

PalArch's Journal of Archaeology of Egypt / Egyptology

THE ROLE OF E-LEARNING IN ENHANCING IHL RESILIENCE AMIDST COVID-19 AND BEYOND

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Doris Padmini Selvaratnam , Rose Kavitha -- The Role Of E-Learning In Enhancing Ihl Resilience Amidst Covid-19 And Beyond -- Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(6), ISSN 1567-214x

Key words: E-Learning, tertiary education, smartphones, internet, online learning

Abstract- COVID-19 pandemic has brought with it a myriad of problems for global citizens. This pandemic has led thousands of people to become sick and further thousands dying across the globe. Due to the severity of the situation, governments started implementing movement restriction orders and lockdowns. In fact, due to efforts to isolate people and reduce close physical contacts, the various sectors have been affected. The economy has also been crippled and this also meant shutting down day-cares, preschools, schools and institutions of higher learning (IHL). This paper focuses on the IHL, which began its work from home (WFH) approach for general staff and academicians. Students returned to their homes either in towns, sub-urban districts or rural villages, while some remained on campus to benefit from the available ICT infrastructure. To keep the teaching and learning going on, online teaching and learning became the new norm, although ICT usage and online platforms were introduced with flipped learning and blended learning for the past few years. Data was collected from 443 samples from Malaysia and India using the google survey form since 20 to 27 May 2020. Data was analysed to produce suggestions for better online classes and learning methods for future emergencies and possibly different learning tools for a stable and sustainable approach.

Introduction

The role of the education system to transform the minds of the younger generation to immerse in the digital technology to prepare for the Fourth Industrial Revolution is seen as crucial and important. Hence creating a digital learning platform also serves the aim to create a digital and technological savvy workforce of the future generation. The young generation are known to use the digital platform for establishing social networks like Instagram, Facebook and

blogging, while keeping the communication lines well connected via social media like emails, msn, chats and ding to name a few. Nevertheless this does not guarantee that they will be automatically inclined to use the digital platform for educational purposes (Popovici & Mironov, 2014). It seems like fun and interactive space is now being invaded by the doldrum of learning and experimental assignments of the education system. Online teaching has been in place more than 20 years in the developed countries and was introduced to IHL in the developing countries more recently. This was done simultaneously with traditional methods of teaching. Online teaching and learning was seen as an added advantage especially when materials are available for the students for repeated viewing.

The appearance of COVID-19 has created a pressure right now for all teachers to adopt and go for online teaching and learning methods. Rajhan, et. al. (2020) note that in the Indian case study of 78 academics teaching optometry, were able to adapt to the technology and teach online. They were able to use various teaching and assessment tools including video conferencing tools, dedicated educational portals and social media apps. Obviously teachers have to be creative to include various interactive methods which means that teachers have to invest in upgrading their skills and also their time to develop these materials or access readily available materials online for the benefit of their students. This is important to access information and knowledge with the right skills at the right time (Govindasamy, 2002). In fact some teachers have been found to complain that this is burdensome exercise especially in a short space of time to learn the skills and to make the materials readily available for the students. Clearly, teachers are finding it difficult to adapt to automation and follow the online ICT methods, tools and techniques during the short period of the lockdown. There are lots of comments and criticisms of the teacher's instructional methods of teaching by the student's parents. This has led the teachers to a high level of stress and anxiety. Therefore, guidelines by the Education ministry are important and collaborative efforts among teachers and various other stakeholders is important to make this a successful endeavour.

In some developing countries, the situation is very critical. For example in Pakistan, the digital infrastructure is not accessible to rural communities and many female children are the worst hit by the pandemic. The Global Partnership for Education in Pakistan has allocated USD200 million to help the federal and provisional government to help the 40 million students who have encountered disruption to their education. This will include not just better coordination at all levels but also soft skills upgrading of the teachers and students in the case of adaptability and resilience to future shocks (Tranringrose, 2020). In fact, another study by Abbasi (2020) demonstrates that the locals are very uncomfortable with online learning and adapting to the online teaching methods especially in the case study of the private medical college. Since the current predicament was brought by COVID-19, the

challenges posed by online learning is seen as undesirable and students prefer the traditional face-to-face learning method.

Parents who are working from home (WFH) during this pandemic situation, will be monitoring their children using the online platform, but they also might be busy with their own work and unable to support the children's queries or possibly have to take turns to use the device to access the internet. Therefore it is crucial to also ensure that devices to access the digital platform should be made available, accessible and affordable. Otherwise only the rich will be able to access and widen the digital and education gap in the long run. While the literature review materials emphasised on benefits and challenges of E-Learning and implications for primary and secondary schools, there was limited articles focusing on the tertiary education.

Method for data collection uses a triangulation method to collect data from students and teachers using the online platform. A structured and open-ended questionnaire based on literature review was pilot-tested and then distributed through various social media channels. Several key-informants including student representatives, systems developers and also quality assurance managers were also interviewed to get their responses regarding the usage of E-Learning, specifically in Malaysia.

The objective of this paper is to investigate the advantages and disadvantages of e-learning during COVID-19 and beyond. The hypothesis is that while e-learning will have a positive effect for the teachers and students, e-learning will also pose challenges for the teachers and students especially related to accessibility, data management and usability. This is especially for those who have just started building and implementing e-Learning platform. The challenges encountered need to be addressed to have maximum positive impact in the long run.

Literature Review

E-learning is learning by utilizing electronic technologies and providing an access to education outside a traditional classroom learning. It is a program, course or degree that is delivered completely online. E-learning can be otherwise called as online learning and internet learning. This mode of learning and learning started as a tool to reach students who encounter geographical challenges to access educational resources. It became very useful for everyone regardless at what level of education they were pursuing.

According to Chickering & Gamson (1991) quoted by Crews, et. al., (2015), the good practice for undergraduate education:

1. encourages contact between students and faculty;
2. develops reciprocity and cooperation among students;
3. encourages active learning;
4. gives prompt feedback;

5. emphasizes time on task;
6. communicates high expectations; and
7. respects diverse talents and ways of learning

This face-to-face good practice is also applicable for online learning as they both have the same desired objectives to achieve. It cannot be denied that online teaching and learning has its own disadvantages (Clark, 2003). Among the disadvantages are Crews, et. al., (2015):

1. discussions that are not connected in time and seem disjointed;
2. lack of clear guidelines for participation;
3. lack of engagement in an asynchronous environment;
4. difficulty in collaborative online projects; and
5. lack of communication with the instructor and other students.

Nevertheless, through a detailed plan and scrutiny, these problems may be eliminated or minimized giving careful consideration about elements of communication, networking, collaborating, teamwork, which are all part of the learning process. The additional challenge for the online platform is the accessibility of the materials through the online platform. Do students have the necessary resources and devices and also the network coverage? Will this involve additional burden for the students or will it be borne by the education institutions?

Methodology

Research Design

The research conducted in this study is of mixed method approach. This design was chosen as the impact of COVID-19 pandemic is a global emergency and not experienced before especially when e-learning was introduced in the education system. Hence a comprehensive study of its impact towards e-learning is needed to prepare for any relevant changes and pave the way for a better education delivery system that benefits both clients and the service providers. Therefore, this study acts as a preliminary attempt to study the issue at hand for the students at the tertiary level of education.

Research Instrument

Research instrument was built using Google form. The online form was distributed through various social media (in Malaysia and India) and data entry was from 20-27 May 2020. We stopped the data collected on 27th May to start the analysis on the sample size 443 respondents received based on the number of participants attending the online program of E-learning tools. Some participants of various online courses and webinar sessions also participated in the online survey.

Data Analysis and Results

Demographic Features of the Respondents

An academic survey was conducted among 443 respondents in total with the

aim of investigating various challenges encountered in the e-Learning during the COVID-19. Several demographic aspects were examined. Thus, Table 1 reports associated results.

Table 1 Demographic Characteristics of Respondents

Demography	Characteristics	Frequency	Percentage
Gender	Male	116	26.2
	Female	325	73.3
	Not Relevant	2	0.5
Age	11 – 20 years	54	12.2
	21 – 30 years	343	77.4
	31 – 40 years	31	7.0
	41 – 50 years	11	2.5
	> 50 years	4	0.9
Education	SPM/O-Level	38	8.6
	STPM/A-Level	51	11.5
	Cert/Diploma/Matric/Pre-University	108	24.4
	Undergraduate/Bachelor/Degree	190	42.9
	Postgraduate/Master/PhD	56	12.6
Status	Student	390	88.0
	Lecturer	51	11.5
	Support Staff	2	0.5
Country	Malaysia	387	87.4
	India	56	12.6
Faculty	Faculty of Economics and Management	411	92.8
	Faculty of Education	9	2.0
	Faculty of Engineering	4	0.9
	Faculty of Science	19	4.3
Place of Stay	Hostel in Campus	33	7.5

During Lockdown	Home in Corporation	36	8.1
	Home in Municipality	33	7.5
	Home in City	221	49.8
	Home in Village	120	27.1
Household Size	1 – 3 persons	107	24.2
	4 persons	100	22.5
	5 persons	94	21.2
	> 5 persons	142	32.1

Source: Online Survey

Table 1 demonstrates that in terms of gender, female respondents are 73 percent which is greater than male respondents with 26 percent and this depicts that females are more responsive than the male counterparts. Pertaining to age, respondents with their ages between 21 and 30 years old are found to be the highest group. On education, student respondents, who currently pursue their studies in the undergraduate/bachelor/degree programme, post with the highest frequency, i.e. about 43 percent of total sample, followed by those who currently are in the certificate/diploma/matriculation/pre-university level and other programmes namely postgraduate/master/PhD, STPM/A-Level and SPM/O-Level, respectively. On the profession status, most of respondents are students (i.e. with 88 percent of the total sample) while other respondents cover those who are lecturers (i.e. with 11.5 percent) and support staff (i.e. with 0.5 percent).

A major portion of respondents are from Malaysia with 87.4 percent while remaining respondents, i.e. a-12.6 percent are from India. Among participating faculties in the sample, Faculty of Economics and Management is leading from respective universities in Malaysia and India, i.e. with about 93 percent, whereby many of respondents are currently studying and working there. To closely examine, about half of respondents are found to remain cautious in their homes within city centres which serve as their main place of stay during the specified periods of lockdown. Also, a considerable number of respondents, i.e. about 27 percent of the total sample, are revealed to reside in their homes within respective villages and the rest of them are in other staying places; homes in corporations, homes in municipalities and hostels or residence halls in universities, respectively. Additionally, when looking at household size, it is worth to highlight that over one-fifth of respondents are seen to exceed the average household sizes with 4 persons per household in Malaysia (Hirschmann, 2019) and 4.9 persons per household in India (Esri, 2019).

ACCESS TO ICT

Devices Used for Accessing Online Materials

This section is meant to gather the details of ICT¹ knowledge among 443 respondents in order to access the e-Learning during the COVID-19. With regard to the first question in Table 2, most of the respondents, i.e. 95 percent of the total sample, are found to positively confirm that they have a basic understanding of ICT knowledge. In contrast, only five percent of them appear to disapprove, thus arguing that they do not have any basic knowledge of ICT.

Table 2: Access to Online Materials

Questions	Yes (%)	No (%)
Do you have a basic understanding of ICT knowledge?	94.5	5.4
Do you have access to a smartphone?	99.5	0.5
Do you have access to a laptop/MacBook?	94.8	5.19
Do you have access to a personal computer (PC)/desktop?	38.60	61.39

Source: Online Survey

Nearly all respondents, i.e. 99 percent of the total sample, unveiled that they have smartphones in accessing the ICT knowledge (e.g. internet). Most of respondents, i.e. 94.8 percent of the total sample, revealed to have laptops in accessing the internet. About 38.6 % percent of respondents are discovered to have personal computers or desktops in accessing the internet whereas the remaining respondents, i.e. nearly 61 percent of them, appear to disapprove by arguing that they do not have access to the internet via personal computers.

It can be deduced that the use of tablets constitutes as the highest rating with a-40 percent of the total sample. Accordingly, this is followed by the use of remaining devices; schools/universities-owned PCs (27 percent), iPads (22 percent) and cybercafe-owned PCs (11 percent). Evidently, such devices equipped with internet packages such as mobile data plan, home Wi-Fi and schools/universities-owned Wi-Fi, which are managed by local providers in Malaysia and India like Celcom, Unifi, Telco and Joi, have successfully enabled them to access the internet.

Microsoft Teams is the leading software with the highest popularity of 28 percent. This is followed by the usages of Google Meet, Whatsapp, Cisco Webex and Skype with 19 percent, 16 percent, 14 percent and 13 percent,

¹ ICT refers to information and communications technology.

respectively. Meanwhile, remaining modes for e-Learning constitute: Ring Central, Telegram, Ding Talk and Moodle are seen to yield ratings of three percent and two percent.

The following section discusses the start of E-learning classes

Table 3: Start of Online Classes

When did the online classes begin?	Yes (%)	No (%)	Not Relevant (%)
Before lockdown	18	54	28
Immediately after lockdown began	21	50	29
One week after the lockdown began	27	44	29
Two weeks after the lockdown began	49	23	28
Online classes have not begun	6	51	43

Source: Online Survey

From the above Table 3, it is seen that less than a-fifth of respondents, i.e. about 18 percent of the total, revealed to claim that they accordingly began online classes at their staying places just before the periods of lockdown. While over half of them, i.e. a-54 percent share, are seen to disapprove based on their experiences, the remaining respondents with a-28 percent share are observed to be indifferent against the question.

A total 21 percent of the sample, disclosed to agree with it that they started online classes at their staying places immediately after the periods of lockdown began and 29 percent viewed that the exact start-up of online classes is not relevant. Over a quarter of respondents, i.e. 27 percent of the total sample, are observed to be in support for it that they started online classes at their staying places within one week after the periods of lockdown began, respectively. Given the similar portion of respondents as per Table 5(ii) who are likely to view it as an irrelevant matter, this is left with 44 percent share of respondents who appear to oppose it based on their experiences. Nearly half of respondents, i.e. 49 percent of the total sample, are discovered to conform that they started online classes at their staying places within two weeks after the periods of lockdown began. On the contrary, over a-fifth of respondents are found to refute the question by reflecting their experiences and view that the exact start of online classes is not relevant, respectively. More than half of respondents, i.e. about 51 percent of the total sample, are unveiled to be contentious with it by refuting that they have not started online classes at their staying places before and during the periods of lockdown. While 43 percent of respondents are observed to be indifferent against it, this is left with only six percent of respondents who positively support that no online classes have been conducted

before and during the periods of lockdown.

The following section demonstrates the different types of platforms of e-learning development and the ones that the respondents accessed for their online learning experience.

Table 4 Modes of Online Classes Accessed by Respondents

What are the modes of online classes accessed?	Yes (%)	No (%)	Not Relevant (%)
E-Learning platform developed by the Education Ministry	40	36	24
E-Learning platform developed by the college /university	78	10	12
Open e-Learning platform	67	15	18

Source: Online Survey

Table 4 shows that two-fifth of respondents, i.e. 40 percent of the total sample, are found to confirm that the modes of online classes accessed by them via the e-Learning platform as developed by the Education Ministry. Despite that, 36 percent of respondents likely appear to disapprove it based on their experiences, the remaining respondents, i.e. with a-24 percent share from the total sample, are seen to be indifferent or unconcerned against it.

Over three quarter of respondents, i.e. 78 percent of the total sample, are disclosed to positively agree that the e-Learning platform developed by respective colleges/universities is opted to be the primary mode of online classes accessed by them at their staying places especially during the periods of lockdown. In response to the question, considerable shares of leftover respondents, i.e. 10 percent and 12 percent of the total sample, are associated with the opposing and indifferent or irrelevant groups, respectively.

Over two-third of respondents, i.e. 67 percent of the total sample, are revealed to alternatively utilize the open or unrestricted e-Learning platform as the main modes of online classes accessed by them particularly during the periods of lockdown. In contrast, less than a-fifth of respondents, i.e. both shares of 15 percent and 18 percent for 'No' and 'NR' groups, are seen to be dissatisfied with it and remain indifferent or unconcerned, respectively.

The following table shows the types of online tools used in e-learning.

Table 5 types of online tools used in e-learning.

Have you used any of these for e-Learning tools?	Yes (%)	No (%)	Not Relevant

			(%)
1. Google Classroom	57	33	10
2. Google Hangout	22	63	15
3. Microsoft 365	72	20	8
4. Webinar	17	70	13
5. Zoom	58	33	9
6. YouTube session	38	51	11
7. Facebook live	16	69	15
8. Others	23	51	26

Source: Online Survey

More than half of respondents, i.e. 57 percent of the total sample, are found to utilize the google classroom as the common platform for e-Learning amid staying at their places during the lockdown periods, accordingly. While 33 percent of them appear to oppose it, only 10 percent of leftover respondents are seen to be unconcerned with the used platform for e-Learning.

Over one-fifth of respondents, i.e. 22 percent of the total sample, are disclosed to use the google hangout as the common platform for e-Learning accessed by them from their staying places during the lockdown periods. Given the majority of them, i.e. 63 percent of the total sample, are seen to be disapproving with the used approach, this is left with only 15 percent of respondents who seem to be less aware or insensitive with the used platform for e-Learning.

Over 70 percent of respondents, i.e. 72 percent of the total sample, are revealed that Microsoft 365 to constitute as the preferred platform for e-Learning accessed by them during the lockdown periods, respectively. While the used platform seems debatable and not applicable for one-fifth of respondents, this is left with only eight percent of them who are less concerned of its use for e-Learning.

Less than one-fifth of respondents, i.e. 17 percent of the total sample, are unveiled to use the webinar as the most visited platform for e-Learning during the lockdown periods. Meanwhile, a major portion of respondents, i.e. 70 percent of the total sample, are observed to be in dispute with it and the leftover respondents, i.e. 13 percent of the total, appear to care less on the application used for e-Learning.

More than half of respondents, i.e. 58 percent of the total sample, are associated with users of Zoom who typically use it as the common platform for

e-Learning from their staying places during the lockdown periods. While one-third of respondents are found to argue that they have not used Zoom as the preferred platform, only nine percent of them show no interest at all in the application being used for e-Learning. Close to two-fifth of respondents, i.e. 38 percent of the total sample, are linked to those who typically use YouTube sessions as the common platform for e-Learning during the lockdown period. However, over half of respondents, i.e. 51 percent of the total sample, have some concerns or issues on YouTube session being the preferred platform for e-Learning during the lockdown periods. Hence, the leftover respondents, i.e. 11 percent of the sample, are attributed to the ‘Not Relevant’ group since the results have no significant effect on their views.

Less than one-fifth of respondents, i.e. 16 percent of the total sample, are found to typically use Facebook live as the common platform for e-Learning particularly during the lockdown periods. In contrast, nearly 70 percent of respondents are observed to have arguments on the use of Facebook live for e-Learning and the remaining respondents, i.e. 15 percent of the total sample, are seen to view it as an irrelevant matter. Over one-fifth of respondents, i.e. 23 percent of the total sample, are disclosed to use other platforms for e-Learning accessed by them from their staying places during the lockdown periods. Despite that, over half of respondents, i.e. 51 percent of the total sample, are seen to be associated with those who have reasons on others that cannot be accessed for e-Learning. Additionally, more than a quarter of respondents, i.e. 26 percent of the total sample, appear to be not sensitive or less concerned about the use of others for e-Learning.

Data Analysis of advantages and Disadvantages of E-learning from Research

This section encompasses the handling of the survey among 443 respondents as a reality check in order to find feasible respondents’ sentiments on the availability of associated benefits and/or disadvantages when using e-Learning especially during the lockdown periods due to the COVID-19 pandemic. As such, the survey results in Table 6 – Table 7 are depicted and discussed on an individual basis.

Perceptions on the Benefits of E-Learning

The survey data were categorized based on the Observation Scale, whereby 1 Most Disagreeable; 2 Disagreeable; 3 Neutral; 4 Agreeable; 5 Most Agreeable in terms of their perception on the benefits of e-learning. With regard to the first statement in Table 6, fairly large respondents in the shaded region, i.e. 37.2 percent of the total sample, are in support for the statement and positively consider that E-Learning is more interesting than the conventional way.

On the second statement in Table 6, reasonably large respondents, i.e. 38.4 percent of the total sample, are disclosed to be in a negative territory. Hence, they are likely to have some issues or concerns that relate to the

interactivity of E-Learning. On the third statement in Table 6, over two-fifth of respondents, 41.3 percent of the total sample, appear to oppose the statement by stressing that E-Learning does not contribute to keeping their alertness. On the fourth statement in Table 6, conceivably large respondents, 45.6 percent of the total sample, are witnessed to be refuting it that they are able to learn the taught subjects at a faster pace. On the fifth statement in Table 6, the majority of them or 45.8 percent of the total sample, are seen to be approving the statement that the e-Learning classes are relatively shorter than normal classes that were held in the pre-COVID-19 period.

On the sixth statement in Table 6, more than half of respondents i.e. 51.0 percent of the total sample, are in support for the statement and positively consider that the e-Learning programme is beneficial to them as they can easily upload their assignments via online. On the seventh statement in Table 9, reasonably large respondents, i.e. 45.4 percent of the total sample, are witnessed to support the statement and acknowledge the availability of opportunities to participate in the speaker sessions at the international level. On the eighth statement in Table 9, over half of respondents, i.e. 57.1 percent of the total sample, are unveiled to positively back up for the statement and acknowledge that all learning materials/topics are made available for me to watch repeatedly. On the ninth statement in Table 6, reasonably large respondents are observed to have no consensus or major issues in approving the statement that it is relatively easy to conduct the e-Learning classes. On the tenth statement in Table 6, nearly one-third of respondents, i.e. 32.3 percent of the total sample, are found to positively agree that all tasks can be easily managed for the students.

Table 6 Perceptions on the Benefits of E-Learning

In your perception, what are the benefits of E-Learning? (Total Respondents)	Observation scale (%)					Average Value of Scale	SD	Proportion of High 4 & 5 (%)	Proportion of Low 1 & 2 (%)
	1	2	3	4	5				
1. Learning more interesting. E-is	13.8	17.2	29.3	27.3	9.9	3.09	1.26	37.2	31
2. Learning very interactive. E-is	15.6	22.8	26.0	23.7	9.0	2.97	1.31	32.7	38.4

3. E-Learning keeps me alert.	14.2	27.1	23.0	21.0	10.8	2.99	1.35	31.8	41.3
4. I am able to learn the subject faster.	14.2	31.4	26.2	16.5	8.6	2.83	1.28	25.1	45.6
5. The classes are shorter.	13.1	11.3	26.0	34.1	11.7	3.32	1.30	45.8	24.4
6. I can easily upload assignments.	15.3	7.7	22.6	33.9	17.2	3.40	1.37	51.1	23
7. There is opportunity to attend international speaker sessions	15.1	9.9	25.5	32.1	13.3	3.30	1.35	45.4	25
8. All learning material/topics are available for me to watch repeatedly.	13.1	9.3	16.9	36.6	20.5	3.53	1.36	57.1	22.4
9. It is easy to conduct classes.	14.4	16.9	26.6	23.5	12.4	3.21	1.41	35.9	31.3
10. I can easily manage all task for the students	14.7	13.8	28.7	21.4	10.8	3.32	1.49	32	29

Note: 1 Most Disagreeable; 2 Disagreeable; 3 Neutral; 4 Agreeable; 5 Most Agreeable

Source: Online Survey, 2020

Perceptions on the Disadvantages of E-Learning

With regard to the first statement in Table 7, over three-fifth of respondents in the shaded region, i.e. 64.3 percent of the total sample, are in support for the statement and admit that the instability of the internet when there is a necessity

to use E-Learning. On the second statement in Table 7, nearly three-fifth of respondents, i.e. 59.4 percent of the total sample, are found to have no debatable issues in approving the statement that the voice is unclear when using E-Learning. On the third statement in Table 7, about two-fifth of respondents, i.e. 39.7 percent of the total sample, are observed to appear with no consensus in complying with the statement that there is insufficient or no interaction with the lecturer while the e-Learning session is in progress. On the fourth statement in Table 7, over one-third of respondents, i.e. 37.7 percent of the total sample, are seen to refute the statement that they are afraid to ask questions when the E-Learning session is ongoing. On the fifth statement in Table 7, about 35 percent of them are found to be in the 'neutral' position of neither agree nor disagree with the statement on the shorter periods of e-Learning session. On the sixth statement in Table 7, close to two-fifth of respondents, i.e. 39.3 percent of the total sample, are discovered to be in the 'disagreement' position, thus opposing the statement of one's inability to manage the E-Learning platform. On the seventh statement in Table 7, over half of respondents, i.e. 52.1 percent of the total sample, are observed to have no major issues in agreeing with the statement that there is a lot of work that needs to be completed after the end of e-Learning session.

Table 7 Perceptions on the Disadvantages of E-Learning

In your perception, what are the disadvantages of E-Learning? (Total Respondents)	Observation scale (%)					Average Value of Scale	SD	Proportion of High 4 & 5 (%)	Proportion of Low 1 & 2 (%)
	1	2	3	4	5				
1. The internet is unstable.	8	11	14	27	37	3.81	1.32	64	19
2. The voice is unclear.	7	12	19	34	26	3.66	1.26	60	19

3. There is no interaction with the lecturer.	7	19	31	22	17	3.33	1.26	39	26
4. I am afraid to ask questions.	10	28	30	17	12	3.06	1.29	29	38
5. The classes are shorter.	11	18	35	24	9	3.14	1.23	33	29
6. I am unable to manage the E-Learning platform	10	29	31	16	10	2.99	1.29	26	39
7. There is a lot of work to be done after the virtual class	8	13	23	23	29	3.66	1.34	52	21

Note: 1 Most Disagreeable; 2 Disagreeable; 3 Neutral; 4 Agreeable; 5 Most Agreeable
Source: Online Survey, 2020

PROBLEMS ENCOUNTERED USING E-LEARNING

Survey results of 443 respondents in total on feasible perceptions with regards to the encountered problems when using e-Learning mode of learning during the lockdown periods due to the COVID-19 pandemic. Hence, individual results in Table 8 are displayed and discussed. Regarding the first statement in Table 8, over one-third of respondents, i.e. 35.0 percent of the total sample, are

found to be supporting the statement that there is a surging mobile bill since lockdown due to e-Learning. On the second statement in Table 8, over two-fifth of respondents, i.e. 43.8 percent of the total sample, are disclosed to be approving for the statement that there is a rising data bill since lockdown due to e-Learning. On the third statement in Table 8, over two-fifth of respondents, i.e. 43.1 percent of the total sample, are observed to be in the ‘disagreement’ position, thus disapproving the statement of one’s unfamiliarity to use e-Learning. On the fourth statement in Table 8, over two-fifth of respondents, i.e. 46.7 percent of the total sample, are unveiled to be in the ‘supporting’ position, thus backing up the statement on the necessity of more learning efforts for the preparation of e-Learning.

Table 8 Problems Encountered using E-Learning

In your perception, what problems have you encountered to use E-Learning ? (Total Respondents)	Observation scale (%)					Average Value of Scale	SD	Proportion of High 4 & 5 (%)	Proportion of Low 1 & 2 (%)
	1	2	3	4	5				
1. My mobile bill has increased since lockdown due to E-Learning	14	20	26	19	16	3.22	1.44	35	34
2. My data bill has increased since lockdown due to E-Learning.	12	18	22	25	19	3.35	1.39	44	30

3. I am unfamiliar to use E-Learning.	13	31	30	16	7	2.87	1.28	23	44
4. I need to learn more to prepare for E-Learning.	10	12	27	30	17	3.47	1.29	47	22

Note: 1 Most Disagreeable; 2 Disagreeable; 3 Neutral; 4 Agreeable; 5 Most Agreeable
Source: Online Survey, 2020

DISCUSSION

Advantages of E-Learning

Learning is Enhanced: The above research shows increased depth of understanding and retention of course content and more meaningful discussions happen when online. Having the course materials online the students are able to concentrate on visual materials and aslo audio-video materials made available. Furthermore, the materials made available offline, facilitates the students to access the materials repeatedly on their own pace. Teachers' emphasis on writing skills and new technical skills are learnt.

Time Management: Students are allowed to think and reflect before communicating. Even students who are hesitating to ask questions are encouraged online due to anonymity of the online environment. Students are also at an advantage when they can watch the recorded class repeatedly if necessary. Any problems encountered regarding clash of other classes or activity, the students can delay going through the materials.

Interaction: Increased student-to-teacher and student-to-student interaction and discussion happens as online learning creates more of a student-centered learning environment.

Methods of Innovative Teaching: Student-centered approaches like quiz, polling, animative questions are adopted and there is increased variety and creativity of learning activities. There is an opportunity to address different learning styles of students and changes and improvements can be done during the sessions as students are allowed to provide feedback in the chat box.

Convenience: Easy use for teachers as there is no commuting, no hassle of traffic on road and 24/7 access from any online computer.

Improved Management and Administration: Online assessments are monitored at regular intervals and technology has provided the ability to document and record online interactions and this facilitates teachers to grading online.

Outreach: Online learning provides options to reach new student markets; appeal to current students thus increasing enrolments.

The feedback of e-learning from the teachers is that they feel that the learning platform can be used only when there is a stable Wi-Fi connection. Most of them agree to a larger extent that there is flexibility for the learning process and online classes are convenient and time-saving and help in adapting to a new method of learning. Many agree that it can help other members who have problems with e-Learning and there can always be a replay of class sessions due to recording and offline materials provided. It can develop ICT knowledge and skills are built for online teaching methods and teachers agree that e-learning is fit for this situation and we can follow the trend IR 4.0 e-learning is expected to produce a tremendous change to the society. Overall to highlight, most of the teachers agree that online learning is good and efficient as the e-learning Industrial Revolution 4.0 is progressing at a high speed.

Disadvantage of E-learning

The major disadvantages of using e-learning are that the teachers find it hard to understand tutorials due to lack of motivation and slow internet connection and online classes makes teachers and students sleepy and they are finding it difficult to focus during the sessions. As most of the teachers are new to e-learning they feel that it is quite difficult if there is a need to perform a project presentation and cannot focus during the sessions since a need to do other chores in the house as helping mother in the kitchen and other disturbances are there. From the students' end they feel that too much of assignments and homework are given by teachers and online classes are not that effective unlike face-to-face class sessions. It is difficult to sit and focus for 3 hours straight in front of a laptop and online classes may not be effective for practical subjects such as accounts and statistics.

To conclude, the major challenges of online learning as discussed by respondents are poor or unstable internet connection especially for those who live in rural areas. It is difficult to get doubts and queries from teachers during the online sessions. Overall both students and teachers as respondents feel that online classes and e-learning can become more stressful if a lecturer gives many assignments but the students need more time to understand what they have learned during the online classes. E-learning is difficult particularly for the economically-disadvantaged group. The Internet with quota limitation ignites issues given one class can consume much data.

Recommendations

Suggestions given by the respondents to improve the online e-learning process are many fold. Firstly, the class timetable should be fixed so that it is easy for managing the time and also to fix an appropriate time for each assignment to be submitted by students. This schedule should also be cross checked so that siblings from the same household are not burdened with accessibility issues due to sharing the same device. This is also the case if the parents are also relying on the same device for their work from home (WFH) working tool.

Every teacher needs to create a tutorial course with well-planned and be prepared with all e-learning materials before executing e-Learning to students. The E-Learning platform has the potential to become the future of interactive media so lecturers need to make some activities such as quiz, multiple choice questions for students to stay focused and make the sessions more interesting with reference to online videos and YouTube programmes. Teachers can provide their phone numbers to students, for when their Wi-Fi connections are disrupted, they can share their queries and provide feedback. As online classes are projected to be until the end of this year, universities are suggested to adapt with some very interactive e-learning platforms (e.g. developed by European universities) when they conduct short online courses via Moodle and Swayam.

Paradigm Shift in Teaching and Learning

It cannot be denied that the COVID-19 pandemic and movement restriction order or the lockdown across the globe had thrust the citizens of the world into enhancing the digital skills especially pertaining digital communication and presentations skills. This is even more so for those is the educational institution hoping that the learning process is not halted. Educators also had to immerse themselves into keeping abreast of creating more interactive and impactful educational tools to deliver materials and also access the progress of students.

There are pitfalls in the adaptation of e-learning platforms especially for those who are geographically displaced and have no means of acquiring knowledge due to lack of economic resources to purchase the necessary gadgets for e-learning or have no older siblings or adult supervision with ICT knowledge. This is further exacerbated with the digital infrastructure is not at par within the varying geographical locations. Hence telcos also have a role to play in advocating for the advancement of better quality e-learning for the future. Nevertheless, efforts to overcome this may be less costly compared to going back to the traditional teaching methods.

CONCLUSION

The global COVID-19 pandemic has brought challenges to continue education in the traditional mode and switching to the new normal of using the online platform. E-learning gained much popularity within a short period of time and seems to take preference in certain communities and for delivery of specific subjects. The bottom line in utilising this platform is the availability of devices

and infrastructure for easy accessibility by the students. Some families have several children needing to use the device simultaneously, then there is the issue of cost implication. Furthermore, some have grievances regarding the quality of audio and visual aspects of the courses delivered online especially during live sessions. Concerns are also with regards to using the online platform for quiz and examination purposes. Students also expressed that they like to use e-learning when it allows repeated viewing and easy to access support materials and ease of uploading their completed assignments.

Resilience of the IHLs addressing adversities is tested at every point and especially during emergencies and pandemics. Their ability in overcoming challenges of teaching and learning is a sure sign of strength and ability to move forward. In the long run, e-learning can be an effective teaching and learning tool when it is interactive and getting higher participation of the students. If the drawback of this tool can be overcome, this method should be used interchangeably with other teaching and learning methods to strengthen the education delivery system in any nation. Comparative studies to assess the performance of students based on sciences and social sciences students, locality and other socio demographic determinants can yield a better understanding of e-learning for the future.

ACKNOWLEDGEMENT

This research was conducted via online Google form by researchers of two Institutions, namely Universiti Kebangsaan Malaysia, Selangor, Malaysia and Silicon City College, Bengaluru, India experimenting as a response to current COVID-19 pandemic situation. Countries are facing lockdown and the dilemma in continuing higher education ideas emerged to help and provide awareness to teachers and online learners to what extent and how one can adopt stress free learning via online learning.

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