TEACHING, LEARNING AND ASSESSMENT DURING COVID-19: CHALLENGES AND PROSPECTS OF THE UNIVERSITY OF IBADAN ERT

ENSINO, APRENDIZAGEM E AVALIAÇÃO DURANTE A COVID-19: DESAFIOS E PERSPECTIVAS DA ERT DA UNIVERSIDADE DE IBADAN

Tella Adedeji
University of Ibadan, UI
Ibadan, Nigeria
a.tella@ui.edu.ng

Abstract: The Covid-19 pandemic has brought extraordinary challenges and has affected the educational sectors in all ramifications. This, therefore calls for the need to sustain and provide quality education despite its challenges and forced many institutions to reposition their educational practices which predominantly adopted the conventional methods of teaching and learning, as well as assessment which was on venue-based and restricted in terms of online accessibility, swiftness, assessment and materials interaction. In the new normal period, there is much emphasize to reposition our institutions for teaching and learning in terms of the mode of instruction and assessment. Many countries, Nigeria inclusive were forced to migrate to a more robust innovative online teaching and learning, and different forms of online instruction and assessment using diverse platforms such as Emergence Remote Teaching(ERT), google meet, zoom, Microsoft team and others. These online teaching platforms have implications for lecturer-student interaction, satisfaction, engagement, and success in curriculum planning and implementation issues. Seventy-five lecturers in the faculty of Education from the 11 departments partake in the study. Questionnaires and structured interviews were used to collect data. Data collected were analyzed using the descriptive statistics of mean, while the qualitative data was content analyzed. This study identified the challenges of teaching staff and students in teaching and learning using ERT, University of Ibadan as a case study. Challenges idented includes: internet connectivity, technological experiences, power supply,and lack of access to reliable internet connection .The perceived benefitswere a reduction in transportation costs, effective distance learning, stability in communication and lecturers' familiarisation with online emerging technology. ERT platforms should be designed with engaging and interactive content, instructors and students' learning activities to maintain students' interest during the lesson session were recommended.

Keywords: Emergence of remote teaching, Assessment practices, Teaching/learning processes, Covid-19 pandemic, Blended teaching.

Resumo: A pandemia da Covid-19 trouxe desafios extraordinários e afetou os setores educacionais em todos os aspectos. Isso, portanto, requer a necessidade de sustentar e fornecer educação de qualidade apesar de seus desafios e forçou muitas instituições a reposicionar suas práticas educacionais, que predominantemente adotavam os métodos convencionais de ensino e aprendizagem, bem como avaliação que era baseada em local e restrita em termos de acessibilidade online, agilidade, avaliação e interação de materiais. No período do "novo normal", há muito ênfase em reposicionar nossas instituições para o ensino e a aprendizagem em termos do modo de instrução e avaliação. Muitos países, incluindo a Nigéria, foram forçados a migrar para um ensino e aprendizagem online mais robustos e inovadores, e diferentes formas de instrução e avaliação online utilizando diversas plataformas como Ensino Remoto Emergencial (ERT), Google Meet, Zoom, Microsoft Teams e outros. Essas plataformas de ensino online têm implicações para a interação entre professores e alunos, satisfação, envolvimento e sucesso em questões de planejamento e implementação curricular. Setenta e cinco professores da faculdade de Educação dos 11 departamentos participaram do estudo. Questionários e entrevistas estruturadas foram usados para coletar dados. Os dados coletados foram analisados usando as estatísticas descritivas de média, enquanto os dados qualitativos foram analisados de forma de conteúdo. Este estudo identificou os desafios dos professores e alunos no ensino e aprendizagem usando a ERT, Universidade de Ibadan como estudo de caso. Os desafios identificados incluem: conectividade à Internet, experiências tecnológicas, fornecimento de energia e falta de acesso a uma conexão à Internet confiável. Os benefícios percebidos foram uma redução nos custos de transporte,

aprendizagem eficaz à distância, estabilidade na comunicação e familiarização dos professores com a tecnologia online emergente. Recomendou-se que as plataformas de ERT sejam projetadas com conteúdo envolvente e interativo, atividades de aprendizagem de instrutores e alunos para manter o interesse dos alunos durante a sessão de aula.

Palavras-chave: Emergência de ensino remoto, Práticas de avaliação, Processos de ensino/aprendizagem, Pandemia de Covid-19, Ensino misto.

INTRODUCTION

In January 2020, the World Health Organization declared COVID-19 as a global emergency (WHO, 2020). The impact of COVID-19 has been noted in practically all areas of activity, but its effect has been particularly strong in teaching and learning. The pandemic has shaken up the landscape of education worldwide, with about 191 nations closing all their educational institutions, causing widespread disruption in the education sector of over 1.7 billion learners which were 90% of the world student population (UNESCO, 2020). In March 2020, the Nigerian government urged an emergency lockdown in the country to stop the spread of coronavirus. During the lockdown period, all schools and educational institutions were closed, and all the students and educators had to stay homeand learn in ways that they had never learnt before.

In Nigeria, where the predominant teaching modality across the education system is majorly face-to-face learning, about25 percent of bachelor's degree students are enrolled in public distance education universities. In response to this declaration and the enforcement of total lockdown by the federal COVID-19 taskforce in an attempt to control the virus spread forced all face-to-face educational institutions to move to different forms of online instruction, which required changing the teaching methods and resources to adapt them for distance education such as maintaining in-class teaching with social distancing, creating hybrid models (blended learning, limitation of students in campus) or moving to online instruction. In July 2020, all education institutions were instructed by the Nigerian Joint Task Force on COVID-19 to prepare for implementing emergency remote teaching (ERT) modes as a quick solution for sustainable education by minimizing transmission risk.

Emergency remote teaching is defined as a sudden interim shift of instructional delivery from face-to-face to an online delivery mode as a result of the pandemic. ERT is contrary to online learning, which is pre-planned and designed to be delivered virtually (Hodges et al., 2020). The main purpose of ERT is not to completely transfer the conventional methods to e-learning but to provide temporary access during emergencies using various available and reliable media or platforms. Thus, ERT can be understood as a temporary solution and should be separated from the term "online learning" (Hodges et al., 2020). Accordingly, online learning is an alternative and flexible option for universities/colleges, while emergency remote teaching is an obligation to protect the educational community from spreading the virus. Therefore, online learning and emergency distance teaching are not the same since their purpose and function are different.

Several authors had a different research focus in highlighting ERT activities, such as differences between online learning and ERT, emergency curriculum design, and how to evaluate ERT. For instance, Hodges et al. (2020) mainly differentiate between ERT and online learning. Mohmmed, Khidhir, Nazeer&Vijayan(2020) evaluated the implementation of ERT in colleges. Wang and East (2020) constructed an emergency curriculum of instruction during the pandemic in China, while Whittle et al. (2020) developed a conceptual framework for responsive online teaching in a crisis. Other studies such as Green et al., 2020used the hand's activities and Design (ACAD) framework to design ERT in New Zealand, while Karakaya (2020) focused on a learner-centered approach. Several researchers have focused on various pedagogical constraints in remote teaching activities (Bozkurt and Sharma, 2020; Ferri et al., 2020). More comprehensively, Reimers et al. (2020) developed a module as a framework to guide an education response to the COVID-19 Pandemic. This module aims to support education leaders in developing three essential components: curriculum, professional resources, and tools or technology used as learning media. However, none of them specifically developed principles for implementing ERT. In addition, geographical differences and different technological readiness between countries cause the conditions for ERT implementation to be different, thus giving the possibility of different results. Thus, this study aims to fill this gap by investigating the challenges and prospects of the University of Ibadan ERT to determine the efficacy of teaching, learning and assessment during COVID-19.

Objectives of the Study

The objectives of the study are the following:

i) Describe the experiences of the lecturers (preparedness, performance and perceived ERT effectiveness) with the shift transition to ERT during COVID-19.
ii) Determine lecturers' online self-efficacy in using ERT
iii) Describe the lecturer's strategies to adapt to the shift to ERT during COVID-19.
iv) Investigate the benefits of ERT
v) Investigate the challenges faced by the lecturers during ERT

Research Questions

The following research questions guided the study:

- RQ1. What are the lecturers' experiences concerning their preparedness, performance and perceived ERT effectiveness?
- RO2. What are the lecturers 'levels of online self-efficacy in using ERT
- RQ3. What strategies influenced their adaptation to this sudden and enforced change?
- RO4. What are the perceived benefits of ERT?
- RQ5. What are the perceived challenges faced by lecturers members?

LITERATURE REVIEW

Theoretical Framework

This study attempts to explain this phenomenon (ERT) through Modified Maslow's conscious competence learning model (Figure 1).

This study focuses on the experiences of lecturersand members of higher education institutions who had to adapt to the new norm of enforced online teaching or ERT to ensure the continuity of instructional delivery. The impetus changes and adaptiveness led to an accentuated learning of online instructional delivery methods. Although academic lecturersand members of higher education institutions may have been aware of the online instructional delivery methods, this would have been the first time they were performing instructional delivery completely online. Such enforced changes would have resulted in unlearning and relearning the assumptions, beliefs and attitudes towards online instructional delivery.

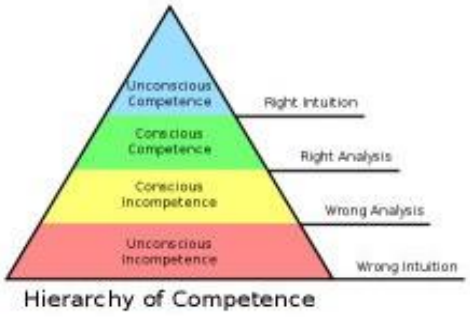

Figure 1. Hierarchy of Conscious Competence Learning Model by Maslow

The conscious competence learning model describes the stages of the learning process in an individual, startingfrom unconsciously incompetent and progressing through stages of consciously incompetent and consciously competent, culminating in the unconsciously competent (the newly learned skill becoming second nature) stage. The four stages of competence, or the "conscious competence" learning model,relates to the psychological states involved in the process of progressing from incompetence tocompetence in a skill. People may have several skills, some unrelated to each other, and eachskill will typically be at one of the stages at a given time. Many skills require practice to remain ata high level of competence. COVID-19 and the crisis could lead to unlearning of existing practices and relearning of newer needs. In such a

situation, stage 4 could then move back to 1 and 2 again (unlearning and relearning). Now the model can have two axes– the consciousness axis and the competence axis. To move from incompetence to competence, any individual should perform deliberate practice and a trainer who facilitates that should perform coaching strategies. Any individual who would like to progress in the consciousness axis should perform reflective practice, trying to understand the need for change and adaptation. The facilitator in such a situation should perform mentoring to ensure reflective practice

ERT vs Online Learning

The ERT was a response to continue education despite the global crisis due to the pandemic. Hodges et al. (2020) define ERT as A temporary shift of instructional delivery to an alternative delivery mode due to crisis circumstances. Therefore, ERT is a temporary phase during an emergency or a crisis with solutions for instruction or education instead of a face-to-face or blended format. Bozkurt and Sharma (2020) argue that ERT is an obligation and a re-engineered distance education due to interruptions caused due to pandemics, local conflicts or natural disasters. Therefore, ERT is beyond just online teaching strategies such as sharing tools, changing contexts, the flexibility of content, tools and timely solutions in collaboration with psychologists, sociologists and therapists to cater to various learners. This necessitates a change in approach to deliver the content successfully and consider overall strategies while interacting with online ERT learners.

Singh et al. (2020) in their study of a technology acceptance model (TAM) during the COVID 19 concluded that perceived usefulness forms a positive attitude towards using digital collaborative platforms (DCP) while perceived ease of use does not impact the attitude towards the use of DCP. According to Davis (1989), "Perceived usefulness" is the extent to which a person believes that using a particular technology will enhance performance, while "Perceived Ease of Use" is the degree to which a person believes that "using technology will be free from effort", (Davis, 1989). In a study by Camilleri and Camilleri (2019), perceived usefulness was found to have a strong correlation with the behavioural intention of using a mobile app for learning, while there was no significant relationship between perceived ease of use and enjoyment in engaging with apps at school. There have been challenges in understanding the adaptation to technology in teaching and learning in the given period.

Alvarez (2020) identifies that face-to-face learners when put to emergency remote learning, face challenges in the learning process due to a lack of technical and technological support such as internet access, financial constraints and emotional support. Zhang et al.(2020) conclude that continuing learning during the pandemic had limitations of infrastructure, teaching resources, inexperienced lecturers for online platforms and home environment. Toquero (2020) considers that ERT has provided an opportunity for a paradigm shift for lecturers to develop new learning strategies for effective distance education and to foster skills technologically. Johnson et al. (2020), and Trust and Whalen (2020) confirm that lecturers went through anxiety and stress in this process – this mainly is due to lack of preparation. Unlike Online teaching, where there is more readiness, ERT is an unprecedented change. This called for changes at several ends, both for students and lecturers. Therefore, the ERT has demanded robust strategies from stakeholders in education across the world (Onyema et al., 2020).

Lecturers' experiences, adaptation and content delivery during emergency remote teaching. Understanding the needs and experiences of lecturers members is critical for several reasons. Such research will provide early insight into how lecturer members responded to ERT and adapted these techno-pedagogical practices during this period. Furthermore, taking an online course, developing hybrid courses, teaching, mentoring others to teach online and regular use of their institution's Learning Management System (LMS) were sighted as other ERT experiences (Johnson et al., 2020). A poll on ERT conducted among the lecturers and administrators of 600 institutions in the US found that 97% of the lecturers did not have previous online teaching experience. "While 56% of them used the virtual platforms for the first time, 48% of lecturers experienced reduced student work expectations and 32% saw a significant decrease in the quality of student work" (Ralph, 2020). A Qualitative inquiry of nursing educators in New Jersey, on their experience of transition from the traditional classroom to online teaching experience, revealed they needed a radical mind shift to adapt to the new pedagogy and felt the need for professional development for a learning management system, technological support and mentorship (Sinacori, 2020).

A study conducted among lecturers members and administrators in the US reported that regardless of their previous experience, they had adopted new teaching methods during COVID-19 (Johnson et al., 2020). Similarly, another study conducted at Lesley University, Cambridge by Eisenbach et al. (2020) suggests that the middle-level lecturer rose to the new challenges and exhibited critical thinking, creativity and

compassion during the ERT. Nevertheless, it was also reported that lecturers members have struggled to adapt their pedagogy to fluctuating situations such as students' unreliable internet access, changing personal needs and unclear shifting educational or governmental directives. In the continuum, lecturers members also felt the need for significant support with shifting their practice. Because of this, they relied on informal, self-directed learning with their professional learning networks for teaching assistance (Whalen, 2020). Regarding content delivery and unlike planned online teaching, ERT is an unprecedented shift and comes with challenges, some of which were never dealt with before.

ERT involves content delivery through a fully remote mode that would otherwise be delivered face-to-face or in a blended form. The primary objective of the ERT is not to create a robust educational ecosystem but rather to provide a temporary solution for content delivery (Hodges et al., 2020). Despite its usefulness, technology-enabled content delivery involves a learning curve for both lecturers and students. Lecturer members may find it challenging to learn and teach online during this emergency because of the non-availability of time to evaluate and choose between synchronous and asynchronous online teaching and learning. Furthermore, lecturer members need to be flexible enough to deviate from the original plan of content delivery (Iyer et al., 2020). Liguori and Winkler (2020) agree that as lecturer members teach students to adapt, be agile and innovate, they must also practicewhat they teach and have more preparation to adjust to various delivery modes based on situations they are forced into.

Challenges in emergency remote teaching and related works

In online learning, the lecturer's role shifts to that of a facilitator. Virtual platforms have become the primary resource for learning and the focus of learning has changed. Information discovered is not packaged and more emphasis is given to the learning process than the product (Schell and Janicki, 2013). E-Learning has always been a challenging learning space, which has shown resistance to acceptance from both students andlecturers members (Al-Hujran et al., 2013). In ERT, there is no choice,but for lecturer members to adapt to the situation to restore the continuity of education, despite the challenges (Karalis and Raikou, 2020). Mohammed et al. (2020) identified three main challenges in ERT related to educator, student and content. While educators' primary role is to deliver content, engaging students in the online mode is paramount.

While students may demonstrate their ability for self-learning and may have the necessary skills, the content offered online also requires alignment with the learning outcomes. Student engagement has always been a challenge in online learning mode and particularly to maintain attention (Bailey and Lee, 2020; Bao, 2020). Lewis (2016) considers that one of the challenges that lecturer members have always faced in the teaching profession is time management. This is due to the workload beyond their control or this has impacted work-life balance. Joshi et al. (2020) discussed the barriers lecturers face in teaching online in a home environment due to disturbances from family members and neighbours. One of the major challenges lecturers faced was a lack of technical facilities, training on using online tools and lack motivation to adapt to the virtual environment.

ERT has given rise to a changing role of lecturers who have to manage pedagogical, social, managerial and technical roles (Keengwe and Kidd, 2020). The pedagogical role involves facilitating teaching in an online mode; the social role is to facilitate an online social environment. The managerial role is to set objectives, while the technical role is to adopt the technology. As teaching continued online during COVID-19, there has been a need to enhance the lecturer's experience through more preparation. Kebritchi et al. (2017) concluded that professional development for lecturers members to guide them on the delivery of courses is necessary to enhance online teaching and learning effectiveness.

According to Colpitts et al. (2020), the educational ecosystem comprising the institution, lecturers and students went through a transition to be more adaptive by strengthening their capabilities. The institutes had to improve their leadership capacities, while lecturers had to adapt to the "intergenerational digital divide" by enhancing themselves through support systems, training and upgrading various skills. Students in this transition had to also strengthen their various IT skills.

Online Self-efficacy and ERT

From a social cognitive perspective, the construct of self-efficacy indicates human beings' perception of their capability to complete foreseeable daily tasks, which shape their decision-making process. Highly efficacious individuals are more likely to set up more challenging goals, tend to be more resilient and experience fewer negative emotions in the process of achieving these goals (Bandura 1997). Much research has been done to investigate self-efficacy in various academic fields including the field of lecturer education.

Lecturer self-efficacy plays an essential role in the choices of the lecturer's personal goals, the extent of being persistent in the face of adversity and the strength of motivation to carry out certain behaviours in teaching such as the use of digital teaching-learning materials (Glackin and Hohenstein 2018; Van Acker et al. 2013). It was reported that lecturers with higher LSE are more likely to feel engaged with students and experience more job satisfaction (Granziera and Perera 2019). They also tend to be more persistent with teaching adversities and try more creative strategies to assist students to understand complex subject matters (Zee and Koomen 2016). It was further associated with the retention of lecturers at both preservice and in-service levels (McLennan et al. 2017). Similarly, higher lecturer self-efficacy for educational technology standards affects the lifelong learning competencies of preservice lecturers (Kan and Murat 2020).

Studies on LSE have been predominantly based on physical classroom teaching. Lecturers' Sense of Efficacy Scale (LSES) (Tschannen-Moran and Woolfolk Hoy 2001) has been the most commonly used scale for LSE studies (Ma et al. 2019). This scale covers three aspects of classroom teaching, including instructional strategies, student engagement and classroom management. To cover more domains of the teaching profession, Skaalvik and Skaalvik (2007) validated a six-dimension scale, namely the Norwegian Lecturer Self-efficacy Scale. This scale has six dimensions, namely, instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, and coping with changes and challenges. Efforts have been made to adapt aLSE scale with a stable factorial structure among PSTs. Pfitzner-Eden et al. (2014) refined the designs of LSES by changing the introductory wording, changing the response scale, and reselecting the items, and found a stable three-dimension structure among PSTs across both initial and last stages of ITEPs in Germany and New Zealand contexts. In other words, when one individual is self-efficacious at certain tasks, it does not mean that he or she is equally capable in all other tasks (Bandura 2019). However, the above approaches have only been demonstrated in classroom teaching as opposed to online teaching, mainly due to foundational differences between the two teaching contexts (DiPietro et al. 2008). This, therefore, necessitates the need for studies in the context of online LSE. Robinia (2008) adapt LSES into an online teaching context and found a validated two-factor structure, including LSE for online instruction and that for online technology, which has been considered a well-validated scale for online teaching (Corry and Stella 2018).

Lecturers tend to feel less self-efficacious about online teaching as to the disparitybetween physical and online classroom environments (Johnson et al. 2020). It was identified that university lecturers with prior experience in online teaching were more likely to report more motivation to teach online (Horvitz et al. 2015). In contrast, those without online teaching experience reported lower self-efficacy when they transformed to online teaching (Devica 2015). Among various reasons, anticipated difficulties with technology, losing connection with students, insufficient understanding of online pedagogical knowledge, and time-consuming features of online teaching were reported to threaten online LSE. It is especially less controllable for lecturers to engage students with low interest in studying online (Richter and Idleman 2017).

Online teaching self-efficacy could be developed, and different factors were reported to be influential to its changes. LSE for online instruction of a cohort of lecturers increased by completing an online lecturer education course and their LSE for applying technology to online teaching and establishing an online teaching environment was the most worrying (He 2014). Lecturers feel less self-efficacious about interacting with students and providing feedback for their future students due to the concerns about not having opportunities to form connections with students (He 2014). Richter and Idleman(2017) opined that LSE for online instruction increased with lecturers spending more time on it whereas that for technology application remains a concern due to lack of technological support. Conversely, another study found the differences in technological techniques between the lecturers and the students as a factor rather than technological support (He 2014). Accordingly, lecturers with years of experience in online teaching reported supportive school administration as an essential factor influencing LSE for online instruction, while poor administration supports such as lack of regulations on students' behaviours leads to low LSE (Richter and Idleman 2017). Similarly, teaching small groups of students online boost the confidence of lecturers as compared to teaching a large number of students (Devica 2015).With COVID-19 adding to the existing challenges of LSE, the need for research in this field cannot be overemphasised. To our knowledge, this is the first study to investigate lecturers' online LSE in the context of COVID-19.

Lecture's Strategies and Adaptability during ERT

One of the impacts of COVID-19 in the educational sector is the requirement for lecturers to adapt to the online teaching environment. Adaptability as a construct was reported by Martin et al. (2012) to indicate the capability of individuals to cope with new changes and uncertainties by adjusting their psycho-

behavioural mechanism. Adaptability has been proposed to include three dimensions, namely behaviour adjustment, emotional adaptation, and shift in attitude (Collie et al. 2018). This construct differs from lecturers' resilience, with the latter indicating lecturers' persistence in the presence of negative situations. Adaptability on the other hand goes beyond negative challenges and focuses on situations that are not anticipated.

Evidence indicated that lecturers' adaptability significantly impacts students' academic performance (Collie and Martin 2017). Similarly, among a few constructs, including LSE, lecturers' adaptability and perceived autonomy assistance, adaptability was the only construct found to affect lecturers' behaviours by encouraging students' creativity (Loughland and Alonzo 2018). What seems to be essential to lecturer education practice is schools could potentially increase lecturers' adaptability (Kudinova and Arzhadeeva 2020). Martin et al. (2012) opined that lecturers' adaptability could be improved by guiding lecturers to realise the necessity to adapt to instabilities as well as encouraging improvements towards their behaviours, and cognitive and emotional states. Further research is needed to understand the impact of lecturers' adaptability in teaching and learning during ERT.

METHODOLOGY

Research design:The study employed the descriptive survey research design based on a two-stepprocess. The first step consisted of questionnaires given to the respondents to indicate their responses to given statements relating to the benefits and challenges of ERT. The results of this step were supported by the second step, which is basically in an interview format where 25.0% of the participating respondents while selected. The interview session enabled the participants to support their decision concerning their self-efficacy, experiences, benefit and challenges primarily related to ERT.

Sample and sampling techniques:This study was conducted at the University of Ibadan, Ibadan. The sample of the study was selected by using a random sampling method, whereby all academic staff of the institution were given an equal chance of being represented in the study.

Research instruments: For this study, six instruments were used to collect data. They are:

I. Lecturers' Online Self-efficacy Scale (LOSeS)

The LOSeS was adapted from the Online Learning Self-Efficacy Scale (OLSES) developedby Zimmerman and Kulikowich (2016), and aimed at measuring online self-efficacy. It was modified by the researcher to 15 items instead of the original 22 items structured on a 4-point response format, ranging from Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The developer used Cronbach's alpha to measure internal consistency. For the five items on the learningsubscale, Cronbach's alpha was .890. For the five items on the time subscale, Cronbach'salpha was .855 and, for thefiveitems on the technology subscale, Cronbach's alpha was.843. The instrument was revalidated by the researcher., while the reliability of the instrument was established using Cronbach alpha. The items were administered to 30 lecturers at Obafemi Awolowo University, and the reliability coefficient of 0.889 which was food good enough.

II. Lecturers' Online Experience Questionnaire (LOEQ):

The LOEQ was adapted from the Online Learning Self-Efficacy Scale (OLSES) was developed by Pankaj Deshwala, Trivedia&Himanshib(2017), and was aimed at measuring lecturers' online experience. It consisted of Preparedness experience, Pragmatic-Pleasurable Experience, Use and Social Experience, Hedonistic and

Exhaustive Experience and Sociability Experience dimensions with20 items structured on a 4-point response format, ranging from Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The four original experiences were modified by the researcher to read preparedness, pragmatic, performance and perceived effectiveness experiences. The instrument was revalidated by the researcher., while the reliability of the instrument was established using Cronbach alpha. The items were administered to 30 lecturers at the Obafemi Awolowo University, and reliability coefficients of 0.89, 0.81, 0.77, and 0.84, respectively werefound to be good enough.

III. Lecturers' Perceived Benefits of ERT (LPBERT)

LPBERTwas self-constructed by the researcherto measure the benefits of ERT at the University of Ibadan. It consisted of 11structured on a 4-point Likert response format, ranging from Strongly Agree

(SA), Agree (A), Disagree (D) and Strongly Disagree (SD). In scoring, all the items were positively scored as follows SA-4, A-3, D-2, SD-1. The face and content validationwas ascertained by giving copies to experts in the field of online education for their comments and suggestions in terms of suitability and applicability. The reliability of the instrument was established using Cronbach alpha by administering the validated itemsto 30 lecturers at the Obafemi Awolowo University, and a reliability coefficient of 0.797 was obtained.

IV. Lecturers' Perceived Challenges of ERT (LPCERT)

LPCERT wasself-constructed by the researcherto measure the challenges of using ERT at the University of Ibadan. It consisted of three sub-sessions namely technological challenges, (b) pedagogical challenges and (c) social challenges with 20items structured on a 4-point Likert response format, ranging from Strongly agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). In scoring, all the items were positively scored as follows SA-4, A-3, D-2, SD-1. The face and content validating were ascertained by giving copies to experts in the field of online education for their comments and suggestions in terms of suitability and applicability. The reliability of the instrument was established using Cronbach alpha by administering the validated items to 30 lecturers at Obafemi Awolowo University, and a reliability coefficient of 0.810 was obtained.

V. Interview session:

Based on the quantitative findings and descriptive themes,interview questions were constructed by the researcher. The interviewquestions were then reviewed and refined by experts in online learning. Individual interviews were conductedface-to-face. The interviews wereconducted in a semi-structured manner, where the interview questionswere used as prompts, whilethe participants were encouraged to freely describe strategiesthat influenced their adaptationthrough this sudden and enforced change toERT. Before the interview, each participant was given an information statement covering the aimof the interview, followed by a brief verbal explanation bythe interviewer. Afterwards, written consent was soughtfrom each participant. The total number of lectures and students interviewed was 20 and 50, respectively. All interviews were audio-recorded and transcribed.

VI. Methods of Data Analysis

Data collected will be analysed using descriptive statistics of means and standard deviation while the interview aspect was content analysed.

RESULTS

Research question 1

What are the lecturers' experiences concerning their preparedness, performance and perceived ERT effectiveness?

Table 1. Lecturers' experiences concerning their preparedness, pragmatics, performance and perceived ERT effectiveness?

S/N.	Statements	Mean	Std.D	Decision
A	Preparedness			
1	Content preparation is time-consuming	3.05	0.81	Agree
2	ERT assessment format is stressful	3.14	0.83	Agree
3	The interface makes lesson preparation easy	3.51	0.67	Agree
4	Preparation of students' assessments on the ERT platforms is easy	2.49	0.92	Disagree
5	ERT takes into cognisance the four goals of the curriculum when preparing for a lesson	3.45	0.80	Agree
Weighted mean = 3.13				
B	Pragmatic experience			
6	ERT is productive	2.51	0.99	Agree
7	ERT is valuable	3.47	0.87	Agree
8	ERT is useful	3.55	0.72	Agree
9	ERT is informative	3.15	0.66	Agree
10	ERT is worthwhile	3.29	0.75	Agree
Weighted mean = 3.19				
C	Performance experience			
11	ERT services are friendly	2.54	0.98	Agree
12	The interface of ERT motivates me to continue	2.49	0.91	Disagree
13	It is easy to use ERT	2.71	0.93	Agree
14	ERT takes into account individual differences between learners or users	2.31	0.91	Disagree
15	It is not stressful to use ERT	2.96	0.97	Disagree
Weighted mean = 2.61				
D.	Perceived effectiveness experience			
16	ERT platforms make the achievement of lesson objectives easy	2.57	0.99	Agree
17	ERT provides an opportunity for lecturers to adopt varieties of strategies	2.40	0.89	Disagree
18	The interface of the ERT platform does not take into cognisance the three domains of learning	3.14	0.79	Agree
19	It is confusing to evaluate the learning process on ERT	2.53	0.95	Agree
20	As a lecturer, ERT makes content delivery easy	2.45	0.98	Disagree
Weighted mean = 2.62				
Grand weighted mean = 2.89				
Criterion mean = 2.50				

Table 1 showed that the grand weighted mean of 2.89 for lecturers' experiences in terms of their preparedness, performance and perceived ERT effectiveness, out of the maximum obtainable score of 4.00, which is higher than the criterion mean of 2.50. This means that lecturers' overall experiences in terms of their preparedness, performance and perceived ERT effectiveness are good. Table 1 further revealed lecturers' experience mean ratings in areas of preparedness, performance and perceived ERT effectiveness, for preparedness, the weighted mean of 3.13 was obtained which is higher than the criterion mean of 2.50, implying that lecturers at the University of Ibadan had a good experience when preparing content on ERT. Table 1 revealed the weighted mean of 3.19 for pragmatic experience, which implies that lecturers had a good practical experience of ERT. In the area of performance experience, the weighted mean of 2.67 was obtained, this means that ERT had a good performance. On the perceived effectiveness of ERT, the weighted mean of 2.62 was obtained, which shows that lecturers perceived that ERT was effective.

Research question 2
What are the lecturers 'levels of online self-efficacy in using ERT

Table 2. Lecturers' online self-efficacy

S/N.	Statements	Mean	Std.D	Decision
1	Upload course materials on ERT efficiently	2.98	0.77	Agree
2	Uploadthecoursecoutlineon ERT	3.01	0.91	Agree
3	Communicate effectively with students viae-mail	2.79	0.76	Agree
4	Communicateeffectivelywithtechnicalsupportviae-mail,telephone,orliveonlinechat	3.10	0.62	Agree
5	Give assignments to students on the ERT platforms	3.00	0.70	Agree
6	Overcometechnicaldifficultiesonmyown	2.98	0.91	Agree
7	Easily assess their assessment	3.12	0.69	Agree
8	Manage time effectively	3.20	0.82	Agree
9	Completecourse contents ontime	3.33	0.74	Agree
10	Learntouseanewtype of technology efficiently	2.77	0.94	Agree
11	Teachwithoutbeinginthesameroomasthetechnical support provider	3.07	0.71	Agree
12	Teach withoutbeinginthesameroomasotherlecturers	3.23	0.75	Agree
13	Communicate using synchronous technologies (e-mail,etc.)	2.64	0.89	Agree
14	Give agroupprojecton ERT	2.82	0.81	Agree
15	Usesynchronoustechnologytocommunicatewithothers(such as zoom, google meet, Microsoft team)	3.44	0.73	Agree
Weighted mean = 3.03				
Criterion mean = 2.50				

Table 2 revealed the weighted mean of 3.03 out of the maximum obtainable mean of 4.00, which is higher than the criterion mean of 2.50. This shows that lecturers' online self-efficacy level is high.

Research question 3
What strategies influenced their adaptation to this sudden and enforced change?

a. Lecturers
Q1: When asked how they were able to seek out new information, help people, or use resources to effectively deal with ERT
Respondents: The majority of them were of the view that they worked through the guidelines downloaded from the institution's website. While some said they seek the help of the Information Technology Electronics Management Systems' (ITeMs)technical support or colleagues. While others said that they used different strategies such as online grouping, online small discussions, projects, and a combination of face-to-face and online learning (by observing social distancing as stated by the COVID-19 taskforce in Nigeria).

Q2: In certain ERT situations, how were you able to develop new ways of going about things (e.g., a different way of finding information and disseminating information)
Respondents: The majority of the lecturers stated that they like the new situation offered by ERT, though it took time to adapt, they tried to develop their technical skills in areas of emerging technologies so that they can be of help whenever students come up with any challenges dealing with ERT.
they might try not to focus on their disappointment when the teacher's approach to online learning doesn't match the student's preferences or skill set.

b. Students
Q1: How were you able to seek out new information, help people, or use resources to effectively deal with ERT
Respondents: Most of the students said that they will ask their lecturer to help them on how to work around the identified difficulties during ERT classes.
Q2: How are you able to reduce negative emotions (e.g., fear) to help you deal with certain challenges encountered when using ERT
Respondents: The majority of the students said that they will not focus on their disappointment when the lecturer's approach to ERT doesn't match their preferences or skill but tried to work around the lecturer's approach or ask a colleague who was once in such a situation or ask the technical support platform.

Research question 4

What are the perceived benefits of ERT?

Table 4. Perceived benefits of ERT

S/N.	Statements	Mean	Std.D	Decision
1	Provision of a comfortable educational environment	2.96	0.92	Agree
2	Time utilisation	2.61	0.97	Agree
3	Encourages smooth interaction	3.13	1.01	Agree
4	Promote distance learning	3.57	1.11	Agree
5	Provides an opportunity for data sharing	2.38	0.91	Disagree
6	Psychological stability in communication	3.34	1.04	Agree
7	Transportation cost reduction	3.62	1.12	Agree
8	Improved lecturer-student relationship or contact	2.49	0.90	Disagree
9	Higher attendance in online classes	2.47	0.88	Disagree
10	Familiarisation with online emerging technology	3.11	0.94	Agree
11	Access to relevant educational materials/software	3.03	0.90	Agree
Weighted mean = 2.97				
Criterion mean = 2.50				

Table 4 revealed the weighted mean of 2.97 out of the maximum obtainable mean of 4.00, which is higher than the criterion mean of 2.50. This implies that the majority of the responding lecturers perceived that ERT has a lot of benefits. Table 4 revealed that eight items with mean scores higher than the criterion mean of 2.50, out of the 11 items were perceived as a benefit of ERT, these eight items are rated by the mean scores as follows: Transportation cost reduction (3.62>2.50), Promotes distance learning (3.57>2.50), Psychological stability in communication (3.34>2.50), Encourages smooth interaction (3.13>2.50), Familiarisation with online emerging technology (3.11>2.50), Access to relevant educational materials/software (3.03>2.50), Provision of comfortable educational environment (2.96>2.50), lastly, Time utilisation (2.61>2.50). while the remaining items (Providingan opportunity for data sharing, Improved lecturer-student relationship or contact and Higher attendance in online classes) were not perceived as benefits of ERT.

Research question 5
What are the perceived challenges faced by lecturers?

Table 5. Perceived challenges faced by Lecturers

S/N.	Challenges	Mean	Std.D	Decision
A	Technological			
1	Lack of access to reliable digital infrastructure such as laptops, smartphones device	2.30	0.92	Disagree
2	Lack of access to reliable internet connection/service	3.32	1.02	Agree
3	Lecturers' lack of skills in using ERT technology	2.97	0.91	Agree
4	Inadequate training on ERT implementation	3.14	1.13	Agree
5	Erratic power supply	3.54	1.01	Agree
6	Lack of familiarity with required ERT applications	3.01	0.97	Agree
7	Lack of adequate digital replacements for face-to-face collaboration tools (e.g., whiteboards)	3.09	1.00	Agree
8	High cost of data subscription	3.13	1.07	Agree
Weighted mean = 3.06				
B	Pedagogical challenges			
9	Lack of teaching materials in the form of interactive multimedia (images, animations, educational games) to engage and maintain students' motivation	3.07	0.92	Agree
10	Lack of student feedback	2.87	0.88	Agree
11	Developing content for online courses	2.99	0.81	Agree
12	Lack of evaluation system	2.81	0.72	Agree
13	Problem of maintaining students' interest	2.77	0.86	Agree
14	Managing ERT classroom environment	2.52	0.94	Agree
15	Reduces students' concentration	3.09	1.00	Agree
Weighted mean = 2.87				
C	Social challenges			
16	Lack of suitable home environment to teach	2.97	0.91	Agree
17	Lack of access to library resources	2.88	0.97	Agree
18	Security in conducting online test or examinations	2.48	0.99	Disagree
19	Communication between lecturers and students	2.32	0.89	Disagree
20	Lack of institution/faculty support	3.17	1.12	Agree
Weighted mean = 2.76				
Grand weighted mean = 2.92				
Criterion mean = 2.50				

Table 5 showed that the grand weighted mean of 2.92 out of the maximum obtainable score of 4.00, which is higher than the criterion mean of 2.50. This means that the majority of the lecturers perceived most of the highlighted statements as challenges faced when using ERT except, Lack of access to reliable digital infrastructure such as laptops, smartphones device (2.30<2.50), Communication between lecturers and students (2.32<2.50), and Security in conducting online test or examinations (2.48<2.50) with mean scores lesser than the weighted mean of 2.50.

DISCUSSION

Lecturers' experiences concerning their preparedness, performance and perceived ERT effectiveness

It was revealed that the lecturers at the University of Ibadan had an overall good experience when using ERT. It was observed that the majority of the lecturers had better practical experience, followed by preparedness, performance and perceived effectiveness, respectively. These findings indicated that ERT is useful, ERT takes into cognizance the four goals of the curriculum when preparing for a lesson, ERT is not stressful to use ERT, and ERT platforms make the achievement of lesson objectives easy.

Online self-efficacy

The result revealed that lecturers had high online self-efficacy. The reasons for this may be because they were able to use both asynchronous and synchronous technology to communicate; teach without colleagues and technical support; able to effectively manage time; and give assessments to students using ERT. This is not supported by the findings of Ma, Chutiyami, Zhang and Nicoll (2021) who in their study found that instructors lack experience in online teaching.

Lecturer's strategies adapted to the shift to ERT during COVID-19

The interview sessions held with selected lecturers revealed that majority of the lecturers followed the guidelines provided by the institution on the implementation of ERT. The following strategies were adapted sharing of slides and notes, online grouping and small discussions, projects, and a combination of face-to-face and online learning as well as assistance from the technical support unit of the university (ITeMs). They also indicated that most of them developed their technical skills in areas of emerging technologies, in order to help their students whenever they have any challenges dealing with ERT. The above responses collaborated with the views of Ma et al. (2021)

Benefits of ERT

It was revealed that the greatest benefits of ERT were transportation cost reduction, promoting distance learning, psychological stability in communication, encouraging smooth interaction, familiarization with online emerging technology, access to relevant educational materials/software, provision of a comfortable educational environment, and effective time utilization. This result was supported by the findings of Shim & Lee (2020), who found in their study that some positive features of emergency remote teaching include comfortable educational environments, smooth interactions, and efficient time utilization.

Challenges of using ERT

The technological challenges faced by lecturers when using ERT include lack of access to reliable internet connection/service, skills in using ERT technology, inadequate training on ERT implementation, erratic power supply, lack of familiarity with required ERT applications, lack of adequate digital replacements for face-to-face collaboration tools (e.g., whiteboards), and high cost of data subscription. This finding is supported by the findings of Shim & Lee (2020) that network instability was one of the causes of complaints. This was also supported by the findings of Ferri et al (2022) that the unreliability of internet connections and lack of necessary electronic devices were the technological issues facing the proper implementation of ERT for teaching and learning.

The following pedagogical issues were faced; lack of teaching materials in the form of interactive multimedia, lack of student feedback, issues in developing content for online courses, lack of evaluation system, the problem of maintaining students' interest, managing ERT classroom environment, and reduced students' concentration. The findings of Shim & Lee (2020), provide support for this finding by indicating that unilateral interactions and reduced concentration we reshown to be negative features of ERT. This is supported by the findings of Ferri et al (2022), who in their study found that lack of structured content

online resources and lack of interactivity was the pedagogical challenges faced. While the social challenges faced were a lack of a suitable home environment to teach, a lack of access to library resources, and a lack of institution/faculty support. This is supported by the findings of Ferri et al (2022) the greatest social issue faced by teachers was the lack of physical spaces at home to give lessons.

CONCLUSION

It can be concluded that lecturers at the University of Ibadan had a good experience when using ERT in areas of preparedness, pragmatics, performance and perceived effectiveness. These lecturers had high online self-efficacy. Reduction in transportation costs, effective distance learning, stability in communication and lecturers' familiarization with online emerging technology were some of the benefits of ERT. While the greatest challenges faced were lack of access to reliable internet connection/service, skills in using ERT technology, erratic power supply, high cost of data subscription, lack of evaluation system, reduced students' concentration and lack of institution/faculty support.

RECOMMENDATIONS

The following recommendations were made:

i) ERT platforms should be designed with engaging and interactive content, instructors and students' learning activities to maintain students' interest during the lesson session.

ii) Systematic training initiatives should be provided by the university management to improve academic staff technological skills concerning new emerging models and approaches encouraging the effective use and implementation of ERT and its platforms.

iii) The government in collaboration with the university management and other stakeholders (NGOs, learned professional associations) should provide both technical and social support in areas of internet connectivity, accessibility and reliability, technological devices, as well as hardware and software, to enable easy transfer of required knowledge.

iv) The issue of erratic power supply in the university should be addressed with every sense of urgency by the federal government and relevant stakeholders.

v) A clear and consistent plan should be developed by the university management, providing structured and planned educational material (content, methodologies and goals) and more adequate e-learning platforms by using interactive suitable digital learning resources (video, animations, quizzes and games) to maintain students' attention.

vi) More inclusive tools, platforms and devices considering different web content accessibility guidelines (e.g., WCAG 2.0) need to be developed to make digital learning resources accessible to a wider range of people with disabilities.

REFERENCES

Al-Hujran, O., Aloudat, A., Al-Hennawi, H. & Ismail, H.N. (2013). "Challenges to E-learning success: the student perspective". Proceedings of the 2013 International Conference on Information, Business and Education Technology (ICIBET 2013), Atlantis Press. pp. 1029-1037.

Alvarez, A.J. (2020). The phenomenon of learning at a distance through emergency remote teaching amidst the pandemic crisis. Asian Journal of Distance Education, 15(1), 144-153.

Bailey, D.R.& Lee, A.R. (2020). Learning from experience amid COVID-19: benefits, challenges, and strategies in online teaching. Computer-Assisted Language Learning Electronic Journal,21(2), 178-198.

Bandura, A. (1997). Self-efficacy: The exercise of control. Freeman & Company.

Bandura, A. (2019). Applying theory for human betterment. Perspectives on Psychological Science, 14(1), 12–15. https://doi.org/10.1177/1745691618815165.

Bao, W. (2020), "COVID-19 and online teaching in higher education: a case study of Pekinguniversity, Human Behavior and Emerging Technologies, 2 (2), 113-115.

Bozkurt, A. &Sharma, R.C. (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic.Asian Journal of Distance Education, 15(1), 1-6

Camilleri, M.A. & Camilleri, A.C. (2019). The students' readiness to engage with mobile learning apps.Interactive Technology and Smart Education, 17(1).

Colpitts, B.D., Smith, M.D. &McCurrach, D.P. (2020), "Enhancing the digital capacity of EFL programs in the age of COVID-19: the ecological perspective in Japanese higher education", Interactive Technology and Smart Education, doi: 10.1108/ITSE-08-2020-0123.

Collie, R. J., & Martin, A. J. (2017). Teachers' sense of adaptability: Examining links with perceived autonomy support, teachers' psychological functioning, and students' numeracy achievement. Learning and Individual Differences, 55, 29–39. https://doi.org/10.1016/j.lindif.2017.03.003.

Collie, R. J., Granziera, H., & Martin, A. J. (2018). Teachers' perceived autonomy support and adaptability: An investigation employing the job demands-resources model as relevant to workplace exhaustion, disengagement, and commitment. Teaching and Teacher Education, 74, 125–136. https://doi.org/10. 1016/j.tate.2018.04.015.

Corry, M., & Stella, J. (2018). Teacher self-efficacy in online education: A review of the literature. Researchin Learning Technology, 26(4), 1–12. https://doi.org/10.25304/rlt.v26.2047.

Eisenbach, B.B., Greathouse, P. and Acquaviva, C. (2020). "COVID-19, Middle level teacher candidates, and colloquialisms: navigating emergency remote field experiences".Middle Grades Review, 6(2)available at: https://scholarworks.uvm.edu/mgreview/vol6/iss2/2

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", MIS Quarterly (13(3), 319-340.

Devica, S. (2015). Teacher perceptions of efficacy in the secondary virtual classroom: A phenomenological study. City University of Seattle.

DiPietro, M., Ferdig, R., Black, E., & Preston, M. (2008). Best practices in teaching K-12 online: Lessons learned from Michigan virtual school teachers. Journal of Interactive Online Learning,7(1), 10–35.

Ferri, Fernando, PatriziaGrifoni, and TizianaGuzzo. 2020. Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations. Societies,10: 86

Glackin, M., & Hohenstein, J. (2018). Teachers'self-efficacy: Progressing qualitative analysis. International Journal of Research and Method in Education, 41, 271–290. https://doi.org/10.1080/1743727X.2017. 1295940.

Granziera, H., &Perera, H. (2019). Relations among teachers' self-efficacy beliefs, engagement, and work satisfaction: A social cognitive view. Comtemporary Educational Psychology,58, 75–84. https://doi.org/10.1016/j.cedpsych.2019.02.003.

He, Y. (2014). Universal design for learning in an online teacher education course: Enhancing learners' confidence to teach online. Journal of Online Learning and Teaching, 10, 283–298.

Hodges, C., Moore, S., Lockee, B., Trust, T.& Bond, A. (2020). The difference betweenemergency remote teaching and online learning. Retrieved from Educause Reviewwebsite: https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-onlineefficacy related to Online teaching. Innovative Higher Education, 40, 305–316. https://doi.org/10.1007/s10755-014-9316-1.

Iyer, P., Aziz, K. &Ojcius, D.M. (2020), "Impact of COVID-19 on dental education in the United States", Journal of Dental Education, 8,(6), 718-722.

Johnson, N., Veletsianos, G. and Seaman, J. (2020). US faculty and administrators' experiences and approaches in the early weeks of the COVID-19 pandemic. Online Learning, 24(2), . 6-21.

Joshi, A., Vinay, M. &Bhaskar, P. (2020). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. Interactive Technology and Smart Education.

Kan, A. Ü., & Murat, A. (2020). Examining the self-efficacy of teacher candidates' lifelong learning key competences and educational technology standards. Education and Information Technologies, 25(2), 707–724. https://doi.org/10.1007/s10639-019-10072-8.

Karalis, T. &Raikou, N. (2020). Teaching at the times of COVID-19: inferences and implications for higher education pedagogy. International Journal of Academic Research in Business and Social Sciences,10(5) 479-493.

Kebritchi, M., Lipschuetz, A. &Santiague, L. (2017). Issues and challenges for teaching successful online courses in higher education: a literature review. Journal of Educational Technology Systems, 46(1), 4-29.

Keengwe, J., Kidd& T.T. (2020). Towards best practices in online learning and teaching in higher education. Merlot Journal of Online Learning and Teaching, 6(2), 533-541.

Kudinova, N., &Arzhadeeva, D. (2020). Effect of debate on development of adaptability in EFL university classrooms. TESOL Journal,11(1), 1–13. https://doi.org/10.1002/tesj.443.

Lewis, R.A. (2016). Work-life balance in academia experiences of lecturers in Switzerland", doi: 10.20472/BM.2016.4.1.004

Liguori, E. &Winkler, C. (2020), "From offline to online: challenges and opportunities for entrepreneurship education following the COVID-19 pandemic. doi:10.1177/2515127420916738

Loughland, T., & Alonzo, D. (2018). Teacher adaptive practices: Examining links with teacher self-efficacy, perceived autonomy support and teachers' sense of adaptability. Educational Practice and Theory,40(2), 55–70. https://doi.org/10.7459/ept/40.2.04.

Ma, K., Trevethan, R., & Lu, S. (2019). Measuring teacher sense of efficacy: Insights and recommendations concerning scale design and data analysis from research with preservice and inservice teachers in China. Frontiers of Education in China,14, 612–686. https://doi.org/10.1007/s11516-020-0009-5.

Martin, A. J., Nejad, H., Colmar, S. &Liem, G. A. D. (2012). Adaptability: Conceptual and Empirical Perspectives on Responses to Change, Novelty and Uncertainty. Australian Journal of Guidance and Counselling, 22(01), 58–81. doi:10.1017/jgc.2012.8

McLennan, B., McIlveen, P., &Perera, H. N. (2017). Pre-service teachers' self-efficacy mediates the relationship between career adaptability and career optimism. Teaching and Teacher Education,63, 176–185. https://doi.org/10.1016/j.tate.2016.12.022.

Mohmmed, A.O., Khidhir, B.A., Nazeer, A. and Vijayan, V.J. (2020). Emergency remote teaching during coronavirus pandemic: the curre)not trend and future directive at Middle East college Oman", Innovative Infrastructure Solutions, 5(3), 1-11.

Onyema, E.M., Eucheria, N.C., Obafemi, F.A., Sen, S., Atonye, F.G., Sharma, A. and Alsayed, A.O. (2020), "Impact of coronavirus pandemic on education", ISSN 2222-288X (Online).

Pfitzner-Eden, F., Thiel, F., & Horsley, J. (2014). An adapted measure of teacher self-efficacy for preservice teachers: Exploring its validity across two countries. Zeitschrift Fur PadagogischePsychologie,28(3), 83–92. https://doi.org/10.1024/1010-0652/a000125.

Ralph, N. (2020). Perspectives: COVID-19, and the future of higher education", Bay View Analytics, available at: https://onlinelearningsurvey.com/covid.html (accessed 21 July 2020).

Richter, S., &Idleman, L. (2017). Online teaching efficacy: A product of professional development and ongoing support. International Journal of Nursing Education Scholarship, 1, 1.

Robinia, K. A. (2008). Online teaching self-efficacy of nurse faculty teaching in public, accredited nursing programs in the state of Michigan. http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010155029&site=ehost-live.

Schell, G. &Janicki, T.J. (2013). Online course pedagogy and the constructivist learning model.Journal of the Southern Association for Information Systems,1(1).

Sinacori, B.C. (2020). How nurse educators perceive the transition from the traditional classroom to the online environment: a qualitative inquiry.Nursing Education Perspectives, 41(1),16-19.

Singh, A., Sharma, S. & Paliwal, M. (2020). Adoption intention and effectiveness of digital collaboration platforms for online learning: the Indian students' perspective", Interactive Technology and Smart Education.

Skaalvik, E. M.&Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. Journal of Educational Psychology, 99(3), 611–625. https://doi.org/10.1037/0022-0663.99.3.611

Toquero, C.M. (2020). Emergency remote teaching amid COVID-19: the turning point. Asian Journal of Distance Education,15(1), 185-188. available at: https://asianjde.org/ojs/index.php/ AsianJDE/article/view/450

Trust, T. &Whalen, J. (2020). Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic, Journal of Technology and Teacher Education, 28(2), 189-199.

Tschannen-Moran, M. & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. Teaching and Teacher Education, 17(7), 783–805.

UNESCO. (2020). COVID-19 impact on education. Retrieved August 20, 2020, from https://en.unesco.org/covid19/educationresponse/#

Whittle, C.; Tiwari, S.; Yan, S.&Williams, J. Emergency remote teaching environment: A conceptual framework for responsive online teaching in crises. Inf. Learn.Sci., 121, 311–319.

World Health Organization. (2020). WHO Director-General's opening remarks at the mediabriefing on COVID-19. Retrieved September 4, 2020, from https:// www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19—11-march-2020.

Zee, M.&Koomen, H. M. Y. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. Review of Educational Research, 86, 981–1015. https://doi.org/10.3102/0034654315626801.

Zhang, W., Wang, Y., Yang, L. and Wang, C. (2020). Suspending classes without stopping learning: China's education emergency management policy in the COVID-19 outbreak. Journal of Risk and Financial Management, 13(3), 55.

Zimmerman, W. A. &Kulikowich, J. M. (2016) Online Learning Self-Efficacy in Students With and Without Online Learning Experience. American Journal of Distance Education, 30(3), 180-191