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Chapter

Education in Emergencies, Mental Wellbeing and E-Learning

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Abstract

The world has been going through an unprecedented situation due to the world-wide health crisis created by the COVID-19 pandemic. It affected all sectors across the globe, including education. This chapter highlights the importance of education in emergencies and how a situation like the COVID-19 pandemic creates challenges alongside opportunities to learn for personal and professional development as well as to ensure mental wellbeing of individuals through e-learning. The chapter explores literature to draw on different perspectives regarding the issues related to effectiveness in handling education and learning in an emergency in addition to preparedness for post and future emergencies. However, it focuses mainly on the role of the education sector in supporting individuals, especially learners and educators during and after emergencies. It also reflects on educational professionals' work with students during this pandemic i.e. how educational professionals report on their adaptation journey and how the pandemic impacted the ability to serve and engage learners. From the professionals' best practices to assist students in being successful through online education or hybrid teaching and learning formats, many opportunities arose to shape and reform education for a better future and transform the process of lifelong learning. This chapter outlines strategies, in general, for the education sector, and in particular, institutions and individuals to be better prepared for future emergencies through the opportunities e-learning offers.

Keywords: Anxiety, Blended Learning, COVID-19, Digital Transformation, Education in Emergencies, E-Learning, Emergency Remote Education, Emerging Technologies, Fear, Home Learning, Mental Wellbeing, Online Education, Online Distance Teaching and Learning, Personal Development, Professional Development, Social Communication, Strategies and Psycho-social Interventional Steps, Technological Adaptation and Integration

1. Introduction

The COVID-19 pandemic has impacted on every aspect of human life [1–4]. The pandemic showed that human society has been unprepared for this unprecedented circumstance. In reality, there are many things to learn from this situation for preparing to address similar emergencies in the future. The education sector was not spared as education systems all over the world were abruptly shut down, forcing students and teachers to switch into emergency remote education (ERE) using online and other

distance teaching and learning approaches [5]. Closures of educational institutions and interruption of education affected more than 1.6 billion enrolled students of all ages which equaled nearly 94% of the global student population [6, 7]. As a response to the COVID-19 crisis, emergency remote education was put into practice to ensure the continuity of education for students via home learning supported by the educational institutions. However, teachers and students alike witnessed that emergency remote education is not just a case of 'learning from home' but that a reinterpretation of pedagogical approaches to adjust to the 'new normal' situation [8]. Educators and practitioners, with short notice and little preparation time, were confronted with redesigning their curricula, changing their pedagogical and assessment practices from face-to-face to online virtual classrooms and embracing additional pastoral care of their students in order to maintain their wellbeing and the quality of the educational experience and performance.

The rapid shift of formal face-to-face teaching and learning to being online distance teaching and learning left teachers, parents and other stakeholders lacking in confidence that students were receive an appropriate education through the virtual or digital learning environments or workplaces as well as concerns about safety and security [8]. Sudden switching from face-to-face to online teaching and learning, and the speed of the change and transition have given limited space and time for many teachers and learners to develop the necessary knowledge, understanding and skills needed to teach and learn online. It has been challenging for many educators to learn and use various tools and techniques and create engaging learning opportunities in the unfamiliar virtual learning environments or digital workspaces [9]. The crisis further revealed the flaws in the global education systems and taught a lesson that in this twenty-first century with all technological advancement, most nations are not prepared for educational crises, which require new approaches to education and emerging innovative pedagogies.

The effect of the COVID-19 pandemic on the education sector has halted the traditional education system but has also fostered innovation due to the challenges of the crisis. This not only included switching from face-to-face to online distance teaching and learning, but also unparalleled parental involvement in children's education, and the development of families' coping mechanisms when forced to 'self-quarantine' or work from home. In the vein of challenges and learning opportunities, this chapter outlines strategies, methods, and tools to address the prevention of gaps in continuing education during these unprecedented times. This chapter focuses on three questions in order to better understand and suggest recommendations for policy and practice in the context of education in emergencies:

1. What is education in emergencies?

2. Why is mental wellbeing important during a crisis time?

3. How can e-learning help individuals, including teachers and students cope with the situation and at the same time support their personal and professional growth?

2. Education in emergencies (EiE): challenges and opportunities of teaching and learning online

Education, in general, is 'life-saving, life-sustaining and life-transforming lifelong process' ([10], p. 2) and in emergencies, it creates the learning opportunities for individuals and can equip them to face on-going crises as well as crises to come [11].

Education in emergencies (EiE) has been defined in such a way that educational needs are met along with humanitarian assistance provided, to protect individuals in a crisis [10]. Education in emergencies is based on the concept of "education as a humanitarian response" [12–14]. That is why, the UNHCR ([15], online), explains that "[e]ducation in emergencies provides immediate physical and psychosocial protection, as well as life-saving knowledge and skills (for example, with respect to disease prevention, self-protection, and awareness of rights). If children and youth receive a good quality education in a safe manner during and after an emergency, they will be exposed less frequently to activities that put them at risk. They will also acquire knowledge and mental resources that increase their resilience to help them to protect themselves".

Education in emergencies covers "education that protects the wellbeing, fosters learning opportunities and nurtures the overall development (social, emotional, cognitive, and physical) of children affected by conflicts and disasters" ([16], p. 23; [17], p. 4). Therefore, education in emergencies could be defined as "education that is provided during times of crisis created by conflicts or disasters" ([10], p. 2). However, any conflict or disaster destabilises, disorganises or destroys the existing education system, and requires an integrated process of crisis and post-crisis assistance to continue education [18]. During any natural or man-made crisis, education in emergencies "increasingly serves as shorthand for schooling and other organised studies, together with 'normalising' structured activities, arranged for and with children, young people and adults whose lives have been disrupted by conflict and major natural disasters" ([19], p. 4).

According to UNESCO ([18], p. 11), "the rationales of the educational responses in emergencies are to provide humanitarian assistance as follows:

- Education helps meet the psychological needs of children affected by conflicts or disasters which disrupts their lives and social networks.

- Education is a tool for protecting and safeguarding children in emergencies as they are extremely vulnerable in situations.

- Education provides a channel for conveying health and survival messages as well as tools and techniques for teaching new skills and values, such as peace, tolerance, conflict resolutions, democracy, human rights, environmental conservation.

- Education for All (EFA) is a tool for social cohesion, whereas educational discrepancies lead to poverty for the uneducated and fuel civil conflict.

- Education is vital to the reconstruction of the socio-economic and cultural basis of family, local and national life and for sustainable development and peacebuilding".

In order to minimise the effect and maximise the impact of education in emergencies, emerging technologies have been used increasingly for teaching and learning for more than two decades. Technological advancement also enriches the teaching materials, makes the best use of time and allows having live, visual and authentic learning conditions which ignite learners to absorb knowledge [20, 21]. It is important for educators to understand and command the new technologies and be able to use them in the process of learning. However, this does not mean that technology takes over the instructor's tasks and human presence in the learning process. Technology is there only as learning support to strengthen material

explanations from an instructor and for students to understand concepts better and develop skills. Thus, the presence of an instructor is necessary for the detailed explanation of the contents and learning process, and they must respond to the new technology and its role in the learning [22].

Online distance learning (ODL) is the use of the internet and some other important technologies to develop materials for educational purposes, instructional delivery and management of the educational programmes [23, 24]. There are two types of online distance learning - asynchronous and synchronous online learning which are often compared, but for online learning to be effective and efficient, instructors, organisations and institutions must be aware of the benefits and limitations of both [25]. The consistent growth in technology and internet accessibility has increased the thrust for online teaching and learning [26], but Joshi et al. [27] concluded that the instructional achievement of online learning is debatable because of the absence of face-to-face relationship among learners and learning facilitators (i.e. teachers, instructors or trainers). However, there are clear distinctions between adequately planned online learning experiences and courses presented online as a response to the crisis [5, 28]. Online learning during this pandemic is referred to as 'emergency remote education', 'emergency remote learning' or 'emergency remote teaching and learning' because it is in contrast with the quality or effectiveness of providing education online [5, 29].

Due to the COVID-19 pandemic, online distance teaching and learning have become a necessity to maintain continuity of education. This pandemic has made the educational institutions and other organisations go online and become agents of change and digital transformation. Some educators and learners were reluctant to accept the emerging technologies for online teaching and learning or training for professional development at the beginning of the pandemic. They thought that their disciplinary teaching and learning approaches might not be suitable through online teaching and learning. For example, some modules in science and engineering programmes require physical demonstration or lab work so that student can have face-to-face interactions with their teacher to understand practical aspects and learn. As a result of lockdown, they had to change or alter their approaches to adjust with emergency remote teaching and learning so that they can continue their education programmes and complete their courses in time.

For online distance teaching and learning, virtual connections to the university's servers to access the software and tools had been helpful in supporting the learning for both students and faculty members. In most universities, there have been live lectures, seminars or labs which may have also been pre-recorded or recorded live sessions uploaded and e-resources to make them accessible at any time from anywhere. It is a great opportunity from the students' point of view that they can access the materials at anytime from anywhere and revisit or revise the available resources [30, 31]. One of the main advantages of the use of technology is that a large number of students can join online session at one time. For example, most of the UK universities have capacity to have 250+ students to join in their online session(s) at the same time.

Although there have been many challenges and difficulties to operate emergency remote teaching and learning (ERTL), for example, as already mentioned above that there are many courses or modules which require practical sessions or lab demonstrations [29]. So, the importance of face-to-face pedagogical approaches cannot be denied, but considering the current emergency situation imposed by the COVID-19 pandemic, online delivery of education seems to be the best alternative for the continuity of education [5]. Some universities across the globe have adopted a blended or hybrid learning approach following government guidelines, where the situation permitted. Alongside online session, whenever health regulations supported, there were arrangements for face-to-face sessions which improve the learning process and student engagement and satisfaction.

There have been many other issues in terms of online distance learning for students and teaching for staff, such as the availability internet (with a reasonable speed), a modest device (i.e. mobile phone set, tablet, laptop or computer with headphone and microphone), and a space where they could sit comfortably, quietly, without distractions to participate in teaching and learning. Many universities of the developed nations (e.g. UK, USA, Japan) have done their best to support their students and staff. For instance, these universities allow their students and staff to borrow laptop or desktop computers, headphones with microphones, and ergonomic keyboards and chairs (especially for staff). However, there are only limited resources and obviously not all universities can provide such resources to all staff and students which is another challenge of emergency remote online learning.

Considering the above benefits and challenges of online distance teaching and learning, it is crucial to go on with emergency remote (online distance) teaching and learning especially at this point of time (during the lockdown in the pandemic). Despite many barriers and challenges, online teaching and learning have undoubtedly improved further with the passage of time. The current trend shows that the tendency for online distance teaching and learning has gone up as compared to previous years [32] as this pandemic has left no other satisfactory choice than learning mostly online. Providing education online gives the option for people to learn, increase their knowledge and skills, and make the best use of their time especially during lockdown, isolation and quarantine. Being stuck at home, people may find more time to keep them engaged in learning activities [5, 29].

3. Mental wellbeing and its importance while providing education in emergencies

An individual's mental wellbeing is significantly important during a time of crisis to reduce the risk to mental health, especially psychological stability and morale [33–35]. As defined, mental health is a condition of a person that includes emotional, psychological, and social wellbeing [36]. It affects how people think, feel, and act so that they can manage their stress and anxiety. Around the world, people have been managing mental health and mental illness in different ways [37]. In the current situation imposed by the COVID-19 pandemic, many individuals including students and educators may have experienced mental stress and distress [38, 39] due to the changes in personal, social and economic circumstances such as being stuck at home, domestic violence, unemployment, loss of a job, loss of loved one or family breakdown [40–43]. Such mental stress can create various kinds of feelings or behaviours which directly or indirectly impact on their health and wellbeing, learning and educational attainments [44]. These could include sleeping too much or too little, getting away from usual activities, feeling low energy, feeling hopeless and down, developing habits of smoking or drinking, getting confused or upset, being worried about the current situation and the unseen and unpredictable future [40–43].

Mental wellbeing is ubiquitous in learning, and mental health affects cognition differently [45]. Likewise, O'Regan [46] described mental wellbeing as being vital during online learning and his research has put mental health at the centre of the teaching and learning process. Mental health has been seen to be significant in learning as it relates to and acts as a driving force for academic achievement, motivation, efficiency, identity formation, individual development, and overall wellbeing; yet it may negatively influence the achievement of learning outcomes, progress, and experience [47–51].

During the pandemic, the burning question in the context of education is: how can educators keep their learners engaged and motivated when many of them suffer from economic deprivations, losses of loved ones, health issues or lack of resources?

COVID-19 and the consequences of social distancing have brought anxiety and self-doubt for many individuals [41]. In this situation, many other questions arise: How can educators go through such challenging times, while improving their educational practices and the quality of learning of their learners? How can they keep their students motivated and encourage them about learning and education where the future seems blurred?

Due to the multifaceted impact of the situation, it is suggested that students should be connected with other people, be physically active, learn new skills, create positive feelings and be mindful [52]. However, what are the practicalities of such suggestions when a student seeks help for a mental health problem during his or her educational journey? Some students may need clinical treatment of their mental illness and it could be difficult for them to get the right guidance and treatments. Therefore, an integrated strategic support should be in place to help these kinds of learners including psychological, social and financial supports.

Considering the various impacts of the COVID-19 pandemic on learning, students require help and support in different areas. The support initiatives should include, but not limited to curriculum, class duration, teaching methods and techniques, teacher-students relationship, exam preparation, online extra-curricular activities, managing finances, mindset about online class. They should also be supported in coping with isolation and homesickness while they are stuck at their accommodations, and maintaining relationships with families and friends from a distance [38, 39, 53–55] (**Figure 1**).

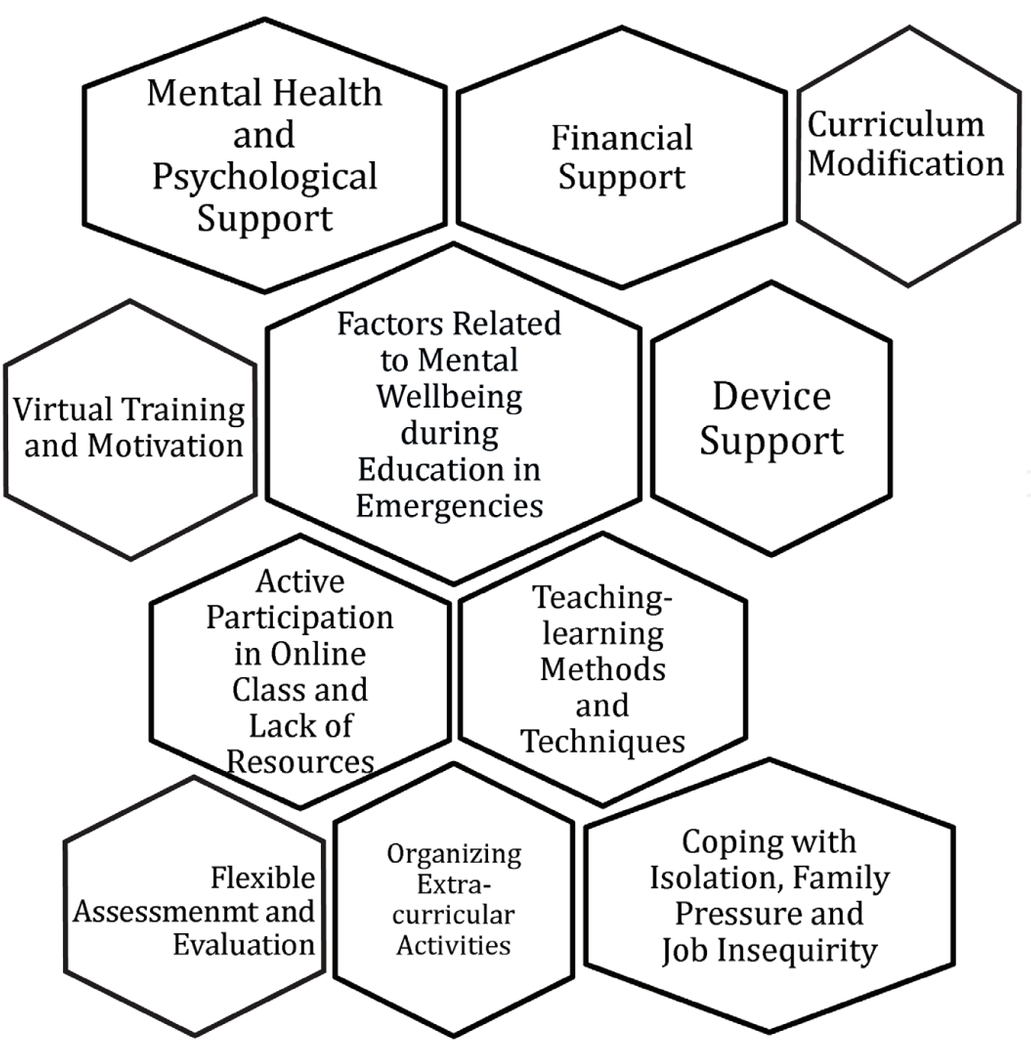


Figure 1.
Factors need to be supported for individuals' mental wellbeing during education in emergencies.

Ensuring an emotionally healthy e-learning environment and recognising mental wellbeing in learning are important for both learners and teachers. These are fundamental components of quality dynamic in learning and cognitive success [56]. The whole body, including affective, emotional, physiological, motivational, and expressive elements, is implicated in mental wellbeing [51, 57]. The correlation between cognition and mental health is bidirectional, which means that cognition and mental health operate in two ways, so both must be better understood [58].

Baker et al. [59] highlighted that the elements that trigger learning challenges and disruptive behaviours may be caused by boredom and misunderstanding, whilst also asserting that concentration is a factor for better learning. These variables are determined by various interface qualities, pedagogical values and resources. O'Neil and Spielberger [60] contended that extreme stress and pressure degrade understanding and thus inadequate learning (all of which may have been exacerbated by the COVID-19 pandemic) may be elicited by limited memory, attention span or decision-making, regardless of having the engaged motivation. In addition, LePine et al. [61] found that *challenge*-related stress had a positive relationship to learning performance, and that *barrier*-related stress had a negative relationship to learning performance and mental health in an e-learning context. They also indicated that these stress-learning performance relationships had been partly mediated by fatigue and the desire to learn. As a consequence, changes in motivation, loss of focus and control, and significant tension that the student experiences are the problems that both the student and the teacher must resolve.

In an online teaching and learning setting, even with a synchronous teacher present, it is difficult for teachers to notice or discuss any mental health-related issues with individual students. Subsequently, it is even more difficult to recognise such unproductive emotional states such as boredom, and irritation. It is certainly not enough for the teacher to evaluate students' success by monitoring quantitative facts, like the frequency of tasks, the number of posts and the grades earned [62]. If a teacher neglects or is unaware of the mental health issues of any student and the reasons that cause the student to act as he or she does, then the teacher will not be able to promote the concentration of the student or to enhance his or her potential achievement.

Culture, age and gender are also elements that impact mental health problems in e-learning. This is evident in how some learners prepare for online tests or feels online test anxiety, how they communicate feelings virtually, how they respond to student-teacher relationships and communications, and how they react to online verbal and non-verbal stimuli [63]. Male students appear to show higher levels of negative emotions and greater emotional arousal [64] while female students appear to be more open to obtaining teacher support [65]. It is worth noting that mental wellbeing and emotions are experienced by all those participating in the e-learning process (i.e., learners, teachers, support staff) and are crucial to the relationship with and between these individuals [66]. Fiedler and Beier [58] indicated that an educational environment such as an e-learning context is "full of experience, anxiety, and fun, anger, and satisfaction, dissatisfaction, and pride" (p. 36). Negative experiences of mental health problems such as frustration can be compounded in an online distance teaching and learning setting as there is no physical connection with peers and teachers and, for many, there are only a few mental health support systems that are accessible or suitable.

These mental health problems can be alleviated by developing awareness and getting prompt, personalised support. Developing digital self-efficacy and technological proficiency can also minimise some fears and anxieties while individuals engage in a self-regulated learning process [67, 68]. Teachers, who aim to teach more online and welcome change, will relieve some of their students' worries and

anxieties about teaching online [69, 70]. For students, mental wellbeing may be improved by taking part in evidence-based online teaching and learning orientation [71], by getting access to course materials as early as possible, by warm welcoming addresses from the teacher, or by continuous teaching presence in an e-learning setting [72]. Further support strategies for test, technology and second-language anxieties can also be introduced [73, 74].

Teachers' roles in ensuring students' mental health and wellbeing in learning and online teaching are similarly complex, as positions vary widely across higher education and within e-learning. There are, nonetheless, several recommendations for higher education lecturers who are teaching online that can be obtained from research. To maintain a safe and creative virtual space for learning, the online distance higher education teachers can take a significant responsibility [75]. Concerning mental health and wellbeing throughout the learning process, teachers should "pay close attention to learners' epistemic wellbeing to foster their self-regulated knowledge generation" ([45], p. 15) through students' voices. Thus, "[t]eaching and learning practices which foster both cooperation and competition, independence and self-evaluation, can build the strength of students' voices in ways that do not deny learners' self-identity and values" ([76], pp. 333–334). Higher education lecturers, who develop their own modules, in their module design, they should take into consideration, recognise and acknowledge the importance of good mental health in learning and incorporate tailored interventions, feedback and advice, and support accordingly [48].

Chen et al. [77] make the clear yet important argument that student satisfaction is a key element in the successful implementation of the e-learning programme. Students' high satisfaction of learning, as they claim, is associated with lower drop-out rates, increase engagement, learning success and dedication to the programmes they enrolled. There is evidence, however, that students with high levels of mental health problems prefer to keep their difficulties concealed rather than disclosing them [77]. Moreover, students with these forms of concealed wellbeing problems generally drop out of learning and tend to avoid continuing e-learning. As these students do not, in fact, highlight the problems to others, the issues are perpetuated and do not get discovered. Course designers and researchers should thus be mindful when determining the quality of the e-learning course on the basis of basic end-of-course surveys. Researchers should consider how to capture the hidden mental wellbeing of students in addition to collecting students' impressions before they get disaffected and drop out of the course. Satisfaction and good mental wellbeing are therefore significant in e-learning and online education.

After a long period of emergency remote learning and lockdown due to the COVID-19 pandemic, learners are struggling with academic engagement and as their institutional face-to-face teaching and learning has been disrupted. They are also deprived of their friends' and associates' physical presence in their everyday life. In such circumstances, learners are unable to share their emotions with their peers. Moreover, learners are being pressured by teachers and parents to complete the syllabus or course content in order to maintain academic performance. Here it must be mentioned that even in a pandemic situation, there is no change in parental expectation of getting higher marks in exams from their children. However, only a few changes could be considered by parents such as shortening a more extended curriculum and changing traditional paper-pencil assessment procedures to be able to produce a digital copy of the exam script [78, 79].

Due to sudden switching to emergency remote teaching and learning, learners are not prepared, and they are less confident to follow the virtual instructions of their teachers. Some primary and secondary level students become dependent on their parents or other family members to participate in their virtual class due to lack

of technological skills for using online learning tools [80–82]. As a result, students become less self-esteemed and motivated to learn as well as possessing little enjoyment in a virtual classroom [83, 84]. These are the common scenarios of the poor mental state of students in underdeveloped and developing countries. Therefore, students should be provided with various kinds of help and support to cope with mental health issues. These supports could include helping in exam preparation, managing finances, personal tutoring, supporting for coping with homesickness, maintaining relationships with families or worrying about future employment or career prospects.

4. The future: technological adaptation and integration for blended or hybrid learning

The effect of the sudden change and immediacy of emergency remote teaching and learning was challenging for many educators, including lecturers and support staff [85, 86]. The COVID-19 pandemic has required a long-term adjustment with clear consequences for teaching and learning settings, and conventional face-to-face lessons are being transformed to incorporate a combination of synchronous and asynchronous pedagogical approaches and delivery methods. Although many teachers and academics have expertise and experience with designing, developing, delivering and assessing blended and e-learning, there remain many academics and educators that do not hold the expertise or knowledge to cope with such a shift. As a result, education work settings have become more collegial and collaborative with colleagues supporting one another. Educators are helping each other to make this continuous professional development process moving forward by offering not only course design and development support but also instructional tips. This process of collegiality support the transformation of traditional education, to enable it to be successful, through blended and online experiences, in developing better learning outcomes for their students [87]. While collegiality is good to see, it is placing an additional burden on all staff members with an already strained workload.

Nevertheless, the focus should be on the lived experiences of the teachers who support other colleagues and can offer lessons, experiences, and tips towards supporting their colleagues that will be lost if not documented in a timely fashion. Therefore, documentation of one's own experience and sharing such knowledge with others is essential. This would also provide an opportunity to develop an instructional guideline as well as policy and procedural recommendation tools to assist others. This strategy helps to recreate instructional reflective learning in a collegial environment in which the organisation moves from self-sustaining strategy towards recognising its own success. The willingness of academics to support each other shows the importance of collegiate unions, while showcasing strategies, innovative pedagogy, engagement styles and assessment alternatives, which are all new ideas for most organisations under current education in emergencies. This could offer a unique chance to document the knowledge and lessons learnt, as well as to take a long-term perspective of the systemic effect and e-learning opportunities.

For educational institutions to go ahead with e-learning, it is vital to ensure inclusiveness of provisions that all students be considered, as well as what policies and practices must be introduced to accommodate and address the needs of all stakeholders, now and in the future. One of the best approaches is to keep record of the experiences through the lens of educators and academics who are at the forefront of teaching and learning.

To maintain learners' effective virtual learning which will enhance their mental wellbeing and will fulfil the goal of education in emergencies (EiE) the following specific strategies and psycho-social interventional steps may be appropriate:

1. In the light of the theories of Socrates and Plato the virtual class as well as distant teaching and learning tasks should be of essence or form (means an existence which is separated from its individual manifestations) based [88]. In this way, e-learning should be focused on basic ideas about all relevant aspects of life, especially dealing with ongoing emergency including what is important, what to do, where to go and how to cope with different situations.

2. From May's existential psychological perspective on 'Normal or Healthy Anxiety' [88] which is conducive to personal growth - a virtual class climate can be created in which all learners feel a 'normal' or 'healthy' anxiety to engage. In this way, the learners' anxiety about virtual class could be positive, which will enhance their learning.

3. According to Rogers [88], learners, teachers and parents in pandemic circumstances need to accept virtual or emergency remote education. Therefore, new coping strategies or new ways of coping should be introduced among education stakeholders and beneficiaries. Basic technology skill-based virtual training programmes need to be implemented for students, teachers, administrators and parents so that they will be able to use different e-learning tools including conferencing tools such as Zoom, Google Classroom, Microsoft Team, Skype, Blackboard Collaborate etc. independently.

4. Becoming enlightened through Rogers' [88] point of view on personality, virtual learning should be self-explorative. The virtual class climate should be positive for students' expression of opinion, feelings, belief and decision making. Thus, individual presentation, dual presentation and discussion, group presentation and discussion and webinars can all be incorporated into online classes. In this way, students will be able to realise their inner potentials and teacher-centric lecture time will be reduced. Research shows that the discussion method is better than the lecture method in terms of students' academic achievement [89]. This practice will also reduce students' anxiety and increase participation and engagement in e-learning.

5. Many educational and cultural practices could be interchangeably used in online and traditional educational approaches [90]. Students are equally valued in all respects by teachers whether they are on campus face-to-face class or in a virtual class. Such unconditional acceptance and empathy should be expressed by teachers towards all students. If a teacher calls the students by name, monitors all students and provides positive and constructive feedback to each of the students virtually, students will own such a class and be motivated to engage academically.

6. According to Piaget [91], primary education learners are in the concrete operational stage of cognitive development and therefore they might not be able to think in the abstract ways that come in the formal operational stage of adolescence. This means a teacher's virtual instruction for primary level learners in virtual class should be as specific, clear and experiential as possible. For example, in a distant learning virtual classroom clear-cut verbal instruction should be provided in order not to confuse the students. On the one hand, students of this age could be asked to make different materials relevant to their textbook topics. In this way, such learners will experience their text-book topic empirically. On the other hand, secondary, higher secondary and tertiary level students may be better able to deal with abstract instructions which can develop their creative and critical thinking.

7. The curriculum may be shortened, specific, explorative, need-based, life skills and culture oriented. The need to develop 21st-century competencies has received global recognition [92–94], but instructional methods have not been reformed yet to include the teaching of these skills. Multiple frameworks include creativity, critical thinking, communication, and collaboration as the foundational competencies which it is advocated should be incorporated in curricula across all levels of education. The challenges in building foundational competencies through designing new curriculums and implementing pedagogy necessitate specialised training. Regardless of such training, pedagogy can be affected by educators' individual perceptions of it, financial pressures, access to resources, societal problems, and the sheer speed of international transitions, in addition to other factors. With the introduction of digitalisation into the sphere of education, it is unknown if educational barriers have been eliminated or removed through e-learning or, whether it became a further barrier in maintaining inequalities in education.

8. Considerations should be given to education sessions, as the number of lessons may be increased or decreased for an 'optimum period' considering the nature of emergencies, i.e. the COVID-19 pandemic. The student's levels, needs, requirements and contexts should be considered when making such decisions. At the end of the day, the focus of e-learning should be all about the students' academic attainments – their learning, their academic results, and so much more. Educators and learning organisations will be able to better develop their online, satisfy students' needs, and place themselves in a dynamic global market if they have a better understanding of the online process and how to better support educators in their teaching and students in their learning journey [95].

9. Any events that take place outside of the regular (compulsory) curriculum are referred to as "extracurricular activities" [96]. Cultural and extracurricular programmes can be carried out through webinars which will decrease students' academic and other stress. These kinds of webinars or e-learning activities will enhance students attachment and engagement with their teachers, classmates and institutions. In turn, these will decrease their engagement with destructing activities online. Through these extracurricular online activities students should have the opportunity to sing, dance, play a role or debate as well as virtually connect with one another from their home setting [97]. Virtual quizzes or art competitions can be held to engage the students and keep them busy in a constructive way [97, 98].

10. Physical education should be compulsory and incorporated into the curriculum by which an instructor will conduct a class on physical exercises virtually. Students will follow the instructor's instructions virtually and will do physical exercises from their home. This type of physical activity session should be monitored by the teacher or a professional instructor. The following four themes have been identified as important for the future of physical education and are prevalent in the online physical education course: 1) appropriate curriculum for students, 2) individualised option for students, 3) family-friendly content, and 4) lessons that involve students in developing long-term, healthy lifestyle behaviours [99]. While completing assignments and working out in their own environment, students in an online physical education (PE) class practice self-directed learning habits, and they often become health advocates in their own homes [100].

11. The term "morality" refers to the theoretical, systemic, and logical analysis of human actions and interactions. It concerns human behaviour, where moral activity is practical [101]. Values are associated with human beliefs and attitudes. Society, spirituality and culture have strong connections with morals, values and ethics [102–104]. Religious education (RE) has a greater impact on preparing young people to live and work in a diverse community than any other subjects [105]. Online religion-focused education should be available in order to enhance and connect with learners' moral development during the emergency.

12. Everyone, including children, young people, young adults, students, and scholars, is influenced by online learning. Virtual classes can exacerbate underlying mental health issues for many students. Others may experience new mental health and mood changes due to the pandemic and online learning [106]. Basic safety awareness based virtual classes also should be taken by learners of all ages to be aware of how to ensure safety against viruses, abuse, mental health issues and online safety.

13. Assessment methods have an impact on how students learn, and online assessments must be structured to encourage students to engage in positive learning behaviours [4]. Online assessment procedures should be flexible as now education is being provided in emergency situations. On the basis of virtual class attendance, virtual class participation and rate of academic engagement in virtual class-assessment should have monitored. The proportion of paper-based traditional tests should be reduced as much as possible and continuous, holistic assessment must be focused [86]. Particularly, physical, religion and safety awareness-based educational topics should be measured visually and verbally that is through viva voce among the students.

14. Free internet connections [107] such as open WiFi facilities [54] must be available for the sake of students' academic advancement in underprivileged areas of under developing and developing countries. Financial support must be given to poor students to buy handheld devices (i.e. smart mobile, tablet or laptop) and internet data [38, 39]. Ergonomically designed and comfortable tables and chairs should be provided to poor and physically disabled students at home. Educational mobile apps must be developed for children, adolescents, adults, and also for physically disabled students, for those who have hearing problems and for learners who are partially or fully blind. By providing these financial supports and other essential resources, students should be able to do their works including attending virtual classes at home with safety and security. This would be the reflection of Maslow's theory of self-actualization where the first two steps of basic needs are fulfilled [88]. Furthermore, Lewin's 'life space' concept [88] also considers the learners' physical and psychological aspects of life.

15. According to existentialist Binswanger [88], the learners' surrounding world of things and events must be considered. Therefore, he emphasises, how the learner communicates with surroundings and his or her subjective experience of self must be considered. To fulfil this issue, educational and school psychologists and family therapists should be virtually paired with teachers, students and parents. With the help of virtual psychotherapy and mental health clinicians, students will be able to improve their mental health and wellbeing and acknowledge the meaning of life in emergencies.

16. Decentralisation of education is not an end in itself, but it may be an important means of improving education [108]. Decentralisation is described as "possibly the single most advocated reform for improving the provision of such basic services as education and health in developing countries" in the literature on education ([109], p. 131). Decentralised power such as power given to local authorities should be implemented in the education sector for developing and under-developing countries. In this way, individual and cultural area-based students' needs should be explored.

17. There is a need for more empirical research in the field of education in emergencies (EiE) to support advanced understandings of learner engagement, mental health and wellbeing issues, interactive activities in remote teaching and learning, and building effective collegiate communities [10]. Moreover, real and perceived social learning activities towards supporting the individuals' cognitive engagement and learning outcomes, career development and personal performance behaviours are equally important to improve the quality of e-learning for individuals in emergencies.

18. There is currently a significant void, and future studies could concentrate more on in-depth study of online instruction practices, step-by-step implementation, and the most successful online course design and instruction practices [95]. However, during emergencies, educational researchers (including teachers, administrators, leaders) should engage to conduct participatory and critical action research in different learning environments or modalities (i.e. face-to-face, online and blended) to better understand different delivery modes and improve their practices.

5. Conclusion

The current COVID-19 pandemic has forced public and private organisations, companies and institutions as well as individuals to change their behaviours during lockdown to maintain social distancing. As a result, 'working from home' and 'home learning' using digital technologies have become the new norm. However, technological advancement has already led to the digital transformation of everyday life, and technology-enhanced learning has already been widely adopted by many education institutions across the globe. In the sudden emergency remote teaching and learning, especially designing and delivering education at short notice, has made digital technologies a ubiquitous requirement for teachers and students to continue their teaching and learning, and especially for higher education institutions to provide education. Such new paradigms have led the education sector worldwide to change the ways of teaching and learning in a significantly short period of time, which creates both challenges and opportunities.

Teaching and learning are essential parts of the rounded development of individuals to unfold their potential. However, the perspectives of individuals involved in teaching and learning through the unprecedented time during the COVID-19 pandemic are crucial to understand the barriers and challenges of the situation. Teachers as practitioners have important insights to offer into how they overcome the difficulties through changes in practice and innovations in pedagogical methods and approaches using different digital or non-digital teaching and learning platforms and different tools and techniques. Therefore, research needs to be carried out to identify the good practices of teaching and learning and proper

use of emerging technologies in order to understand the role of digital education in the context of the twenty-first century.

Even though numerous programmes have been delivered through e-learning in different educational institutions including schools, colleges and universities, this is the first time for most teachers and students to use virtual teaching and learning tools and technologies in their full-time education programmes. In this vein, the chapter has explored how experienced and new users of emerging technologies are dealing with the new circumstances. Interest in artificial intelligence and online technologies [110–112] has amplified significantly in universities, showing that there are useful platforms in aiding teaching and learning as well as increasing students' motivation and engagement. Thus e-learning has created new avenues for the education sector worldwide and shown its potential to support mental wellbeing.

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