Teaching Approaches and Methodologies: A Review of Post COVID-19

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Abstract:

The COVID-19 pandemic is shining a severe light on the exposures and challenges faced by humans. The pandemic transformed education systems around the world, causing the greatest disruption to the education system, especially teaching and learning more specifically in the approaches and methodologies. The COVID-19 pandemic created movement restrictions and social distancing measures, besides this situation leading to a severe impact on traditional educational practices. This article aims to explore a literature review of the educational system that has been forced to adjust its approaches and methods to e-learning in line with the era of COVID-19. Methodology: This article focuses on the theoretical aspects of the COVID-19 pandemic, which poses significant challenges to education worldwide, forcing a major shift away from learning and teaching face to face interactive environments. It is presented in five mutually inclusive sections as follows; (a) Teaching Approaches and Methodologies During Pandemic; (b) Adaptations of Post COVID-19 Online Teaching and Learning: Methods and Approaches in Higher Education; (c) Challenges On Post-COVID-19 Online Teaching and Learning Method and Approaches; (d) Strategies to overcome the Challenges on post-covid-19 online teaching and learning method and approaches and (e) Theory of Transactional Distance in Post COVID-19 Online Teaching and Learning Method and Approaches. The COVID-19 pandemic has forced many educational institutions to adapt their teaching approaches and methodologies to remote and hybrid learning models. In the post-COVID-19 era, these new teaching approaches and methodologies may continue to be applied and refined to improve student learning outcomes. The key to promoting novelty and originality in teaching approaches and methodologies post-COVID-19 is to prioritize flexibility, creativity, and student-centered learning. By empowering students to take ownership of their learning and encouraging them to be innovative and creative, educators can help prepare them for a rapidly changing and unpredictable world.

Keywords: pandemic, teaching, learning, approaches, methodologies.

教学方法和方法：对后新冠肺炎 的回顾

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摘要：

新冠肺炎 大流行让人类面临的暴露和挑战更加严峻。这场大流行改变了世界各地的教育系统，对教育系统造成了最大的破坏，特别是在教学方法和方法方面。新冠肺炎大流行造成了行动限制和社交距离措施，此外这种情况还对传统教育实践造成了严重影响。本文旨在探讨对教育系统的文献综述，该系统被迫根据新冠肺炎时代调整其电子学习的方式和方法。方法论：本文重点关注新冠肺炎大流行的理论方面，它给全世界的教育带来了重大挑战，迫使面对面互动环境的学习和教学发生重大转变。 它分为以下五个相互包容的部分：（a）大流行期间的教学方法和方法；（b）新冠肺炎后在线教学的调整：高等教育的方法和途径；（c）新冠肺炎后在线教学方法和途径面临的挑战；（d） 克服新冠肺炎后在线教学方法和途径挑战的策略，以及（e）新冠肺炎后在线教学方法和途径中的交易距离理论。新冠肺炎大流行迫使许多教育机构调整其教学方法和方法，以适应远程和混合学习模式。在后新冠肺炎时代，这些新的教学方法和方法可能会继续得到应用和完善，以提高学生的学习成果。在新冠肺炎之后，促进教学方法和方法的新颖性和原创性的关键是优先考虑灵活性、创造力和以学生为中心的学习。通过赋予学生自主权并鼓励他们创新和创造，教育工作者可以帮助他们为快速变化和不可预测的世界做好准备。

关键词：流行病、教学、学习、方法、方法。

1. Introduction

Globally, the COVID-19 pandemic has posed particular challenges in the educational industry. The coronavirus (COVID-19) pandemic has changed the educational landscape. Higher educational organizations, including universities and colleges, are no exception, and after observing that the coronavirus pandemic situation is uncontrollable, the World Health Organization recommended that social distancing be maintained as the initial preventive step (Leal Filho et al., 2021). A study pointed out that in the global data for March 2020, schools and universities were closed for 87% of registered students and for more than 60 million educators (Nations, 2020). Educational institutes continue to grapple with the worldwide wellbeing disaster, needing to consider diverse teaching and learning approaches and methods online. Face-to-face teaching is quickly shutting down in feedback to the COVID-19 pandemic, which has helped educators understand the variance between online teaching and their other approaches to procedure. Educators have shifted their focus and organized to deliver their approaches and methods in teaching and learning from home-based, with all the practical and practical challenges that involve, frequently deprived of acceptable practical support (Hodges et al., 2020). From experience, researchers have determined that online teaching is a type of work practice recognized by many educators (Goodson, 2017; Gonzalez, 2009; Nilson & Goodyear, 2002).

Furthermore, the physical teaching and learning methods switched to the online method and learning for gaining knowledge, which has some significance for the approachability, excellence, and fairness of education. Countries all over the world took different actions while carrying out their educational activities during the pandemic period (Doan, 2022). Scholar stated that the Ministry of National Education of Turkey coordinates preschool, primary and secondary education, while the Council of Higher Education coordinates higher education (Doan, 2022). Another past study pointed out that the Indian educational structure has seen a

modification from a physical teaching model to a totally online one (Zimmerman, 2020). Literature also points out that educators across sections of society have invariably had to get used to the online approach of teaching guided to a digital mindset (Victoria, 2020). The COVID-19 pandemic outbreak, according to Malaysian scholars, left higher educational institutes with the barrier of making over to a new program of study, pedagogy, and educational administration; an exclusive prospect for educationalists and representatives to reconsider teaching and learning structures and redesign whatever is significant, essential, and appropriate for upcoming generations (Rasli Tee et al., 2022).

Ever since the early days of the pandemic, classroom teaching has been canceled in service of digital learning, but the manner in which online learning is achieved varies widely across countries, schools, and even teachers. In the education field in Indonesia, levels immediately adopted the online learning method (Kotera et al., 2020). Another study supported that, because of the COVID-19, all physical occasions intended for official and casual learning have stopped, and health professionals courses have been essential move to limited delivery through online education (Alsoufi et al., 2020). Furthermore, literature suggests that online learning and teaching involve wide range of implements, resources, educational methodologies, roles, administrative preparations, interactions, supervision, and forms of communication (Bates and Poole, 2003; Bullen and Janes, 2007; Bach et al., 2007). The immediate or forced closure of educational institutions does not halt learning and teaching (Watermeyer et al., 2020). An online contingency plan was developed to continue teaching and assessment through a digital interface and help students improve their learning (Rapanta et al., 2020). Many educational institutions have adopted practices to make educational content flexible and accessible to meet the requirements of their students; for instance, the method of blended learning includes some aspects of online course teaching and learning, while other approaches include a

hybrid model merging online course delivery and physical sessions (Meydanlioglu & Arikan, 2014).

Literature proven the virtual teaching and learning approach includes with a widespread range of tools, resources, educational methodologies, characters, organizational preparations, interactions, supervision, and forms of communication (Bates and Poole, 2003; Bullen and Janes, 2007; Bach, Haynes, and Smith, 2007). The advancement of technology over the last decade in the educational perspective became an assist in the teaching and learning for the educators by using virtual educational platforms to encourage self-centered learning and assessment in students. This is supported by literature with the use of virtual education also supports in engaging a huge group of students at one time with teaching and learning methodologies adoptions of both synchronous and asynchronous learning (Sinclair et al., 2015).

The teaching and learning approach by synchronous learning ensures that all students study the similar content in a related methodology, while asynchronous learning allows facts to be interconnected through campuses and sites, with students pleasing in learning at their own step and, where practical, in their own time. In the same way, online delivery of education as a module of mixed teaching and learning allows lecturers to openly adjust to student learning styles and gauge them (Fontaine et al., 2019). Throughout the COVID-19 pandemic, universities across the world have transitioned to distance learning, most of which is planned for virtual delivery (Alsoufi et al., 2020; Liu et al., 2016; Dost et al., 2020). A study on health professional courses employs a variety of blended learning tools, which may contain synchronous E-learning in virtual reality sessions, online lessons, formative quizzes, asynchronous activity in moderated discussion forums, and other instructor- or self-directed learning activities. Engaging with these learning approaches may be observed another way from classroom-based teaching. Both teachers and students have had to adjust to new education classes, with a focus on lively learning and the technical support necessary for delivery of education (Jonesey et al., 2020; Sandhu and de Wolf, 2020).

2. Teaching Approaches and Methodologies during Pandemics

The COVID-19 pandemic has increased in additional countries and educational institutes facing the challenge of how to uphold continuous teaching and learning although fronting the risk of prolonged closures (Ali, 2020). In this scenario, virtual learning became an instructional change from physical teaching and learning methods to the virtual method of teaching and learning from the classroom to a virtual platform. Even under the best conditions, transitioning to large-scale virtual learning is a hard and complex undertaking

for education systems, but it has become a necessity (UNESCO, 2020). Due to the blowout of COVID-19, educators must be knowledgeable in technology application by shifting the teaching method from traditional to internet-based. Instructors can cope with students' shifting schedules and offer training opportunities in a more flexible format (Pappas, 2015). Based on the literature, email, forums, blogs, podcasts, and videoconferencing are examples of online learning teaching methods that allow students to most successfully develop not only the tools of a foreign language, particularly in learning English (Jabbarova, 2020).

Previously, traditional physical education was the only form of teaching in sports schools where teachers and students physically met (Jones, 2019; Nortvig et al., 2018; Schaber et al., 2010). E-learning began to be implemented in the 1990s, and students completed classes asynchronously without being on campus or physically in the classroom (Nortvig et al., 2018; Jones, 2019). Educational professionals believe that virtual learning can interchange physical classes, as the online learning method is a commercially viable option for students (Schaber et al., 2010). Despite increasing determinations to initiate other courses, virtual education has not delivered the expected results as learning is largely a passive activity (Schaber et al., 2010; Jones, 2019). Research has shown that a mix of physical and virtual work is ideal and highly effective compared to either form (Haijian et al., 2011; Jones, 2019).

3. Main Text Adaptations of Post COVID-19 Online Teaching and Learning: Methods and Approaches in Higher Education

Due to COVID-19 restraints, educational institutes have been required to move courses online. As a consequence of the epidemic, universities were forced to perform their activities with students completely online (Sobaih et al., 2020). It was pointed out in the literature that a digital learning support group was established to deliver e-learning training programs and provide e-learning technology and resources (McPherson and Nunes, 2004). This has provided educators with confidence in online teaching, as it has increased rapidly, and teachers' perceptions of online learning have significantly improved. In addition, combining teaching and learning methods tapped the strengths of several technologies, web tools, and learning philosophies; these approaches tapped the best of both domains, both synchronously and asynchronously. These method options, according to Picciano (2009), combine the powers of various technologies, web tools, and learning philosophies to provide the best of both worlds (online and face-to-face).

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Over the years, an additional teaching method, generally recognized as mixed learning, has multiplied wide recognition between teachers and students. Formerly, e-learning, distance education, and communication developments were commonly reflected to be part of non-formal learning, but as of now, it looks that they will regularly exchange the formal education system if the settings persevere over time. However, in the aftermath of the COVID-19 crisis, online education converted a pedagogical approach from traditional methods to the modern approach of teaching and learning, from the classroom to Zoom, from personal to virtual, and from seminars to webinars. According to a study, some of the most common virtual communication stages would revolutionize the destination and route of the entire educational system worldwide in the post-COVID-19 situations. There are numerous platforms used in online teaching and learning for the period of COVID-19, such as Start.me, Neo, Classtime, Classwize, Ted-Ed, Coursera, Google Classroom, Bakpax, Pronto, Skillshare, ClassDojo, Edmodo, Parlay, Docebo, Feedback Fruits, Udemy, WeVideo, WizIQ, Flipgrid, and Codea (Mishra et al., 2020).

A study supported in the Portuguese perspective indicated that the same communication stipulated that "efforts should be made to promote online teaching and learning, keeping the activities through teacher and student interaction via digital tools" (MCTES, 2020). Xavier (2020) discovered that in Portugal students offered some worries regarding not being able to effectively finish their studies because of the pressure begun by the transformation in teaching approaches and the shortage of physical practical and laboratory lessons (Gonçalves et al., 2020). The practices of personal and institute versions of online teaching and learning need to be taken into consideration to fully recognize their special effects on teaching and learning. Furthermore, the significance of hands-on empirical learning has been directed to advances such as virtual field trips and virtual learning premises (Pennisi, 2020). One technique was to divide the lesson into a series of smaller learning activities such as mini-lectures, group discussions, classroom surveys, and contextual quizzes. Before this pandemic, open universities in India were considered to provide online education. However, throughout COVID-19, virtual teaching and learning became a huge challenge to transaction with, and participants are not theoretically fit to amend to the impulsive instructive change as they are not technically proficient to squeeze the present condition.

A study on the usage of mutual E-Learning tools to improve the stage of systematic knowledge in Greek Second Chance Schools (SCS) Athens, Greece, was conducted with instructors who participated in synchronous distance learning. In addition, another study was shown in Austria on video-based learning (VBL) associated with physical learning in psychomotor skills for physiotherapy education, in which experimental groups received electronic access to a video and written materials, whereas the control group attended a physical class with the same written resources (Eidenberger & Nowotny, 2022).

In a study conducted in the Kingdom of Bahrain, online experiences of students with virtual education in the COVID-19 pandemic years seem to be dissimilar from physical learning; most of them trust that learning is better in face-to-face classrooms than through online education. Furthermore, more involvement from significant authorities is required by enacting more laws and stringent guidelines to ensure the process and efficiency of virtual education (Omar, 2021). A study at the school of education in the University of Zambia reported that both lecturers and students provide with 21st-century teaching and learning capabilities through e-learning through online learning. Furthermore, more involvement from appropriate experts is required by enacting more regulation and stringent guidelines to ensure the process and efficiency of virtual education (Omar, 2021). There is a need for lecturers to plan content appropriate for online teaching and learning. The study also pointed to student autonomy so that the transactional distance between lecturers and students is saved minimum through the COVID-19 pandemic and in the unanticipated prospect (Lufungulo et al., 2021).

From the Malaysian perspective, teaching and learning typically done physically in lecture halls have been switched with virtual platform applications such as Webex, Google Classroom, Google Meet, Microsoft Team, Edmodo, Zoom, Skype, WhatsApp, Facebook Live, and Telegram. Numerous teaching and learning maintenance applications for executing activities and evaluations are also being developed, such as Kahoot, Mentimeter, Powtoon, Screencast-O-Matic, Canva, podcast, quiz, Socrative, Google Form, and Edpuzzle (Mansor, Ab Rahman, Tajuddin, Abd Rashid, & Chua, 2021). Besides, the new norms of virtual methods in teaching and learning also offer prospects for students to remain communicate and collaborate via email and facts sharing over Google Drive and the like. Scholars also stated that the e-learning platform has been expanded to include Massive Open Online Courses (MOOC). Open Learning, Moodle, and Learning Management Systems (LMS) E-learning makes it easier for students to use the teaching and learning materials of a course that have been uploaded online by lecturers and learn the ethics of the course. The literature currently supported education has transformed radically with the individual growth of e-learning. It is completely clear that the implementation of virtual learning will continue in the post-pandemic period (Murzo & Chuvileva, 2021).

4. Challenges of Post-COVID-19 Online Teaching: Learning Method and Approaches

The transition from physical teaching and learning to online teaching and learning accelerated after the physical closure of educational institutions in March 2020 (WHO, 2020). The ease and convenience of the online platform has become one of the main challenges for many institutions, including higher educational institutions such as universities, during the COVID-19 pandemic. The worldwide spread of COVID-19 has resulted in the postponement of classes for more than 850 million students globally, disrupting the original lesson plans of schools in all countries and regions (Chen et al., 2020). However, the practice of an e-learning system has been accepted by most teachers through their understanding of the adaptation of ICT and the main challenges faced in the teaching and learning process. The rapid shift toward an online setting also poses challenges for students and teachers, as seen in a US study that found that many teachers are beginning to transition to traditional teaching methods system (face-to-face) to online teaching environment while facing many challenges (Hixon et al., 2012; Simamora, 2020). Online teaching and learning have identified problems associated with geographical differences, distance, and many other causes of ineffective teaching and learning (Granena & Yilmaz, 2019; Singh & Thurman, 2019). On the other hand, due to the unexpected development of the COVID-19 epidemic, most faculty members in the department are facing problems and challenges such as lack of experience in online teaching, prior ground work, or job support learning technology related to lesson plans and teaching resources such as audio and video material and technology support (Bao, 2020).

One study has shown that the obstacle to adapting and applying virtual learning is access to ICT resources, as e-learning thrives on accessibility to ICT facilities (Arthur-Nyarko & Kariuki, 2019). There is an ICT enrollment pattern among different student locations, households, and regions because the Internet and especially 3G networks are not the same everywhere (Lembani et al., 2020). ICT-related problems are common not only among students and fields but also among teacher managers because ICTs are not fully integrated into the teaching and learning process in most institutions. Department of Education (Ghavifekr et al., 2016). The challenges of ICT and e-learning present all this evidence in low-income and advanced technology countries (Sahito and Vaisanen, 2017). Indeed, established and developing nations face dissimilar challenges, problems, and issues during the COVID-19 pandemic. The key transformation is the willingness of students and teachers to adopt and use online learning systems to make meaningful progress (Almaiah et al., 2016). Previous literature has highlighted many of the challenges of online teaching and learning, which are classified into four categories such as individual challenges, course challenges, teaching challenges, and cultural challenges that vary from country to country due to the diversity of contexts and preparations (Sahito & Vaisanen, 2017). In terms of connectivity, students' lack of ICT literacy, content delivery, and computer skills have proven to be key challenges when implementing e-learning in developing countries (Aung & Khai, 2015). Scholars also pointed out that the Pakistani education system faces three main challenges in the process of digitization: IT efficiency, system emergence, and internet literacy (Kanwal & Rehman, 2017).

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are not the same everywhere (Lembani et al., 2020). ICT-related problems are common not only among students and fields but also among teacher managers because ICTs are not fully integrated into the teaching and learning process in most institutions. The COVID-19 virus has grown rapidly and spread around the world (Ghavifekr et al., 2016). It has created a disaster for education as before, due to the very short closure of schools and universities and the forced spread of unprepared online learning, leading to a change in the relationship between students and teachers (Graham & Sahlberg Pasi, 2020). Documents have shown that educators struggle with online classes due to a lack of technical skills, a lack of student interest, and declining participation. Students cite so many reasons that it is hard for educators to recognize the real reason (Yusnilita, 2020). The literature also points out differences in issues from the teacher's point of view when transitioning from orthodox teaching to online learning, such as actively engaging students and inspiring them to take part in the learning process. online teaching and learning programs and developing quality content for education. There are some technical challenges, such as download problems, poor internet connection, app connection issues, login id issues, voice, video not audible, etc. (Tandon, 2021). The Faculty of Medical University of Pakistan feels that online learning promotes student-centered learning during the lockdown, while some teachers have difficulty in teaching practice and doing experiments (Mukhtar et al., 2020). Teachers at Uttarakhand University revealed that in general, educators have a positive perception of online education during COVID-19 and new educators are more actively involved in virtual learning.

Furthermore, e-learning has not only improved the understanding of educators but also their practical skills. This increases teacher times as art knowledge is essential to the advanced teaching aids of interactive programs, and it also constructs a communication gap between students and teachers (Dubey & Singh, 2020). The challenges of accessing e-learning are reduced when students and instructors have a unique opportunity to experience and collaborate with educational technology tools such as mobile learning, computer learning, and online learning (Pellegrini et al., 2020; Byun et al., 2020).

Prensky (2001) points out that students are completely different from their archetype because they are native speakers of this technique from a linguistics perspective. About the troubles related to English skills by related lessons, such as the writing challenge, speaking challenge, and reading challenge. For language lessons like phonology and phonology challenges, where the teacher has to teach phonemes, synonyms, morphemes, and more face to face. Some students have network problems and lack high-quality learning equipment. Previous literature has shown

perceptions of positive online learning experiences. Several studies have also described weaknesses in e-learning such as lack of self-regulation, inability to use technology effectively, inability to manage time, not accessing a home computer, exposure to computer technology is stressful and time consuming, lacks opportunities to communicate with team members on this topic, and lack of timely response (Jeong & Frazier, 2008). Other negative experiences of online learning include improved workload, less opportunities for human contact and interaction, lack of concentration and tendency to somnolence, insufficient English skills to recognize learning materials on the Internet, which are costly for heavy workloads and group discussions, inability to freely express opinions and less interaction and learning via online and various functions of synchronous technology is uncooperative (Martin et al., 2018).

5. Strategies to Overcome the Challenges of Post-COVID-19 Online Teaching and Learning Methods and Approaches

Education and online distance learning have taken place worldwide to ensure that the right learning process is timeless. The best solution to the existing problem is to integrate online teaching and learning. Educators and administrators at educational institutions have taken various approaches to improve online teaching and learning. One approach to improve online teaching and learning is to implement an appropriate online platform to conduct teaching and learning when students are geographically dispersed (Azlan et al., 2020). Hands-on videos, TV clips, apps, and other handy multimedia resources can also contribute to online learning methods and experiences (Pazilah et al., 2019). Higher education educators can give online assignments and assignments to students without physical meetings (Yustina et al., 2020). This has increased among educators at university institutions implementing a variety of online teaching and learning activities using video streaming platforms such as Zoom, Google Meet, YouTube, and others (Yaacob & Saad, 2020). Another study at a school in Indonesia highlighted that educators are using apps such as WhatsApp, Google Classroom and Zoom to learn online during the COVID-19 pandemic to ensure continuity in learning (Sutarto et al., 2020). These online apps and platforms are more affordable, accessible and manage to engage students in the teaching and learning process.

In order to address the challenges of the unexpected exchange of on-site lectures to virtual lectures under the impact of COVID-19 restrictions, Mahidol University of Thailand used a hybrid teaching approach for examples of on-site and online programs, based on the nature of the curriculum rigorously following the

process of controlling the spread of the disease (Mahaisavariya, 2020). Scholars also recommend strategies to improve online education, such as education committees collaborating with telecommunications industries to provide stable internet, collect student feedback, and provide guidance (Mahmood, 2021). The flexible instruction based on assessment policies and student convenience. Bao (2020) recognized six pedagogical approaches to e-education development strategies that are considered suitable for effective online education. These approaches include (1) improving instructional design to improve student learning; (2) actively providing online education; (3) educators supporting students; (4) quality engagement to enhance overall student learning; (5) online education problem solving plan.

The pandemic outbreak is changing the traditional process of physical teaching and learning (Mohmmed et al, 2020). Researchers propose that virtual learning has a positive impact at the university level. According to them, it further improves the innovative skills of students and educators compared with conventional teaching and learning (Misanchuk & Anderson, 2001). In a physical classroom, communication among educators and students may be face-to-face. In online distance learning and education environments, two-way communication can occur both synchronously and asynchronously (Tartavlea et al. 2020). Motiwalla and Tello (2000), synchronous communication tools that facilitate real-time relationships between instructors and students. This recreates communication in a regular classroom, where students and teachers can interact and give each other instant feedback (Lim, 2017). Synchronization tools such as audio channels, video conferencing, and online chat rooms. In addition, asynchronous communication tools are an added value. Asynchronous tools used by college teachers are boring chats, email, WhatsApp and Telegram. Education can happen anytime, anywhere because students have more time to research and reproduce discussion topics because they can access these learning tools at any time (Lim, 2017).

Motivation can inspire students of education by choosing how and when they choose to study (Schunk & Usher, 2012). However, it is important not to overlook the psychosocial and emotional aspects of learning to ensure the academic development of students (Korkmaz & Toraman, 2020). Chung (2020) has shown that the impact of motivation and student satisfaction is patent during online learning. Core inspiration pushes the instructor to take appropriate actions or actions to achieve the anticipated teaching and learning outcomes (Baber, 2020). Additionally, to provide a better orientation to course content, educator feedback can serve as a vehicle for increasing educators and student relationships in virtual courses (Frisby et al., 2013). Literature indicates that students appreciate clear and direct communication regardless of course format (Poulos & Mahony, 2008). Crews and Butterfield (2014) added online courses to support donations and invited educators to provide feedback, which enables effective online teaching and learning. Reliable and regular feedback on the existence of an instructor improves students' motivation to engage in online teaching and learning (Cole et al. 2017).

6. Theory of Transactional Distance in Post-COVID-19 Online Teaching and Learning Methods and Approaches

Transaction gap theory is the most commonly used theory in research related to distance education and distance learning (Falloon, 2011). This theory has been presented on the perception of cognitive and communication gaps as well as describing the accepted nature of the transaction between educators and students, which needs to consider three factors, namely structure, dialog, and autonomy in online distance learning education (Moore, 1997). Falloon (2011) recommends Moore's theory offers a valuable theoretical "prism" against which to analyze online learning activities, but its perspective may need to be tested. back to reflect the move toward the use of synchronous communication tools in online distance learning. Moore (1997) argues that the more structured the course, the more students feel trapped in the course. These developments widen the transactional gap, especially in the psychological distance between instructors and students, as they connect with each other in digitally taught courses.

The study conducted at the University of Zambia (UNZA) explored virtual teaching during the coronavirus disease 2019 (COVID-19) pandemic lecturers' skills and the associations for integrating online teaching and learning in university pedagogy. The study focused on the practice of Moore's Theory of Transactional Distance in understanding the effects of the pandemic in the school of education at UNZA. The results revealed that the lecturers' mode of teaching before the COVID-19 crisis was primarily physical (face to face) but after the crisis lecturers were required to change from the traditional mode of teaching to the virtual (online) mode of education. Lecturers' original approaches toward online teaching were negative; however, most lectures are gradually warming up to online teaching. Lecturers specified that their participation in online teaching was both necessary and unwelcome, although the undesirable experience outweighs the necessary experiences. The study concluded that the pandemic forced lecturers to move from their physical methods of teaching to new advanced online methods, instructions, and pedagogies that promote student independence and keep the transactional distance between lecturers and students insignificant. Moreover, even though lecturers' initial attitudes to online teaching were undesirable, faulty

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ultimately warmed up to online teaching and have presently fully integrated it despite its challenges. Consequently, Moore pointed out that student autonomy is realized when the course is less regulated but has improved the conversation.

The new framework for the perception of virtual environments, virtual teachers, virtual students, and programs related to national education policy. Figure 1 provides a conceptual framework for the post-COVID teaching and learning landscape, where teachers, students, communities, and programs interact with instructional technology based on appropriate strategies, time, and available resources, availability, and approachability. This means that the pandemic presents a prospect for many changes, and this pandemic may play a role in the paradigm shift in reform attitudes in the concept of facilitation of learning and assessment. In the post-COVID scenario, technology-based teaching, learning, and research activities are adopted, followed by performance-based assessment systems at multiple levels of education and academia.
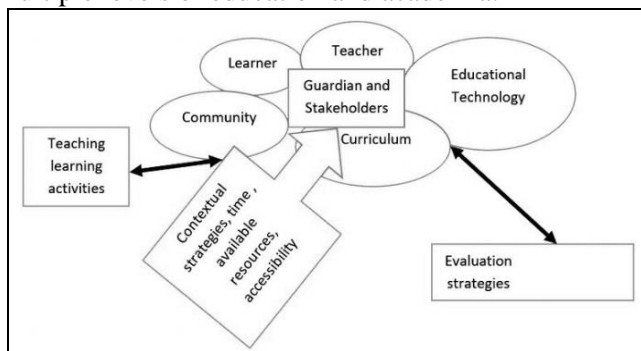

Figure 1. A conceptual framework for post-COVID teaching-learning management

7. Recommendation

Since the beginning of 2020, educational institutions have switched to online learning in response to the COVID-19 pandemic. During these two years, the pandemic and fully online transitions on mixed or hybrid modes are still used in response to the evolution of COVID-19. Most importantly, the speaker is knowledgeable and learning to design appropriate content for online teaching and learning. Further research is recommended to conduct a joint study integrating teacher-student interpersonal communication in higher education with post-COVID-19 online teaching and learning methods and approach from the Malaysian point of view.

8. Conclusion

In post-pandemic circumstances, educators, parents, stakeholders, and all students must emphasize on teaching and learning practice. Students are generally happy to be back at school, but some have concerns about school safety or are nervous about interacting physically with their peers. A major highlight of physical instruction that students often mention is that it

allows the teachers to participate more directly in physical instruction, allowing them to be more focused. Most respondents reported unchanged or worsening mental, physical, and emotional health. This is similar to last year's survey, where respondents provided similar information. Health concerns continue to plague students and educators as they continue to experience the adverse effects of the pandemic. Students indicate that catching up on academics and the uncertainty of school schedules are the biggest contributors to anxiety and stress. In addition, students should consider the financial burden on their families. The literature indicates that some suffer from a lack of social support, such as social anxiety in peers and worries about family relationships. The motivation and support from parents and teachers despite the difficulties, most students are satisfied with the support they have received from parents, teachers, and schools since school reopened. Many empathize and thank teachers and parents for their support in returning to school.

8.1. Limitations and Further Study

Overall, while remote and online learning has allowed education to continue during the pandemic, it has also highlighted several limitations that will need to be addressed to ensure quality education for all students post-COVID-19. One of the limitations related to the lack of face-to-face interaction is that with remote and online learning becoming the norm during the pandemic, students have had limited opportunities for face-to-face interaction with their peers and teachers. This may impact their social and emotional development. In addition, online learning requires access to reliable technology and a stable internet connection, which may not be available to all students. Additionally, not all teachers are equipped with the necessary skills to effectively use technology for teaching. Moreover, the sudden shift to remote learning has reduced the quality of education for many students. Some subjects may not be suitable for online learning, and students may struggle to engage with the material. The pandemic has caused significant stress and anxiety for students and teachers, which can impact their mental health and well-being. This can further impact their ability to learn and teach effectively. Prolonged disruption to traditional schooling has resulted in significant learning loss for students, especially those from disadvantaged backgrounds. Catching up on missed learning opportunities will be a challenge.

Acknowledgments

Authors' Contributions

The authors of this article are different educators

from different fields of expertise. Dr. Vimala is from the field of human communication, while Dr. Zuraini is from area of expertise in Linguistics and Dr. Sin is from area of research expertise in quality management, operational management. The lecturers are experiencing and contributed some relevant and significant points on teaching approaches and methodologies due to the post COVID-19.

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