice. Bridging the gap between achieving learning outcomes, while invoking virtues, will require a lot of training and practice before virtual education pedagogy can be deemed universally effective for young children across all segments of society.

### **References**

- UNESCO (2020). UNESCO COVID-19 Educational Response: Distance learning strategies in response to COVID-19 school closures. Paris: UNESCO.
- Corlatean, T. (2020, June). Risks, discrimination and opportunities for education during the times of COVID-19 pandemic. In *Proceedings of the 17th Research Association for Interdisciplinary Studies Conference* (pp. 37-46).
- Wilkerson, B. contributor. 2020. "COVID-19 jeopardizes the future for students and employers." *Forbes*, April 29, 2020.
- Corlatean, T. (2020, June). Risks, discrimination and opportunities for education during the times of COVID-19 pandemic. In *Proceedings of the 17th Research Association for Interdisciplinary Studies Conference* (pp. 37-46).
- UNESCO (2020). UNESCO COVID-19 Educational Response: Distance learning strategies in response to COVID-19 school closures. Paris: UNESCO.
- Rogers, F. H. & Sabarwal, S. (2020). COVID-19 Pandemic: Shocks to Education and Policy Responses.

- Cavanaugh, C., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (2004). The effects of distance education on k-12 student outcomes: A meta-analysis. *Learning Point Associates/North Central Regional Educational Laboratory (NCREL)*.
- Watson, J. F., Winograd, K., & Kalmon, S. (2004). Keeping pace with K-12 online learning: A snapshot of state-level policy and practice. *Learning Point Associates/North Central Regional Educational Laboratory (NCREL)*.
- Clark, A. (2001, August). Natural-born cyborgs? In *International Conference on Cognitive Technology* (pp. 17-24). Springer, Berlin, Heidelberg.
- Kundu, A., Bej, T., & Dey, K. N. (2020b). An empirical study on the correlation between teacher efficacy and ICT infrastructure. *The International Journal of Information and Learning Technology*.
- Thamarana, S. (2016). Role of E-learning and Virtual Learning Environment in English language learning. *Teaching English Language and Literature: Innovative Methods and Practices, ELTAI Tirupati*, 61-62.
- Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4).
- Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4).
- Rogers, F. H. & Sabarwal, S. (2020). COVID-19 Pandemic: Shocks to Education and Policy Responses.
- Kundu, A. (2020a). Toward a framework for strengthening participants' self-efficacy in online education. *Asian Association of Open Universities Journal*, 15, 351–370.
- Boston, C. (2002). "The concept of formative assessment." *Practical Assessment, Research, and Evaluation* 8, no. 1:9.
- Lazarus, R. S. (2003). Does the positive psychology movement have legs? *Psychological inquiry*, 14(2), 93-109.
- Kundu, A. (2018a). A Study on Indian Teachers' Roles and Willingness to Accept Educational Technology.
- Kundu, A. (2020a). Toward a framework for strengthening participants' self-efficacy in online education. *Asian Association of Open Universities Journal*, 15, 351–370.
- Kundu, A., & Bej, T. (2021). COVID 19 response: An analysis of teachers' perception on pedagogical successes and challenges of digital teaching practice during new normal. *Education and information technologies*, 1.
- Ferdig, R. E. (2006). Assessing technologies for teaching and learning: understanding the importance of technological pedagogical content knowledge. *British journal of educational technology*, 37(5), 749-760.
- Olson, T. M., & Wisner, R. A. (2002). The effectiveness of web-based instruction: An initial inquiry. *International Review of Research in Open and Distributed Learning*, 3(2), 1-17.
- Kundu, A., & Bej, T. (2021). COVID 19 response: An analysis of teachers' perception on pedagogical successes and challenges of digital teaching practice during new normal. *Education and information technologies*, 1.
- Kundu, A. (2020a). Toward a framework for strengthening participants' self-efficacy in online education. *Asian Association of Open Universities Journal*.

- UNESCO (2020). UNESCO COVID-19 Educational Response: Distance learning strategies in response to COVID-19 school closures. Paris: UNESCO.
- Li, C., & Lalani, F. (2020, April). The COVID-19 pandemic has changed education forever. This is how. In *World economic forum* (Vol. 29).
- Bateman, H. L., Ellis, J. S., & Thomason, J. M. (2015). Virtual courses: Enhancing a curriculum. *European Journal of Dental Education*, 21(1), 17-21.
- Bateman, H. L., Ellis, J. S., & Thomason, J. M. (2015). Virtual courses: Enhancing a curriculum. *European Journal of Dental Education*, 21(1), 17-21.
- Harden, J. M; Laidlaw, E. A. & Hesketh, R. M. (1999). AMEE Medical Education Guide No 16: Study guides-their use and preparation. *Medical teacher*, 21(3), 248-265.
- Renucci, J. (2012). *Droit européen des droits de l'homme*. Paris: L.G.D.J, Lextenso éditions (Publishing House).
- Corlatean, T. (2015). The right to non-discrimination and freedom of religion in the system of protection established by the European Convention and the European Court of Human Rights. *Journal for Freedom of Conscience (Jurnalul Libertății de Conștiință)*, 2(1).
- United Nations Development Programme (UNDP). (2020). Human Development Reports, 20 May 2020, <http://hdr.undp.org/en/hdp-covid>.
- Daniel, J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49(1), 91-96.
- Clark, A. (2001, August). Natural-born cyborgs? In *International Conference on Cognitive Technology* (pp. 17-24). Springer, Berlin, Heidelberg.
- Bates, A. W. (2015). *Teaching in a digital age: Guidelines for designing teaching and learning*.
- Ash, K., & Davis, M. R. (2009). E-Learning's Potential Scrutinized in Flu Crisis. *Education Week*, 28(31), 1-12.
- Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4).
- Taimur, S., & Mursaleen, H. (2020). Youth volunteerism, as non-formal education, for professional and social integration of young labor force in Pakistan. *Asian Social Science*, 16(8), 117.