



# Addressing Distance Learning During and Beyond the COVID-19 Pandemic: Re-Imagining Ethical Issues and Requirements

**Rufus O. Adebayo** Durban University of Technology <u>rufusa@dut.ac.za</u> **Joseph Kolawole Abon** Ohio University <u>ja859216@ohio.edu</u>

**DOI:** <u>https://doi.org/10.51415/ajims.v3i1.975</u>

#### Abstract

Distance learning (DL) means that students work online or students' study online at home while the teacher assigns work and checks in digitally, or they lecture digitally. Distance learning has been regarded as a more flexible way of learning that requires accountability and good time management. On the other hand, the resurgence of the COVID-19 pandemic could contribute to the advantages associated with DL. This study discusses this from the perspective of institutional innovation, either as a potentially disruptive innovation or potential constructive innovation. The paper also re-imagines the conceptual and ethical considerations and the requirements associated with distance learning. It conceptualises further that ethics are a fundamental part of teaching pedagogy and, more importantly, DL, but the advent of COVID-19 poses further demands for educators and students in maintaining ethical principles. During the Covid-19 pandemic, DL was proposed alongside social distancing (SD) measures and served as a method of engaging students in a learning environment. Although, the physical distance also poses a difficulty in obtaining students' levels of understanding in terms of course content, thus, this study concludes that distance learning uncovers far more problems, such as the level of readiness (of stakeholders; teachers, students, government, and parents) in the process of transitioning to online teaching platforms, educational equity, and a lack of infrastructure or resources to facilitate online teaching as a result of Social Distancing (SD) emanated from the COVID-19 pandemic.

Keywords: distance learning; COVID-19 pandemic; social distancing; educators

#### Introduction

In modern society, various e-learning programs are prevalent and are recognised as an efficient element that possibly stimulates educational development (Al Lily *et al.*, 2020). Meanwhile, distant learning technologies have become significant and highly efficient in their ability to affect international projects and developments (Riahi, 2015). Arguably, building distance learning is based on online education and has had a wider and stronger reach than conventional teaching in classes. Riahi (2015) establishes that online learning is an internet-based learning process. Online learning is a wider method of learning that offers new prospects for learning and teaching in various fields of education far from the offline classroom setting (Rodrigues *et al.*, 2019). All a student needs to possess is a computer or a smartphone that can be connected through the internet. Thus, Shabha (2004) defines online learning as "an e-learning method where a student can learn at any time or location over the Internet." During this COVID-19 time, DL has been a way of engaging with students and serves as a method to engage them in proper learning pursuits (Shabha, 2004). However, there are several issues and difficulties, such as lack of participation, internet access, loadshedding, or disruptions, which are encountered when teaching online between the students and instructors or

instructors (Rodrigues *et al.*, 2019). For example, students complain of low levels of interaction with colleagues and lecturers (Rodrigues *et al.*, 2019). Other identified problems are non-existent internet or slow networks, and more pressing is the absence of fundamental knowledge as regards digital learning methods and techniques, volume control decorum, and video settings to mention a few (Rodrigues *et al.*, 2019). Therefore, to restrict or regulate the spread of the coronavirus, learning has been upgraded to an online space. This study will aim to inform the reader on reasons for distance learning during COVID-19, the challenges within, and the issues that might likely arise after the pandemic for institutions of learning.

E-learning is becoming more famous and engaging globally with a huge demand which has positively affected its allocation of funds expansively, coupled with a vast technological invasion (Vershitskaya *et al.*, 2020). More so, it has manifested advanced appreciable contributions (Vershitskaya *et al.*, 2020). For the time being, DL is becoming significant and highly efficient in affecting international projects, international engagement, and development. Also, online education has been wider and stronger in reaching diverse students than conventional teaching in classes. Some issues have arisen such as teachers'/educators' experiences, expressing instructional content to students, and especially long and complex assignments or assessments (Al Lily *et al.*, 2020). According to Giroux (2019), uncertainties can be a time of great anxiety but a time of great possibility. A discourse of anxiety should give way to a discourse of critique, and a discourse of critique should give way to a discourse of possibility means that you can imagine a future very different from the present. Thus, the unpreparedness and the sudden invasion of the COVID-19 pandemic have brought nervousness to the academic community, most especially in Africa.

Al Lily (2020) retorts that, globally, countries have replaced face-to-face education with distance education in response to the coronavirus. This form of distance education differs from conventional distance education: being suddenly, unreadily, and forcefully implemented, invading schooling, and constituting a globally discussed phenomenon (Al Lily et al., 2020). However, student engagement in online learning enhances students' performance and the outcomes of the learning process in an online learning environment (Khlaif et al., 2021). A report by UNESCO (2020) indicates that more than 1.9 billion students, children, and youth, from 190 countries have been forced to transfer their education from face-to-face to online to fight the outbreak of COVID-19. According to Mulenga (2019), it is obvious that education is the basic function that a curriculum serves in any education system and learning institution. A curriculum embodies the intentions of education, it is the programme of education. A curriculum carries the beliefs, values, attitudes, skills, knowledge, and all that education is about. One would wonder how especially formal education can take place without a curriculum. In the context of COVID-19, if education is brought about as a result of what is implemented from the curriculum and if education is dependent on what the dynamic society needs, then having a curriculum that will stand a test of time (the COVID-19 pandemic for instance) is just wishful thinking (Mulenga, 2019).

Additionally, Universities are taking intensive measures to prevent and protect all students and staff members from the highly infectious disease. Thus, the purpose of this study was to explore distance learning during and beyond the COVID-19 pandemic from the viewpoints of academics to explore ethical issues and requirements. Subsequently, the following three research questions are the motivations for this chapter:

- How many Universities in Africa have a good enough infrastructure or resources to facilitate online teaching with immediate effect?
- What are the implications for institutions, both as business organisations, and the educational sector?

- Is it possible to teach practicals and labs, music, and art courses online? What will happen to those students whose courses cannot be taught online?

# **Re-Imagining the Context of Distance Learning (DL)**

Simonson (2021) mentions that distance learning (DL), also called distance education, e-learning, and online learning, and is a form of education in which the main elements include physical separation of teachers and students during instruction and the use of various technologies to facilitate student-teacher and student-student communication. Distance learning traditionally has focused on non-traditional students, such as full-time workers, military personnel, and non-residents or individuals in remote regions who are unable to attend classroom lectures (Simonson, 2021). According to Fidalgo *et al.* (2020), the World Wide Web has made information access and allows for the distribution of educational content available to a large fraction of the world's population and helps to move distance education (DE) to the digital era. Although, the aim of this chapter is not to addresses students' perceptions and their interests in DE or DL. However, it would be an additional scholarly value to know if students are receptive to taking such online courses and are prepared to do so.

On the one hand, it is imperative to re-imagine the conceptual and ethical considerations and the requirements associated with distance learning. As well as this, understanding relativism regarding course design, assessment, and teaching strategies in line with online content as against face-to-face teaching is enormously important. According to Öçal et al., (2021), the challenge teachers face is the lack of competence in using Information and Communications Technology (ICT), which has intensified during the COVID-19 process. The usage and adaptation of ICT to the instructional process generally depends on teachers' knowledge, motivation, and their personal skills. Therefore, teachers should have enough knowledge about ICT and could use these technologies during their lessons (Öcal et al., 2021). As stated by Sahu (2020), the transition from face-to-face teaching to online delivery has a serious impact on assessments and evaluation. Timmis et al. (2016), state that although technology has been used earlier to support teaching and learning, the assessment aspect is often under-developed. Applying assessments online on those courses designed for face-to-face learning is a challenging task. This chapter conceptualises further that ethics are a fundamental part of teaching pedagogy and, more importantly, DL. However, the advent of COVID-19 poses further demands for educators and students to maintain ethical principles. During the COVID-19 pandemic, DL was proposed along Social Distancing (SD) measure and served as a method of engaging students in a learning environment (Öçal et al., 2021).

Students, as well as faculty, are uncertain about the procedure for administrating outstanding assignments, projects, and other continuous assessments (Raaheim *et al.*, 2019). Manca and Meluzzi (2020) state that there should be a closer look at the role of student's attitudes towards learning in maximising the potential of online schooling when regular face-to-face instruction cannot take place. Considering the alternative of no schooling, online schooling has been an important tool to sustaining skills development during school closures. There are still concerns that online learning may have been a sub-optimal substitute for face-to-face instruction, especially in the absence of universal access to infrastructure (hardware and software) and a lack of adequate preparation among teachers and students for the unique demands that online teaching-learning pose (Manca and Meluzzi, 2020).

# **Global Pandemics and Disasters: African Context**

Generally, many organisations around the globe, including African organisations, virtually and physically interact and communicate with the public and/or audiences outside and within their organisations to build a dynamic set of relationships. During the novel COVID-19 pandemic trade, direct foreign investment, political coalitions, worthy global causes, teaching and learning,

information flow, and social networking, among other phenomena, are increasing in the complexity of their relationships dramatically (Molleda 2009). Efforts to reduce the spread of the COVID-19 virus among the younger and adult populations have prompted the widespread closure of schools, colleges, universities, and other educational institutions in many countries. As of March 25, 2020, 150 countries have closed schools and educational institutions nationwide, impacting over 80 per cent of the world's student population. Several countries have implemented localised school closures and those closures are expected to be nationwide (Sahu, 2020).

The impact of institutional closures to curb or reduce the COVID-19 pandemic is massive during this era and the invasion of the Covid-19 pandemic (Lederman, 2020). Like all business efforts, the main aim is to win friends, build influences, persuade purchasing decisions, and build a brand credible enough to sustain itself. The closure of institutions with the migration to online has not only impact negatively on students but also academic staff members. Faculty members within the institution of learning are orientated to the process of transitioning to online teaching platforms (Lederman, 2020). Not only this but also the impact of this transformation on those students who do not have access to laptops and internet facilities at home. One should not shy away from the fact that some students come from rural areas where these infrastructures are limited or do not even exist. One of the biggest challenges facing communities today is infrastructure and the integration of those that are sparsely available in the communities to the learning, but its nonexistence also poses a real threat and ethical issues to DL. According to Lederman (2020), due to the COVID-19 crisis teachers and students both find themselves in a situation where they have felt compelled to embrace the digital academic experience as the pinnacle of the online teaching-learning process.

Globally many teachers and students are excited for the translation into the online delivery mode. However, the assessment and evaluation of students' progress becomes uncertain. According to Alruwais *et al.* (2018), students who do not have access to an internet facility will suffer a clear disadvantage while participating in the evaluation process, which would adversely affect their grade point averages (GPAs). This is placed side by side with the argument by Mishra *et al.* (2020) that it is important to address the required essentialities of online teaching-learning in education amid the COVID-19 pandemic and how the existing resources of educational institutions can effectively transform formal education into online education with the help of virtual classes and other pivotal online tools in this continually shifting educational landscape.

# Social Distancing (SD)

According to Najmi *et al.* (2021), enhanced surveillance and testing, case isolation, contact tracing, and quarantine, social distancing (SD), teleworking, travel bans, closing businesses, school closure, and lockdowns are the most common strategies implemented worldwide for slowing down the spread of COVID-19. Najmi *et al.* (2021) further state that SD is highly emphasised as a pre-requisite of easing restrictions on many businesses and social activities as it effectively reduces the infection rate. However, compliance with SD is not usually perfect and is affected by poor compliance with guidelines, SD fatigue over time, and urban high-density zones where SD compliance is unfeasible.

Hills and Eraso's (2021) study reveals that non-adherence to all SD rules has a stronger association with vulnerability to COVID-19 and control over SD, whereas intentional non-adherence had a stronger association with intention and anti-social psychological factors. Gupta *et al.*, (2021) add that the onset of the COVID-19 pandemic has led to an increase in the importance of social distancing to intervene in the spread of the virus by curbing social interactions and maintaining a physical distance. Social distancing can be defined as a non-pharmaceutical disease prevention and control intervention enforced to curb contact between those who are infected with a disease and those who

are not, to stop or diminish the infection rate, and to curb the extent of the transmission of the disease within a community. This could be related to the central idea of this chapter in terms of distance learning (DL) and social distancing (SD). This chapter holds the notion that Social Distancing could help discontinue or reduce the spread of the pandemic and possibly allow the health care scheme or medical providers to care for victims over time. It is emphasised that one has to avoid public spaces that are likely to draw crowds such as restaurants, bars, libraries, churches, mosques, and shopping centres.

Since the imposition of lockdowns and public restrictions in many parts of the world, the task of identifying whether a safe distance that complies with social distancing norms has presented as a new area of study (Gupta *et al.*, 2021). On that note, COVID-19 has caused profound changes in various dimensions of people's lives. The education system is one of the areas affected most, and there have been profound changes mainly with regard to teachers, students, and parents (Öçal *et al.*, 2021). In this regard, the major concern is to understand how higher education institutions should better acclimatise to the digital environment both in life and work with the use of technology, most especially in teaching and learning procedures, developing digital skills and competencies, and improving educational systems. One point made clearly by Öçal *et al.*, (2021) is that teachers may generally have basic skills to work remotely but they will still need support regarding ICT issues or challenges. Ozaydın and Cakir (2018) add that technical challenges had a negative influence on students' motivation and their learning too.

### Methodology

This study used a qualitative approach to analyse data, and findings and available literature reported by other scholars are discussed. With respect to address distance learning during and beyond covid-19 pandemic, the study however, made use of secondary data from previous studies to buttress the importance of this study. The idea of this chapter is to examine and address distance learning during and beyond the Covid-19 pandemic. Thus, this chapter offers a basis for intellectuals aiming at hypothetical and empirical guidance for conceptualisation of distance learning (DL) with regards to the COVID-19 pandemic. Extracted from the literature and philosophy of education, with some anticipated meanings of DL and the theoretical and experiential views of several scholars, the authors explore various philosophical-oriented viewpoints regarding key concepts in distance learning. Thus, the authors review issues related to the delivery patterns of distance learning in line with social distancing (SD). The authors further re-imagine ethical issues and requirements and implications of COVID-19 prevention measures, particularly SD, on higher education institutions (HEI) as a control strategy.

### Discussions

According to Picciano (2017), theory is defined as a set of statements, principles, or ideas that relate to a particular subject. However, theory is meant to inform, appreciate, and emphasised on the way people learn. Nonetheless, the associated theory for this study is traced to constructivism, which is parallel to behaviourism and cognitivism (Picciano, 2017). Theoretically, it has been noted that support for social distancing has increased significantly during the COVID-19 pandemic and has paved the way for distance learning in the higher education sector. The chapter discusses the major issues that have put stress on present-day learning, along with pandemic conditions in nations of the world. From the literature, one could extract that there is a large community of support for social distancing while instructional support for distance learning remains uncertain (Picciano, 2017). Prior to the advent of the COVID-19 pandemic, countries of the world including South Africa have been facing challenges regarding information and communications technology (ICT) or what could be escalated to what is generally known as the Fourth Industrial Revolution (4IR). Consciously or unconsciously, this has posed challenges for distance learning in the South Africa Context. According

to President Cyril Ramaphosa of South Africa in his State of the Nation Address (2018), "We will soon establish a Digital Industrial Revolution Commission, which will include the private sector and civil society to ensure that our country is in a position to seize the opportunities...".

According to Kingombe (2014), over time, the number of poor people escaping poverty is growing and the middle-class is rising in Africa. Thus, according to the findings in a growing market in Africa of just over one billion people, with 300 million categorised as middle class, there is a hunger for infrastructure (strong rural infrastructure is essential for distance learning), to aid in the delivery of goods and services, which poses challenges for distance learning. Jatileni and Jatileni (2018) also note that the understanding of ICT and the criterion for the selection of ICT directly affects the process of implementing distance education. It is imperative to know that COVID-19 has technically brought changes to educational systems which affect instructors and students not only at the higher institution of learning but also across and parents. One cannot overrule how crucial the issue of digitalisation becomes during the pandemic. As noted, in the event of the pandemic teachers were also forced to use various digital tools and resources for solving problems and to implement new approaches to the instructional process (Eickelmann and Gerick, 2020).

The dentification and availability of critical infrastructural resources are paramount to distance learning. For effective offices in Africa continent (i.e., Ghana, Nigeria, South Africa), whether in communication, business, or education, one needs to ensure for example, that one installs backup generators because of constrained power supply or energy (Renaud et al., 2020). There is a major regressive shift in the power supply in South Africa leading to Eskom implementing the loadshedding strategy. This poses a rhetorical question, 'how would distance learning be distance learning?' (Renaud et al., 2020). Players in the upstream and downstream of education in South Africa will have to adapt. In many areas in Africa, telecommunications services are in dire shortage, so one might need to subsidise the educators in order to facilitate attendance at any class or a meeting to apply teach and to communicate. This is, however, different from the American or European situations. According to Renaud et al. (2020), South Africa has seen past successes in stimulating growth in the renewable energy industry and facilitating additional capacity onto the national grid system. However, severe obstacles have stagnated this process in recent years. This has created an environment of uncertainty for the industry and resulted in missed opportunities to capitalise on cost-optimal wind and solar photovoltaic (PV) to address energy supply gaps and contribute to national climate change commitments.

Based on the context of this chapter, the global shift from face-to-face to online classes (distance learning) has become imperative, not only in South Africa but also in the global education environment. However, it could be noted that there is a lack of capacity at Municipal and Community levels for infrastructural developments in South Africa. Not only is this true, but also there is a lack of commitment from the political and the government around restructuring energy supplies or upgrading the supply system and infrastructure in South Africa. This chapter propounds that promoting social distancing to engage learners will affect educational development in South Africa. Thus, there are ethical challenges, such as violations of social norms, sparse or no class participation or engagement, disruptions, and intermittent power supply, etc., in online learning as opposed to traditional ways of teaching and learning. It is also noted that there have been institutional shutdowns during the COVID-19 pandemic to add to multiple ways of dealing with the pandemic.

On the one hand, the culture of learning has its genesis in open-air face-to-face communication and information. Understandably, no tech-savvy Educators were required. On the other hand, in online learning, or so-called distance learning, teachers or instructors must be regular technology users. This forms the basis of the study by Schrum *et al.* (2008) on "Understanding Tech-Savvy Teachers: Identifying Their Characteristics, Motivation, and Challenges". Their study reveals that educators

describe their motivation to be life-long learners, confidence to integrate instructional technology into their personal and professional lives regardless of the internal and external constraints placed upon them, and their views on funding, time, and support for their technology integration efforts. Thus, Tejeda-Delgado *et al.* (2011) encapsulate on requirements and posit through writing about distance learning in higher education that all forms of distance education possess four characteristics: (a) the teaching/learning process involves activities where the teacher and learner are separated by a distance; (b) a combination of media, including television, video, audio, and electronic communication may be used; (c) knowledge and content are available through more sources than just the teacher; and (d) delivery of the course material can be done anytime and anyplace, with teacher/learner, learner/learner, and learner/group interaction all able to take place.

Further from the above, a traditional class environment relies on verbal and nonverbal communication to create and foster cultural norms, behaviours, practices, and beliefs; virtual learning disrupts the process since technology changes an individual's communication behaviours (Greenan, 2021). According to Song *et al.* (2019), the classroom setting is a social environment in which individuals communicate with each other; however, "...relationship building could be somewhat difficult in online classes because social cues and nonverbal information are limited Ethical issues, social media issues and social norms become a relatively important subject to think about when it comes to virtual or online learning". An institution is a place where culture is created, both intentionally and unintentionally. A campus makes students aware they are part of a larger community and working with peers toward similar goals (Greenan, 2021). Empirical findings support that computer-generated education or computer-mediated communication (CMC) change the way professors/instructors/teachers and students interact and develop relationships and how they are influenced by others and manage reduced social cues (Sherblom, 2010).

### **Conclusion and Recommendations**

Global educational considerations on pandemics are crucial and worthy of investigation for further development. However, traditional face-to-face classrooms can foster positive and inclusive learning cultures, observe open communication, and provide opportunities for students to connect with peers before, during, and after class meetings. Class activities, projects, and discussions require students to actively engage, and participation is a great predictor of academic and social success. The initial rationale behind the choice of online or distance learning was traceable to technology, the Internet of Things (IoT), digitalisation, robotics, and getting advanced degrees without a physical setting (for older people or working-class students). One could observe that a global pandemic such as Covid-19 has paved ways for distance learning with its slogans of "Social Distancing" and "Distance Learning". The major concern of this chapter is to pinpoint that dynamic education in a dynamic society requires programmes and curricula that can stand such a pandemic.

There are thoughts to ponder about when one is referring to social distancing and distance learning as one has to understand the professionalism envisaged by the institutions to bring together cocreators of the curriculum with students and to understand the impact of travel restrictions on international students (how they fit into the curriculum). Institutions of higher learning should understand the flexibility of the tools and resources that are fit for 21st-century education, i.e., 4IR, virtual classroom, availabilities of internet connection, etc. Assessment and evaluation issues could be a major issue in online or distance learning education for institutions transitioning into a virtual environment. Students, as well as teachers/instructors, are uncertain about the procedure for administrating outstanding assignments, projects, and other continuous assessments. Distance learning during the COVID-19 pandemic, on the one hand, could contribute as extended professionalism to some institutions and, on the other hand, could bring about institutional uncertainty. The impact of COVID-19 has no doubt brought about disruptive business and destructive educational models. The COVID-19 pandemic has caused severe health and economic impacts globally (Najmi *et al.*, 2021). It is, therefore, imperative that South Africa's higher education institutions manage curricula/programmes that are responsive to perilous times of education or institutional uncertainties, for example "Fees Must Fall" or the COVID-19 pandemic. This massive pandemic predicated change in social and ethical learning and dialogical issues. A critical issue that bothers society, educators, NGOs, the media, and others is how well informed and engaged they are, both learners and educators. Machines communicate with each other (laptop to laptop or cell phone to cell phone, etc.). It is the era of communicating machines rather than human communication. Entire production cycles, business orientations, and communication processes are beginning to be reconsidered and linked to digitalisation. Thus, if everything is being networked or digitalised more and more, a strong recommendation should be made for redefining practical and engaging activities in a learning environment.

The place of student representative councils/bodies (SRC) fighting for the rights of students claim that "No student should be left behind". This calls for cooperation and collaboration with stakeholders for innovative ideas, such as the use of municipality or governmental libraries where there are no connectivity challenges. The provision of smart places supported by the pandemic, as noted, could be an alternative form of teaching and learning. Classrooms and collaboration (group work) experiences are a major challenge for educators. Although, DL provides increased growth, increased connectedness, and increased human productivity. Developing and sustaining high-quality methods of education for students no longer enrolled in the traditional teaching methods should be adequate. Leadership shapes the workforce environment through a new lens by putting digitalisation at the centre. Distance learning requires a new leadership paradigm, most especially in Africa, ensuring that the role of technology is at the forefront. Investing in knowledge, skills, and mindsets is required to navigate the complexities of today and tomorrow. Understanding and embracing the changing identities of learners should be the priority of the government.

### References

Abon, J. 2020. Comparing diversity and inclusion in the education of North American countries: A critical perspective on the US and Canada. *Journal of Comparative Studies and International Education (JCSIE)*, 2(1): 23-49.

Al Lily, A. E., Ismail, A. F., Abunasser, F. M. and Alqahtani, R. H. A. 2020. Distance education as a response to pandemics: Coronavirus and Arab culture. *Technology in Society*, 63: 101317.

Ariela, L, Marshall, M. D. and Alexandra Wolanskyj-Spinner, M. D. 2020. COVID-19: Challenges and opportunities for educators and Generation Z learners. *Mayo Foundation for Medical Education and Research*, 95(6): 1135-1137.

Alruwais, N., Wills, G., and Wald, M. 2018. Advantages and challenges of using eAssessment. *International Journal of Information and Education Technology*, 8: 34-37.

Fidalgo, P., Thormann, J., Kulyk, O. and Lencastre, J. A. 2020. Students' perceptions on distance education: A multinational study. *International Journal of Educational Technology in Higher Education*, 17(18): 2-18.

Fourth Industrial Revolution. 2019. Understanding the Fourth Industrial Revolution in a South African context. Available: <u>https://ewn.co.za/Topic/Fourth-industrial-revolution</u>. (Accessed 20 July 2020).

Giroux, H. 2019. All education is a struggle over what kind of future you want for young people. Available: <u>https://www.youtube.com/watch?v=LCMXKt5vRQk&feature=embtitle</u> (Accessed 20 July 2020).

Gupta, S., Kapil, R., Kanahasabaiz, G., Joshi, S.S. and Joshi, A. S. 2021. SD-Measure: *A* Social Distancing Detector. Available: <u>https://arxiv.org/pdf/2011.02365.pdf</u> (Accessed 26 November 2021).

Greenan, K. 2021. The influence of virtual education on classroom culture. *Frontiers in Communication*, 6: 1-4

Hills, S. and Eraso, Y. 2021. Factors associated with non-adherence to social distancing rules during the COVID-19 pandemic: a logistic regression analysis. *BMC Public Health*, 21(352): 1-25.

Jatileni, M. and Jatileni, C. N. 2018. Teachers' perceptions on the use of ICT in teaching and learning: A case of Namibian primary education. Master's thesis, University of Eastern Finland.

Khlaif, Z. N., Salha, S. and Kouraichi, B. 2021. Emergency remote learning during COVID-19 crisis: Students' engagement. *Education and Information Technologies, Educ Inf Technology*, 26: 7033–7055.

Lederman, D. 2020. March 18, Will shift to remote teaching be boon or bane for inline learning? Available:

<u>file:///D:/COVID/Most%20teaching%20is%20going%20remote.%20Will%20that%20help%20or</u> <u>%20hurt%20online%20learning.html</u>. (Accessed 28 April 2021).

Manca, F. and Meluzzi, F. 2020. Strengthening online learning when schools are closed: The role of families and teachers in supporting students during the COVID-19 crisis. Available: <u>https://read.oecd-ilibrary.org/view/?ref=136\_136615-o13x4bkowa&title=Strengthening-online-learning-when-schools-are-closed</u> (Accessed 29 April 2021).

Molleda, J. 2009. *Global Public Relations*. Available: <u>https://instituteforpr.org/global-public-relations/</u>. (Accessed 18 December 2020).

Mulenga, I.M. 2019. Conceptualisation and Definition of a Curriculum. *Journal of Lexicography and Terminology*, 2(2): 1-23.

Najmi, A., Nazari, S., Safarighouzhdi, F., MacIntyre, C. R., Miller, E. J. and Rashidi, T. H. 2021. Facemask and social distancing, pillars of opening up economies. *PLoS ONE*, 16(4): 1-13.

Öçal, T., Halmatov, M., and Ata, S. 2021. Distance education in COVID-19 pandemic: An evaluation of parent's, child's, and teacher's competences. *Education and Information Technologies*, 26: 6901–6921

Ozaydın O. B., and Cakir, H. 2018. Participation in online courses from the students' perspective. *Interactive Learning Environments*, 26(7): 924–942.

Raaheim, A., Mathiassen, K., Moen, V., Lona, I., Gynnild, V., Bunæs, B. R. and Hasle, E. T. 2019. Digital assessment - how does it challenge local practices and national law? A Norwegian case study. *Europian Journal of Higher Education*, 9: 219-231.

Renaud, C., Tyler, E., Roff, A. and Steyn, G. 2020. Accelerating renewable energy industrialisation in South Africa: What's stopping us? Available: <u>https://meridianeconomics.co.za/wpcontent/uploads/2020/07/Accelerating-renewable-energy-industrialisation-in-South-Africa-July2020.pdf</u> (Accessed 15 October 2021). Riahi, G. 2015. E-learning systems based on cloud computing: a review. *Procedia Computer Science*, 62: 352-359.

Rodrigues, H., Almeida, F., Figueiredo, V. and Lopes, S. L. 2019. Tracking e-learning through published papers: a systematic review. *Computers and Education*, 136: 87-98.

Sahu, P. 2020. Closure of Universities due to Coronavirus Disease 2019 (COVID-19): Impact on education and mental health of students and academic staff. *Cureus*, 12(4): e7541.

Schrum, L., Shelley, G. and Miller, R. 2008. Understanding tech-savvy teachers: Identifying their characteristics, motivation, and challenges. *International Journal of Technology in Teaching and Learning*, 4(1): 1–20.

Shabha, G. 2004. An assessment of the effectiveness of e-learning on university space planning and design. *Facilities*, 22(3/4): 79-86.

Sherblom, J. C. 2010. The computer-mediated communication (CMC) classroom: a challenge of medium, presence, interaction, identity, and relationship. *Communication Education*. 59(4): 497–523.

Simonson, M. 2021. Distance learning education. *Encyclopædia Britannica, Inc.* Available: <u>https://www.britannica.com/topic/distance-learning</u>. (Accessed 12 August 2021).

Song, H., Kim, J. and Park, N. 2019. I know my professor: teacher self-disclosure in online education and a mediating role of social presence. *International Journal of Human Computer Interaction*, 35(6): 448–455.

Tejeda-Delgado, C., Millan, B. J. and Slate, J. R. 2011. Distance and face-to-face learning culture and values: A conceptual analysis. *Administrative Issues Journal: Education, Practice, and Research,* 1(2): 118-131.

Timmis, S., Broadfoot, P., Sutherland, R. and Oldfield, A. 2016. Rethinking assessment in a digital age: opportunities, challenges, and risks. *Br Educ Res J*, 42: 454-476.

UNESCO. 2020. *COVID-19 Education Response*. Available at: <u>https://en.unesco.org/covid19/educationresponse/globalcoalition</u> (Accessed 13 August 2021).

Vershitskaya, E. R., Mikhaylova, A. V., Gilmanshina, S. I., Dorozhkin, E. M. and Epaneshnikov, V. V. 2020. Present-day management of universities in Russia: Prospects and challenges of elearning. *Education and Information Technologies*, 25(1): 611-621.