Future Proposals for E-Learning at Conventional Tertiary Institutions as they Move on Past the COVID Experience

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Abstract: As the COVID-19 pandemic was spreading rapidly throughout the world, the most widespread reaction in many countries to curtail the disease was lockdown. As a result, educational institutions had to find an alternative to face-to-face learning. The most obvious solution was e-learning. Conventional tertiary institutions with little virtual learning experience had to deal with an unprecedented challenge. This study delineates practices that can be suggested for conventional institutions of tertiary education that may be planning to acquire more e-learning experience in the post-COVID era so that they may be better prepared to move on beyond traditional classroom teaching. The qualitative research method was utilized to carry out this study. The data collected for the study comprised mainly two sources: the existing literature that tackles the issue of how tertiary institutions around the world shifted to e-learning during the pandemic, and an analysis by the researchers of COVID-related circulars that were issued by the Saudi Ministry of Education and by Prince Sattam bin Abdulaziz University. The review of related literature and the analysis of the circulars enabled the researchers to produce a number of suggestions aimed at improving the e-learning experience of conventional tertiary institutions. The researchers followed five steps in their literature review: (1) pinpointing search terms and then creating a search strategy and implementing it, (2) sorting the studies gathered, excluding duplicates and studies deemed irrelevant, and decreeing standards for deciding what to keep and what to rule out, (3) evaluating the studies in the light of those standards, (4) obtaining data, and (5) analysing data. This study does not recommend that conventional tertiary institutions become 100% online, but it does suggest that those institutions should make some learning content digitally accessible, build community partnerships, encourage self-study skills among students, help students change their learning style from passive to active, and revisit their e-assessment practices. This paper also stresses the importance of giving further support to teaching staff, sheds light on how institution buildings can reopen smoothly as the restrictions ease, discusses what factors influence the outcomes of e-learning, and tackles the issue of student dropouts during the pandemic. This study concludes by outlining the important notion of adopting blended learning and developing e-learning programs on an international scale.

Keywords: COVID, pandemic, e-learning, distance learning, conventional tertiary institutions

1. Introduction

For the past circa three years, education around the globe has witnessed an unprecedented challenge posed by the COVID pandemic. The most widespread reaction to contain the pandemic across the world was lockdown (Cahapay, 2020). Without a doubt, lockdowns resulted in serious disruptions to a large number of governmental and civic institutions (Jan, 2020). That lockdown included, inter alia, educational institutions of various types and levels (Karalis and Raikou, 2020). The closure of educational institutions was meant to be in response to protocols of social distancing and quarantine and so to curtail the spread of the virus (Longhurst, et al., 2020). Thereby, the obvious alternative to conventional classroom face-t-face (FTF) learning was e-learning (Mulenga and Marbán, 2020). In Saudi Arabia, where this study was conducted, a swift shift to e-learning was seen nationwide, in elementary and high schools as well as in tertiary institutions (Altwaijry, et al., 2021). Owing to the abrupt nature of the lockdown and the shift to e-learning, the Saudi Ministry of Education (MOE) opined it would be vitally important to be flexible, and that is why it allowed a lot of leeway to the individual tertiary institutions in implementing whatever measures those institutions deemed tenable and implementable within their existing capacities.

Now it is incumbent upon conventional tertiary institutions to learn lessons from their COVID experience so they may be better equipped and better prepared move on beyond traditional classroom teaching, and one way to do that is to acquire more e-learning experience (Piller, Zhang and Li, 2020). Cahapay (2020, p.269) states that preparation for the post-COVID era is crucial since educational institutions nowadays are starting to reopen, and so measures must be in place to ensure the safety of students and teachers. Ability to deal with the forthcoming stage of reopening is a key factor in overcoming its obstacles and delivering education without impediments or risks.

Although this paper does not suggest that it is mandatory for all educational institutions to go digital if and when another pandemic hits, this paper does suggest that institutions may be better prepared to move on beyond traditional classroom teaching if they improve their e-learning potential. Therefore, this paper can provide insight to conventional institutions that wish to ameliorate their virtual learning experience (VLE). The issue of e-learning during the lockdown is of great significance to policy makers in the education industry for a number of reasons. For one thing, studies on how conventional institutions can handle the current challenges are still inadequate (Diab and Elgahsh, 2020). For this reason, this study aims to shed light on a few vital suggestions that would help conventional tertiary institutions in their endeavour to combat the e-learning challenges. Also, due to the unpredictability of the pandemic, it is essential to conduct extensive research and help educational institutions be on the guard. The ones who will benefit first and foremost from the findings of this study are the teachers, because they are the ones on the educational front line who interact directly with the students and face the challenges of e-learning first hand. In addition, the findings of this study will be of great value to policy makers in education, since they will be in a more informed position to decide which of the current practices are practical and which need to be reformed or changed.

As educational institutions are getting ready to reopen (Di Domenico, et al., 2020), everyone in the educational arena is bracing up for next few moves to be taken by those institutions. This study attempts to suggest a number of recommendations for reorienting conventional institutions to make them better prepared for the post-COVID era. To achieve this goal of the current study, the researchers have reviewed extensively the existing literature that tackles the issue of how tertiary institutions around the world shifted towards e-learning during the pandemic, and they also analysed COVID-related circulars released by the Saudi Ministry of Education (MOE) as well as those issued internally at Prince Sattam bin Abdulaziz University (PSAU). To warrant the validity and reliability of this study, the researchers applied triangulation methods of the two pivotal phases of collecting data and analysing that data. For one thing, this article provides extensive reviews of up-to-date COVID-related literature. Secondly, official COVID-related documents issued by the Saudi MOE and PSAU were analysed to augment the reliability and validity of the present study. Thirdly, two experts were consulted during this process to ensure inter-rater reliability as far as the parameters for inclusion and exclusion are concerned. This piece of research attempted to address the following question:
RQ: What practices should be suggested for the conventional institutions of tertiary education that wish to acquire more e-learning experience in the post-COVID era so that they may be better prepared to move on beyond traditional classroom teaching?

It is worth noting here that some universities in Saudi Arabia, as elsewhere, were already running e-classes through their electronic learning management systems (LMS) (Aldiab, et al., 2019) alongside the traditional classes in the classrooms. For those universities, the shift from partial online to total online was relatively easy and swift (Teräs, et al., 2020). By contrast, conventional tertiary institutions who had never experienced e-learning at all struggled immeasurably during the lockdown (Nugroho, et al., 2020). This piece of research is confined to the latter type of educational institutions because they were the ones that encountered serious impediments in their endeavour to go digital.

2. Literature review

The abrupt shift from campus learning to online learning during COVID has had some adverse effects on teaching at traditional universities, which has forced them to rethink their current traditional teaching (Clark, 2021), This study aims to suggest practices from hindsight for conventional tertiary institutions so that they may be better prepared to move on beyond traditional classroom teaching. Mukan and Lavrysh (2020, p.109) mention that e-learning has however become more relevant now than ever before as an indispensable tool for education. Harizan, Hilmi and Atan (2016, p.21) stated that virtual learning as a type of formal education had been relegated by universities as well as ministries of education. Gabelaia (2019, p.675) posited that virtual

learning came to be acknowledged as a well-perceived mode of education because it presented an assortment of problems to education that educational institutions would have to grapple with. Nenko, Kybalna and Snisarenko (2020, p.5) stated that some of the problems that virtual learning presented were isolation, lack of or restricted interaction, and shortcomings related to technology. Boelens, Wever and Voet (2017, p.4) shed light on the problem of how to afford an active learning environment. Abbasi, et al. (2020) discussed the problem of attention; they posited that in virtual learning, students were much more likely to get distracted than in a traditional classroom. Agnoletto and Queiroz (2020, p.2) touched upon the issue of digital literacy; they said that some teachers as well as students may fall behind as their computer literacy skills may not be adequate for a full-fledged online teaching/learning experience. Kearns (2012) and Oncu and Cakir (2011) lavishly discussed the issue of assessment reliability in the online learning environment; they mentioned that no clear, universally acknowledged criteria were in place to ensure fair and unbiased assessment of online tests.

Interestingly, the experience of e-learning was actually not strictly a shift from traditional to virtual learning (Lee, 2020). Lee (2020, p.3) posits that the response of a good percentage of teachers was in the form of delivering the same material online that they had hitherto taught in the classroom. Lee believes that this superficial change in the delivery of classes was unlikely to bring about any positive outcomes. It can be argued that e-education is a much more complex matter than simply delivering the course material digitally instead of face to face (Agnoletto and Queiroz, 2020, p.1). It can be argued that this shift from offline teaching to online teaching was so abrupt that no clear policy-making procedures were applied (Zhang, et al., 2020, p.1).

These adverse effects of the sudden shift to online learning are not peculiar to Saudi Arabia. They have affected institutions in every country in the world that opted for lockdown. The recommendations and suggestions that will be outlined in this paper will, therefore, not be confined to Saudi institutions; this universality of the effects of the lockdown makes these recommendations and suggestions of a universal appeal.

Prior to the COVID pandemic, e-learning was not popular among Saudi HE institutions. Putri et al (2020) state that prior to COVID e-learning was not part of the learning culture and so the interaction was not really effective when done virtually. Although e-learning is not a novel concept, education remained traditional in Saudi Arabia prior to COVID, and when used it was only a complement to classroom learning (Alarifi, ALjuwayid and Quraishi, 2021). According to Al Meajel and Sharadgah (2018), 80% of universities have made e-learning available to their teaching staff since 2011, but only 20% of them utilized it. Before the pandemic, only the Arab Open University in Saudi Arabia was offering online learning (Alanazy, 2011), whereas today, “the number of schools that offer online programs in addition to their traditional face-to-face offerings is on a steady rise" (Tyler Sr, 2020). With regard to the perceptions of students and faculty members about e-learning, they were divided between those who think it is not effective (Zaki, 2021) and those who perceive it as effective (Aldossary, 2021).

3. Theoretical framework

In the current study, the Activity Theory and Technology Acceptance Model guided the data analysis and data interpretation to propose and predict acceptable e-learning practices for higher education institutions to improve students' engagement in e-learning. According to Hashim and Jones (2007, p. 16), "Activity Theory is an appropriate theory to use in understanding and solving problems involving e-learning." Whereas, Technology Acceptance Model is used to determine the priorities that need to be done by HE institutions to improve learners' acceptance of e-learning mode.

4. Method

This study was caried out in the academic year 2020/2021, during a precarious period when COVID was still looming but thought to be gradually fading away. This article makes use of the qualitative research method in order to put forward a number of suggestions for refurbishing the practices at conventional institutions of higher education for the purpose of making them better prepared and equipped for e-learning as they move on past the COVID experience. The researchers applied the deductive approach in the data analysis; this means that they proposed some provisional themes and concepts and then endeavoured to find proof for those themes and concepts. Prior to starting this research, the researchers elicited an ethics approval from the

PSAU Deanship of Scientific Research. The research underwent two major phases: review of the related literature and analysis of related circulars from the Saudi MOE and PSAU.

4.1 Review of the existing literature

The researchers carried out an extensive review of the most up-to-date literature related to e-learning during the COVID lockdown. For this part of the research to work, the researchers followed five steps: (1) establishing what search terms to use in the search for literature; (2) sorting the literature, keeping the most relevant studies and excluding the duplicates and the irrelevant ones, and along the way creating clear parameters for inclusion and exclusion; (3) evaluating the selected documents with regards to the inclusion/exclusion parameters; (4) gathering data; and (5) data analysis.

Step 1: *Establishing what search terms to use in the search for literature*
First and foremost, the researchers wanted to adopt a clear, unequivocal search strategy via which they could decide what articles to include in the present study. Three of the most popular databases on the Web were used; those were Google Scholar, Web of Science and Scopus. The advanced search option was used, in which the following filter options were applied: search for studies that contained all the words; contained the exact phrase; contained the search phrases in any part of the article; and no specific period publication dates, due to the scarcity of resources on COVID. Key words of this research were used in the search, such as "tertiary institutions" AND "e-learning" AND "COVID". In each search, all three key words above were used, in addition to one more phrase in each individual search. Those additional phrases included "e-learning material," "online self-study," "community partnership," "e-assessment," "teacher support," "end of lockdown," "distance learning," "student dropouts during COVID," "online versus traditional learning," and "blended learning integrated into e-learning."

Step 2: *Sorting the literature, keeping the most relevant studies and excluding the duplicates and the irrelevant ones*
511 articles were found. Their abstracts were sorted. Only the most relevant articles were kept, and duplicates and irrelevant ones were excluded. To achieve this step, the researchers laid out parameters for inclusion and exclusion (Table 1). 142 articles were included after the abstract screening process, and later when the full texts of all those articles were examined thoroughly, 47 articles were kept. Two experts were consulted during this process to guarantee inter-rater reliability insofar as the parameters for inclusion and exclusion are concerned.

Table 1: Parameters for inclusion/exclusion

Inclusion	Exclusion
1. Must contain "tertiary or higher education," "covid," and "e-learning or online/virtual learning;" as main components.	1. Ambivalent articles which were not confined to e-learning.
2. Must be directly related to e-learning.	2. Not related to tertiary education.
3. The language is English.	3. Not in English.
4. Ought to be a paper from a peer-reviewed journal or has been presented at a conference.	4. The material was not an article from a peer-reviewed journal but a book review, a nonprofessional site or a thesis.
	5. When multiple articles tackled exactly the same issue, the researchers were sufficed with one of them.

Step 3: *Evaluating the selected papers with regards to the inclusion/exclusion parameters*
The researchers read the full texts meticulously of the 142 articles that were initially included. Later, the two experts also read them, and all four researchers and the two assistants met and discussed what to keep and what to exclude. Ultimately, 47 articles were deemed relevant to the present study.

Step 4: *Gathering data*
At this stage, the researchers scrutinized and categorized the data that they elicited from the articles. They created recommendations of all the topics that were yielded by those articles; then they classified them into 11 methodological groups: e-learning material, community partnerships, autonomous e-study skills, active learning versus passive learning, e-assessment, teacher support, safe and smooth reopening of educational

institutions, making blended learning an integral part of the virtual learning experience, student dropouts, educational programs via distance learning, and outcomes of e-learning.

Step 5: *Data analysis*
Once all data has been gathered and classified into the eleven categories explained above, both the researchers and the experts delved into the data and compared and contrasted all the topics in the categories. They analysed the data throughout the different topics and produced a concise summary of the available literature. By so doing, the researchers were able to assess the similarities and dissimilarities between the different topics as well as their merits and demerits (Table 2).

4.2 Circulars from PSAU and the Saudi MOE as well as the researchers' virtual teaching experience

For nearly a year and a half, the researchers gathered a substantial number of COVID-related circulars issued by PSAU and the Saudi MOE in the period 1 April 2020 and 30 Aug 2021. Table 3 provides a list of the most important issues tackled in those circulars. The researchers' aim was to pinpoint the chief concerns and procedures of PSAU and the MOE and to use those concerns and procedures to deduce the most tenable suggestions for future practice beyond the pandemic. In addition, to further consolidate and validate their suggestions for reorienting traditional tertiary institutions beyond the pandemic, the researchers took advantage of their own experience teaching online for nearly two years during the lockdown.

5. Results

The chief purpose of the current study is to lay out a few suggestions for remodelling conventional institutions of higher education in such a way as to make them better prepared and equipped for virtual learning as they progress past the COVID era. To make such suggestions possible, two kinds of data were gathered: at the international level, COVID-related literature was collected, sorted and examined; at the local level, circulars from the Saudi MOE and from PSAU were collected and analysed.

In the review of the literature, 511 articles were found at the preliminary search. The majority of those had been published in 2020 and 2021. 142 articles were filtered in after the abstract screening process. Eventually, 47 articles in their full text were kept for use in the present study. Table 2 provides a synopsis of how this selection and screening process went on until the researchers were able to zero in on the most relevant articles for their current paper. Under each search term in the first column, the table also provides a list of the selected articles relevant to that particular term.

As for the official COVID-related circulars from the Saudi MOE and PSAU, 15 such documents were found. Eight of them were closely related to the purpose of this study. Four of those circulars came from the MOE for tertiary institutions nationwide, and four from PSAU as regulations within the university. Table 4 provides a brief overview of the main findings from the selected 47 articles.

Table 2: No. of articles yielded by the preliminary search, shortlisted articles, and articles retained for this study

Search terms	Preliminary search	Shortlisted articles	Selected articles
"Tertiary education" or "higher education" AND "Covid" AND "e-learning" or "online learning" or "virtual learning" AND:			
E-learning material Adnan and Anwar (2020)[1] Cahapay (2020) Neuwirth, Jović and Mukherji (2020) Omodan (2020)	38	15	4
Community partnerships Azzahra (2020) Lee (2020)	38	7	6

[1] Full article details are in the References section.

Search terms	Preliminary search	Shortlisted articles	Selected articles
Malkus and Christensen (2020) Munro (2018) Nguyen (2022) Reimers and Schleicher (2020)			
Online self-study Abood and Al-Ani (2016) Zhang et al. (2020)	20	11	2
Active learning / passive learning Bennett and Raymond (2019) Healy and Smyth (2017) Malhotra (2020) Van Klaveren et al. (2020) Yelamarthi and Drake (2014)	71	18	5
E-assessment Aboagye (2020) Khan and Jawaid (2020) Oncu and Cakir (2011) Palloff and Pratt (2008) Sharadgah & Sa'di (2020) Tereseviciene et al. (2020) Xiong and Suen (2018)	116	16	7
Teacher support Leitner, Ebner and Ebner (2019) Martin et al. (2019) Sangster, Stoner and Flood (2020)	37	11	3
Blended learning integrated into e-learning Kozubai and Shemet (2020) Skulmowski and Rey (2020)	20	13	2
Student dropouts Bariham, Ondigi and Kiio (2020) Islam et al. (2020) Noman, Kaur and Nafees (2021)	12	5	3
Distance learning on a global scale Beaman and Davidson (2020) Gunawardena (2014) Sutton (2020) Verger, Parcerisa, and Fontdevila (2019) Zhao (2020)	104	12	5
Outcomes of e-learning Damoense (2003) Cavus and Ibrahim (2007) Eom (2011) Eom, Wen and Ashill (2006) Holmes (2018) Keramati, Afshari-Mofrad and Kamrani (2011) Saba (2012)	36	20	7
Total	511	142	47

Table 3: Official COVID-related circulars from the Saudi MOE and PSAU

Circular	Issuer	Content
Move from traditional classes to virtual classes	MOE	Schools and universities should switch from FTF to virtual teaching in compliance with physical distancing rules to curtail spread of the virus.
Ways to arrange for e-assessment	MOE	Making use of online assessment for the remaining coursework and exams; this includes uplifting the values of internal assessment from 50% to 80% of the total score
Non-stringent measures because of atypical situation	PSAU	Lenient measures regarding absenteeism and allowing students to remain in class notwithstanding the number of virtual classes missed
Flexibility of e-class timetables	PSAU	Faculty members may agree with their students on whatever timing of classes suits al.
Resumption of virtual learning for the coming semester	MOE	Resumption of online study for the second semester of 2020/2021.
Traditional assessment and FTF classes for classes of a practical nature	PSAU	In the first and second semesters of 2020/2021, students took tests on campus because online assessment had hitherto caused some problems; all classes of a practical nature be held on campus
Plan of action for safe on-campus testing	PSAU	classes that had over 15 students were split up into groups, with each group comprising a maximum number of 15 students; a different classroom was allocated for each group to prevent overcrowding.

Table 4: A brief overview of the main findings/recommendations on the basis of the selected 47 articles

Article(s)	Content / Recommendations
Adnan and Anwar (2020)	Limited access to educational material due to internet connection issues or financial matters
Cahapay (2020) Neuwirth et al. (2020)	Make sure no students are left behind by for example providing students with loaner gadgets to access the online material.
Omodan (2020)	Nonavailability of proper devices to access online material can impede the VL experience
Malkus and Christensen (2020) Lee (2020)	building a technological infrastructure to provide stable access to the internet
Azzahra (2020)	providing educational material to students free of charge
Nguyen (2022)	running orientation workshops to acquaint teachers and students with the different digital platforms
Reimers and Schleicher (2020)	Traditional universities should partner with universities that have long experience in VL
Munro (2018)	Community partnerships help universities create online material.
Abood and Al-Ani (2016) Zhang et al. (2020)	importance of catering for self-study skills for a successful e-learning experience
Bennett and Raymond (2019) Healy and Smyth (2017)	All students should be actively involved in the learning process
Malhotra (2020) Van Klaveren et al. (2020)	Current e-learning practices during COVID are a challenge because they are not encouraging active learning.
Yelamarthi and Drake (2014)	Educational institutions should build a culture of active learning.
Aboagye (2020)	Traditional universities with little VL experience are going to encounter great challenges as they strive to go digital.
Sa'di, Abdelraziq and Sharadgah (2021) Sharadgah & Sa'di (2020) Xiong and Suen (2018)	Inability to meet acceptable e-assessment standards will cast doubt on the validity and reliability of e-learning.
Khan and Jawaid (2020) Tereseviciene et al. (2020) Palloff and Pratt (2008)	Different anti-cheating techniques, including anti-cheating software, to prevent cheating in e-tests
Sangster, Stoner and Flood (2020)	Traditional universities should keep up with VLEs.
Leitner, Ebner and Ebner (2019)	Training workshops for faculty members
Martin et al. (2019)	Different ways to support educators during the e-learning experience

Article(s)	Content / Recommendations
Di Domenico et al. (2020)	Educational institutions reopening fully, provided safety guidelines are observed
Kozubai and Shemet (2020) Skulmowski and Rey (2020)	Benefits of blended learning
Bariham, Ondigi and Kiio (2020) Islam et al. (2020) Noman, Kaur and Nafees (2021) Zhao (2020)	Many college students dropped out of their studies during the COVID lockdown due to a multiplicity of reasons.
Verger, Parcerisa, and Fontdevila (2019) Gunawardena (2014)	The idea of a global educational programme has been around for quite a while.
Beaman and Davidson (2020) Sutton (2020)	The idea of an international distance-learning programme may be tenable especially during the COVID lockdown.
Cavus and Ibrahim (2007)	Assessment in class and in VL is almost the same, with only subtle differences.
Eom (2011) Damoense (2003) Eom, Wen and Ashill (2006) Holmes (2018) Keramati, Afshari-Mofrad and Kamrani (2011) Saba (2012)	There are some factors that play a role in e-learning but that do not exist in traditional education.

6. Discussion

The researchers based this study on two sources of data: the global literature on the topic of COVID in relation to teaching and learning and the circulars from the Saudi MOE and PSAU during the lockdown due to the pandemic. The ultimate purpose was to lay out a few tenable suggestions for traditional tertiary institutions that would make them better prepared for virtual learning whenever the need for it arises in the future as those institutions move past the COVID era. The current study puts forward the following suggestions for a smooth, unimpeded shift from offline to online teaching in the future after COVID.

6.1 Make sure that educational material is accessible

Based on findings from the documents, it is incontestably true that one of the most pressing hurdles that detracted from the virtual learning experience was that not all students could access the learning material online. This limited access is due to limitations in internet connection and financial matters (Adnan and Anwar, 2020, p.49), as well as nonavailability of the proper devices that could keep up with the online demands (Omodan, 2020, p.11). Cahapay (2020, p.269) points out that it is vitally important for e-learning to be a success to make sure that no students are left behind. In this regard, a particular case impressed the researchers: a number of colleges at New York State University launched an initiative that aimed to make sure all students were given equal opportunities during the e-learning experience, and that was offering the students the option to have loaner laptops free of charge (Neuwirth, Jović and Mukherji, 2020, p.145). Researchers believe that the first priority of traditional HEI is to establish free educational platforms such as Blackboard as a learning management system. Then it should spread among educators and students the culture of employing these systems by activating hybrid classes.

This stage will be accompanied by many obstacles such as (1) institutional barriers (e.g. insufficient training, inappropriate training times, only generic training offered, shortage of technical staff support, lack in non-copyright educational resources, and unavailable financial support to develop materials), (2) faculty barriers (e.g. no enough time to develop e-learning material, lack basic skills on how to use technology, resistance to change, preference of personal interaction over online, difficulty to handle the classroom instruction and control students' engagement, and typing everything by faculty is consuming), technological barriers (e.g. technology requires too much work, time and effort to prepare materials/activities, lack of system reliability. None availability of internet connection, inadequate computers and software, and inadequate financial support for developing learning materials), and student barriers (e.g., no motivation, lack of experience, and less opportunity for interaction with other students " (Al Meajel and Sharadgah, 2018).

6.2 Initiate more partnerships between the college/university and the various institutions in the local community

The authors believe that partnerships with the local businesses and the public and private institutions are likely to play a pivotal positive role in alleviating the challenges that get in the way of virtual learning. The wholesome benefits expected from these benefits include: building a technological infrastructure like providing stable access to the internet (Malkus and Christensen, 2020; Lee (2020)), creating learning material (Munro, 2018, p.10), providing educational material free of charge for students who need them (Azzahra, 2020, p.6), and running orientation workshops to give training to teachers and students and make them better acquainted with the different digital platforms (Nguyen, 2022, p.292). In addition to partnerships with the local businesses and institutions, traditional tertiary institutions should also partner with other, more experienced universities and attempt to emulate them in their endeavour to ameliorate their virtual teaching practices (Reimers and Schleicher, 2020, p.4).

6.3 Boost self-study skills

In the time of the COVID lockdown, most of the educational material that was delivered online as actually made primarily for traditional FTF teaching and not for virtual learning; that is why the authors think that the mode of e-instruction during the lockdown was no more than an experience of learning the same material in the same manner but via a different channel. By and large, students did not have the necessary self-study skills for a successful e-learning experience (Zhang, et al., 2020, p.5). When students listened to lectures and did the same assignments that they would have done in class, the learning effect expected was never guaranteed (Zhang, et al., 2020; Abood and Al-Ani, 2016). For this reason, the authors believe that it is incumbent upon tertiary institutions to work on developing their students' self-study skills by means of blending formal and informal teaching for the purpose of enhancing active learning which can ensure the attainment of the intended learning outcomes and warrant autonomous learning.

6.4 Inculcate a culture of active learning as a replacement for passive learning

What is meant by active learning is that "all students are required to be involved in the learning process" (Bennett and Raymond, 2019, p.89; Healy and Smyth, 2017), and passive learning may be identified as "traditional lectures… and activities where the teacher facilitates the transfer of knowledge". Because virtual learning is a new-fangled realm for traditional tertiary institutions, those institutions are going to encounter serious challenges as the teachers may find it difficult to thwart passive education in the online world of teaching, needless to say that the textbook material itself was not primarily made for e-learning (Malhotra, 2020; Van Klaveren et al., 2020). This detriment may cause the students to lose zest for the material they are being taught. Accordingly, a few steps ought to be taken in order to get the students to change their learning habits from passive to active learning. This process has got to be careful and gradual so that the students do not suddenly feel out of their comfort zone. Yelamarthi and Drake (2014, p.181) point out that educational institutions should be able to introduce a culture of active education by immersing "students in active learning through individual and group problem solving, demonstrations, hands-on activities".

6.5 Modify methods of online assessment

Aboagye (2020) states that tertiary institutions that have been running entirely offline will naturally encounter serious challenges in assessment during the pandemic. Inability to meet acceptable e-assessment standards will detract from their validity and reliability (Sa'di, Abdelraziq and Sharadgah, 2021; Oncu and Cakir, 2011). Xiong and Suen (2018, p.257) also posit that, due to intrinsic differences between traditional assessment and e-assessment, new assessments challenges are going to present themselves in a virtual learning environment that hitherto had not been an issue prior to the shift to online learning. Sharadgah and Sa'di (2020, p.761) reported that in their study 75% of faculty members believed that the grades their students obtained online were unreliable despite the fact that in their university had introduced drastic changes to their assessment practices to help assuage the impact of the sudden shift from traditional assessment to e-assessment. Accordingly, it is a pressing exigency for traditional tertiary institutions to address the issue of e-assessment validity and reliability. Based on these facts and observations, a few suggestions and solutions can be put forward: (1) create an emergency plan that can handle any abrupt lockdowns; (2) give educators intensive and adequate e-assessment training; (3) prevent cheating, and this can be done by taking advantage of a whole host of anti-cheating software (Khan and Jawaid, 2020, p.2); cheating can also be precluded utilizing biometric software for face and voice detection (Tereseviciene, et al., 2020, p.28), and also through making a different exam for each student (Palloff and Pratt, 2008), or by doing away with e-assessment altogether and running

exams in physical classrooms at the university; (4) provide a dedicated server for e-exams on the university's website in order to thwart online traffic congestion during exams; (5) institute a committee in each programme whose job is to continuously oversee and review e-assessment practices during the lockdown and report to the university's authorities any assessment anomalies that need to be addressed.

6.6 Give further support to educators

It is likely that e-learning is going to continue to be a well-recognized mode of instruction in the future, even beyond the COVID pandemic, and so traditional educational institutions ought to be vigilant to the importance of keeping up with VLEs (Sangster, Stoner and Flood 2020, p.66). Drawing hindsight from their own experience teaching online during the COVID lockdown, the researchers believe that a few issues must be addressed that relate to supporting the educators in their e-teaching endeavour. One of the good practices already visible in many hitherto traditional tertiary institutions is that they have been running webinars that aim to give intensive training to the faculty members in on e-education. However, Leitner, Ebner and Ebner (2019, p.95) mention that such workshops focused mostly on the technicalities of the medium rather than on the educational side of it. Also, because the transition to e-learning during the pandemic happened so abruptly at abnormal times, it is not unlikely that traditional institutions will quickly jettison e-learning as soon as the pandemic subsides.

Martin, et al. (2019, p.7) put forward four different types of support for e-learning to be a successful experience: (1) administrative support (e.g., reduction of class size, financial support to make VLE learning possible, lessening of the teaching load, less administrative red tape); (2) staff support (such as providing the teachers with on-call assistance from technicians); (3) academic support (e.g., advice and workshops on new e-teaching strategies); (4) digital support (such as different types of software and hardware needed in e-learning, workshops, etc).

6.7 Blended learning integrated into e-learning

As tertiary institutions reverted to physical, FTF education, it may be advisable to integrate e-learning and traditional learning into teaching. This mode of teaching is known as blended learning. PSAU already had blended learning in use even before the pandemic hit, but that mode of education was being implemented only by a small portion of the university's professors (Al Meajel and Sharadgah, 2018). The vast majority of them had been conducting their classes entirely in traditional ways. But now due to the COVID restrictions, blended learning can be a great way to mitigate FTF meetings in actual physical classrooms. Blended learning also has the benefit of providing constant access to the course material, which ensures a flexible learning experience (Kozubai and Shemet, 2020, p.249; Skulmowski and Rey, 2020, p. 3).

At PSAU, blended learning was applied during the academic year 2020/2021. Most classes were run online, but formal assessments like exams were held on campus, provided social distancing rules and other regulations be observed. As an added precaution, PSAU made it clear to its faculty that they should exempt students with Corona symptoms from on-campus testing and to offer them different means of taking the tests.

6.8 Student dropouts

Because the shift to VLE was rather abrupt and unprecedented, some students at traditional universities felt out of their depth and dropped out of their studies. They probably decided to leave because they were unable to access online material or because they were digitally disadvantaged (Bariham, Ondigi and Kiio, 2020). Other students left college because they had to seek work and make money during the financial crisis that ensued in many parts of the world as a result of the COVID lockdowns (Noman, Kaur and Nafees, 2021; Islam, et al., 2020). As many college students around the world dropped out of their studies, PSAU was no exception. Students at PSAU mentioned two chief causes of dropout. Some students came from large families with five or six siblings going to school/college who owned only one computer that they had to share between them. The other reason is limited internet access.

For those reasons, it is incumbent upon traditional tertiary institutions to think ahead and be prepared to talk to students who are likely to drop out before they actually do drop out. a few remedial measures can be taken; for example, the colleges may give those students loans so they purchase laptops and/or reliable internet subscriptions. Teachers are also partly responsible; they should do all they can, vailing themselves of their experience in the groves of academia, to ensure that students continue to be motivated in VLE. As for digital

literacy among some students, universities should run extensive training workshops that teach less advantaged students the fundamentals of computer technology and e-learning so as to make sure no students are left behind.

6.9 Distance learning on a global scale

The idea of an international educational programme has been around for quite a while (Zhao, 2020; Verger, Parcerisa, and Fontdevila (2019); Gunawardena, 2014). This idea has been an abstract concept to date, but it seems that the abrupt and drastic changes in education due to the pandemic are likely to spur up this idea into becoming a real thing (Sutton, 2020). Beaman and Davidson (2020, p.2) posit that, because of the pandemic, universities have started wondering if it were feasible to create international distance "learning programs fuelled by the internationalization strategies of universities". In this study, the authors believe that it is vitally important to develop distance learning programs at a global scale for a number of reasons. For one thing, such programs are going to boost cooperation and the sharing of learning projects between institutions. The varied types of expertise from the different institutions in different educational and cultural arenas will also enrich and diversify such programs both quantitatively and qualitatively. A third benefit of these grand programs is that they would provide internationally accepted standards for assessing the students. A global project like this requires an internationally recognized single body to represent all tertiary institutions collectively. This body will require each university that wishes to join in to share thorough data about its VLE experience and practices. This data is scrutinized and then it can be decided whether a particular university is eligible to join in, or whether it still needs to work on a few areas before the body decides that it does meet the conditions for joining in. in this regard, it should be noted that quality assurance units in educational institutions should play a pivotal role in expediting this process by working on the set conditions for joining the global distance programs.

6.10 Outcomes of e-learning as opposed to traditional learning

Because VLE education is becoming more and more popular, educators are starting to ask the inevitable question: is there a way to compare e-learning outcomes to outcomes in traditional FTF education? Interestingly, the literature indicates that assessment in both modes is more or less the same, with only slight, insignificant differences (Sa'di, Abdelraziq and Sharadgah, 2021; Cavus and Ibrahim, 2007). That said, the current study has also found out through its review of the literature that there are some factors that play a role in online learning but that are non-existent in traditional education, and so those factors must be kept in check in order to ensure the reliability and consistency of e-learning outcomes. One of those factors is that students are able to share ideas and answers during tests more easily than in traditional testing (Damoense, 2003, p.40). Other factors include student attitude to e-learning, digital literacy, learner self-sufficiency (Eom, 2011, pp.239-240), the need to foster student self-motivation and providing facilitation techniques (Eom, Wen and Ashill, 2006, p.215; Holmes, 2018), the quality of the information (Saba, 2012), and readiness of the educational institution for VLE education (Keramati, Afshari-Mofrad and Kamrani, 2011).

7. Study limitations and future research

The generalizability of this qualitative piece of research may be affected by a few limitations. This work is confined to traditional tertiary institutions in KSA. Similar research on traditional universities elsewhere is bound to provide a wider, clearer picture of the topics. Comparison of the findings from similar studies in different parts of the world will make the findings more generalizable. In addition, the pandemic status quo in each country is different and unique, and so the practices that can be applied in one country and yield positive results should not be believed to be automatically applicable to all other countries. This fact puts another damper on the generalizability of the findings. Moreover, further research is needed that discusses likely future scenarios and recommendations from the perspective of the lawmakers, administrators and the students at traditional universities.

8. Conclusions

This study used data elicited from two sources: the existing literature that tackles the issue of how tertiary institutions around the world shifted towards e-learning during the pandemic, and an analysis by the researchers of COVID-related circulars that were issued by the Saudi MOE and by PSAU. The review of the related literature and the analysis of the circulars enabled the researchers to produce a number of suggestions aimed at improving the e-learning experience of conventional tertiary institutions so that they may be better prepared to move on beyond traditional classroom teaching. Although this study does not recommend that

conventional tertiary institutions become 100% online, it does suggest that those institutions that have already seen the benefits of e-learning during the COVID lockdown make some learning content digitally accessible, build community partnerships, encourage self-study skills among students, help students change their learning style from passive to active, revisit the current e-assessment practices, give further support to teaching staff, reopen their buildings and classrooms gradually and smoothly when the restrictions ease, keep an eye on what factors influence the outcomes of e-learning, tackle the issue of student dropouts during the pandemic, and recognize the importance of adopting blended learning and developing e-learning programs on an international scale.

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