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R. Hariri

Program of Educational Leadership, Dar Al Hekma University, Jeddah, Kingdom of Saudi Arabia,
drghousiak@gmail.com

G. Khatoon

Department of Accounting, Banking and Finance, Faculty of Administrative Sciences and Economics,
Tishk International University, Erbil, Kurdistan Region, Iraq, drghousiak@gmail.com

S. Ben Belgacem

College of Business Administration, Princess Nourah Bint Abdulrahman University, Riyadh, Kingdom of Saudi Arabia, drghousiak@gmail.com

U. Zahid

Department of Business Management, Global Banking School, University of Suffolk, London, United Kingdom, drghousiak@gmail.com

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Stumbling Blocks of Online Learning During COVID 19 Pandemic – Perspectives of Students of Selected Universities in London

R. Hariri¹, G. Khatoon^{2,*}, S. Ben Belgacem³, U. Zahid⁴, Z. Pasha⁵, and H. Bala²

¹Program of Educational Leadership, Dar Al Hekma University, Jeddah, Kingdom of Saudi Arabia

²Department of Accounting, Banking and Finance, Faculty of Administrative Sciences and Economics, Tishk International University, Erbil, Kurdistan Region, Iraq

³College of Business Administration, Princess Nourah Bint Abdulrahman University, Riyadh, Kingdom of Saudi Arabia

⁴Department of Business Management, Global Banking School, University of Suffolk, London, United Kingdom

⁵Department of Management, St. Claret College, Bangalore, India

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Abstract: COVID 19 Pandemic has led to mayhem across the Planet. Educational institutions are the worst affected arena. There is a paradigm shift from conventional classroom teaching to online methods. But it has its own obstructions. Thus, this research is undertaken to study the impediments of online learning faced by the students of selected universities of London. The questionnaire was administered among 200 students out of which 196 responded. The results of the Study reveal that the major obstructions which hindered online learning were lack of computer skills, internet connectivity issues, difficulty in operating the software, absence of social bonding between teachers and students, difficulty in recording lectures, difficulty in grasping practical courses such as mathematics, finance, accounting, engineering etc. To cope up with the Stumbling Blocks, the Study advocates some of the most innovative and creative ways such as application of **Bloom's Digital Taxonomy, VARK Model, 5/5/5 rule** etc.

Keywords: COVID 19 Pandemic, Online Learning, Stumbling Blocks, Bloom's Digital Taxonomy, VARK Model, 5/5/5 rule.

1 Introduction

COVID 19 disease was spotted in China in Wuhan in late December 2019 and spread like a wildfire across the globe within a short span of time. The education sector was adversely affected, and educational institutions moved from conventional teaching to online learning [1]. Most of the educational institutions were not prepared for the shift because of lack of availability of necessary resources [2]. The education sector is the backbone of the economy and cannot be neglected at any cost. The youngsters are the future of the nation. Providing a necessary way out to the obstructions faced by the students with respect to online learning will go a long way in boosting the online learning process. Data were collected by administering questionnaire among 200 students and the response was received from 196 students. The variables/obstructions of online learning were identified using the previous studies. This Study is different from earlier Studies as it not only identifies the obstructions of online learning but also applies Factor Analysis to drop the insignificant variables and contributes towards more innovative ways to surmount the obstructions of online learning confronted by the students of selected universities in London. Some of them include **Bloom's Digital Taxonomy, VARK Model, 5/5/5 rule** etc. The Study is first of its kind conducted in London to know the perspectives of students with respect to the obstructions in online learning.

2 Literature Review

This analytical study was conducted to investigate the challenges of online learning such as technology related problems, poor internet connection, difficulty in downloading the material etc. Students could not interact with the teachers effectively. It captured the response from 184 learners in the form of questionnaire. The study was conducted to study the challenges faced by EFL learners in Saudi Arabia. The study has adopted only descriptive statistics (mean, minimum and maximum) as a technique for data analysis [3]. This current Study employs factor analysis in which the observed data values are expressed as functions of various potential causes in order to determine which is most significant [4]. A research was carried out in a college in New Zealand. This college was adversely affected by seismic activities. The study found that the college was able to adapt to online learning only because of the availability of infrastructure. The authors insist on the availability of strong infrastructure to cope up the effects of catastrophic event

*Corresponding author e-mail: drghousiak@gmail.com

[5]. This study which was conducted in New Zealand was based on an interview method which could be prone to bias, such as the participant's desire to win the researcher's appreciation or the desire to make a good impression may cause participants to give false information [6]. This research aimed at finding out how well students were prepared to adapt themselves to e-learning. The study found that the students were not well-prepared with respect to competencies needed to handle the e-learning process. There was no synchronization between work, family and social life with their study lives in technological era [7]. [8] investigated into the perception of students towards useful and challenging characteristics of online learning. The students perceived that the main issues of online learning were downloading errors, difficulties with respect to installation and login, issues concerning audio and video etc. The students were also of the opinion that online learning does not engage them since there is an absence of two-way communication. The outcome of the above study might be undertaken by some recent events. This is because many pandemic events occurred after 2004 which extremely increased the need for virtual learning. According to [9] there was a great shift in learning from conventional methods to online learning due to COVID 19 Pandemic. During the COVID 19 pandemic there was no option left except for online learning. This shift has affected students' attitude towards learning. [11] conducted a study to measure students' perception towards online learning during COVID 19 pandemic. Students are of the opinion that conventional teaching has face to face communication and motivates them for better learning and also creates an environment of belongingness. [12] revealed that conventional learning helps to understand and retain the topic for a long time. Students are of the opinion that classroom learning helps them to learn practical knowledge in a better way and also ensures punctuality and self-discipline. [10] conducted a research on campus traffic and e-learning during the COVID-19 pandemic which revealed that virtual learning hinders communication between learner and the educator that leads to absence of human touch. The technical problems are also the obstacles in the way of learning and it slows down the learning process. According to [13] sudden transformation from conventional teaching to online teaching imposed a great challenge not only for teachers and institutions but also the students. The major challenges suffered were access to technology and availability of internet facilities. Conducting exams was a great challenge as in most cases exams were not proctored.

2.1 Theoretical Framework of the Study

Learning theories have a great impact on educators. As educators we need to reflect upon the nature of how people learn. There are several learning theories but the most dominant ones are Cognitivism, Behaviorism and Constructivism. Cognitive theory is used in the traditional classroom to impart knowledge from teachers to students. According to this theory, the main responsibility of learning lies with the students. The major weakness of this theory is that it is unable to explain human thought and learning. Behaviorism learning theory says that the students' behaviour is based on their interaction with their environment. Constructivism theory resembles real life experiences. It connects the learners with teachers. According to this theory a teacher is a model, coach and a motivator. It enhances the ability of learners to explore ideas. To overcome the weaknesses of the above theories Connectivism theory of learning was evolved by George Siemens. This theory throws light on how technology is impacting the society. It focuses on how learning and educational pedagogy is shifting. Connectivism is about making connections between people with technology. Thus, the relevance of technology in today's learning cannot be underestimated. But the use of technology in education, which is online learning, has its own pros and cons. We need to thrive on its strengths and overcome the weakness as the saying goes like this: "Survival of the fittest".

3 Methodologies

The type of study is descriptive and analytical. The study aims at investigating the hindrances faced by students of selected universities in London with respect to online learning during the COVID 19 Pandemic. The study also aims at providing creative and practical solution to the impediments of online learning. Both primary and secondary sources of data were relied upon. Primary data were collected through questionnaire and secondary data were collected from scholarly articles published in Journals. A convenient sampling technique has been used and a sample size of 200 respondents was considered out of which 196 was the response rate. A sample size of 200 is chosen based on the suggestion of [14]. According to [14] an appropriate sample size ranges from 30 to 500. Factor Analysis, Mean Scores and Standard deviation were used. Factor analysis aims at grouping the variables which are determining factor for the input variable. Each factor will comprise of one or more input variable [4]. The variables measuring the responses towards the difficulties of online learning were developed with the help of previous literature. Factor analysis is equal to the number of factors in the study that can be reduced by dropping the insignificant factors based upon a criterion. In this Study the output of factor analysis is done on the variables of the obstacles faced by students with respect to online learning due to COVID19, Mean Scores and Standard deviation were used to measure the perception of students towards the obstacles faced by them in online learning. To capture the responses of the respondents five-point Likert Scale was utilized wherein 5 indicates Strongly Agree, 4 signifies Agree, 3 shows neither Agree nor Disagree, 2 indicates Disagree and 1 indicates Strongly Disagree.

4 Results

Table 1: KMO and Barlett’s Test

Kaiser-Meyer-Olkin Measure of Samplin Adequacy		.769
Bartlett’s Test of Sphericity	Approx. Chi-Square	118.842
	Df	4
	Sig.	.967

KMO (Kaiser-Meyer-Olkin) is a measure of sampling adequacy applied to find out if the data is appropriate for factor analysis. KMO statistics ranges between 0 and 1. According to [15] values higher than 0.5 are acceptable; values ranging between 0.5 to 0.7 are moderate; values falling within the of range of 0.7 to 0.8 are good and the values within the range of 0.8 to 0.9 are superior. In this Study the value of KMO for 23 items (variables of online learning) is 0.769 which shows that the sample considered to apply factor analysis is statistically significant.

Factor Analysis

Factor Analysis is a statistical measure which is used to reduce a large number of variables into less number of factors which are understandable and manageable. It is helpful in dropping insignificant factors [4, 16]. In this study the output of factor analysis is done on the variables of the obstacles faced by students with respect to online learning due to COVID19. To understand the impact of variables on the online learning an attempt was made to categorize variables into three factors to implement factor analysis such as Factor 1: Access to Technology and Internet, Factor 2: Ethics and Atmosphere and Factor 3: Learning and Development. Factor Loading is the major component of factor analysis. The relationship of each variable to the underlying factor is expressed by the so-called factor loading. The variables with low factor loadings are considered weak and therefore eliminated and the variables with high factor loading are considered important/strong. Thus, out of 23 variables, 7 variables whose factor loading values were under 4.0 were dropped and were excluded accordingly.

Determining factors for Obstructions faced by students in online learning mode during COVID19

Table 2: Factor 1: Access to Technology & Internet

Variable	Factor Loading Value
You have adequate facilities such as computers & laptops to attend online Classes	0.876
Softwares were user friendly	0.712
Lack of computer skills such as Microsoft word, PowerPoint etc made online learning difficult	0.671
Poor internet connection caused difficulties in writing online exams	0.754
You found it difficult to write down lecture notes	0.628
You were able to record the lecture to use it later	0.768

Table 3: Factor 2: Ethics and Atmosphere

Variable	Factor Loading Value
You wrote exams/Tests honestly	0.758
You made use of entertainment Apps during online classes	0.487
Online classes were fun	0.660
You missed University ambience due to online learning (big classrooms, playgrounds, canteens, friends etc)	0.639

Table 4: Factor 3: Learning and Development

Variable	Factor Loading Value
Lectures were communicated clearly through online learning	0.712
You faced distractions from the family during online classes	0.483
Level of motivation is high in online classes	0.660
Queries were clarified during online classes	0.703
No social bonding between teachers and students	0.743
You faced difficulty in learning practical courses such accounting, finance, maths etc online	0.671

Table 5: Descriptive Statistics

Factors	Variables	N	Mean	SD
Factor 1: Access to Technology & internet	You have adequate facilities such as computers & laptops to attend online Classes	196	4.39	0.80
	Softwares were User friendly	196	3.56	1.22
	Lack of computer skills such as Microsoft Word, PowerPoint etc made online learning difficult	196	3.12	1.51
	Poor internet connection caused difficulties in writing online exams	196	3.68	1.03
	You found it difficult to write down lecture notes	196	3.38	1.08
Factor 2: Ethics and Atmosphere	You were able to record the lecture to use it later	196	2.87	1.63
	You wrote exams/Tests honestly	196	2.61	1.20
	You made use of entertainment Apps during online classes	196	3.60	1.39
	Online classes were fun	196	2.85	1.01
Factor 3: Learning and Development	You missed University ambience due to online learning (big classrooms, playgrounds, canteens, friends etc)	196	3.29	1.42
	Lectures were communicated clearly through online learning	196	2.63	1.32
	You faced distractions from the family during online classes	196	3.73	1.47
	Level of motivation is high in online classes	196	2.97	1.00
	Queries were clarified during online classes	196	2.23	1.47
	No social bonding between teachers and students	196	3.81	1.21
You faced difficulty in learning practical courses such accounting, finance, maths etc online	196	3.59	1.89	

5 Discussions and Conclusion

The study was conducted among 200 students of selected universities of London and the response rate was 196. The percentage of female respondents was 64% and Male respondents were 36% and majority of the students were below the age group of 25. Table 5 measures the students' perspective with respect to online learning. The responses are analyzed by Mean Scores. Any Mean Score value equal to 5 or closer towards 5 is said to be high on agreement and less than 3 is considered to be towards disagreement. 3 is understood as neutral value. With respect to **Factor 1 pertaining to technology and internet**, the respondents have shown high level of agreement towards the availability of facilities of online learning such as computers and laptops with a mean rating of 4.39. They revealed that softwares were user friendly (Mean Score – 3.56). This supports the findings of [5] who revealed that college of New Zealand students were able to adapt to online learning only because of the availability of infrastructure. Their study established that the availability of strong infrastructure is effective approach to cope up the effects of catastrophic event. The respondents also moderately agreed that lack of computer skills such as Microsoft Word, PowerPoint etc made online learning a difficult task (Mean Score – 3.12) and poor internet connection was a stumbling block in the way of writing exams (Mean Score - 3.68). They also found it difficult to write down lecture notes with a mean rating of 3.38. The respondents were also asked if they were able to record lectures with the intention of using it at a later period for which they have shown disagreement with a Mean Score of 2.87. This supports the findings of [8] who documented that students perceived that the main issues of online learning were downloading errors, difficulties with respect to installation and login, issues concerning audio and video etc.

With regard to **Factor 2 Ethics and Atmosphere** it could be seen that the mean scores for the variables 'Students wrote exam honestly' (2.61) and 'online classes were fun' (2.85) are lesser than 3 which means the opinion about these variables is towards disagreement. This goes to show that there is a possibility of students cheating while writing exams online. From the students' perspectives online classes are not fun. Students moderately agreed that they made use of entertainment apps during online classes (Mean Score – 3.6) and they really missed university ambience such as big classrooms, playgrounds, canteens, friends etc. due to online classes (Mean Scores – 3.29). Similar findings have shown that students are not well prepared with respect to competencies needed to handle e-learning process [7]. Thus, the era of virtual learning has affected students' attitude towards learning [9]. This supports the arguments that classroom learning helps students to learn practical knowledge in a better way and also ensures punctuality and self-discipline [12].

In case of **Factor 3 Learning and Development**, the variables "lectures were communicated clearly through online learning", "Level of motivation is high in online classes" and "Queries were clarified during online classes" are poorly rated with a Mean Score of 2.63, 2.97 and 2.23 respectively. It means to say that lectures were not communicated clearly through online classes, there is low level of motivation and students had difficulty clarifying their queries in online mode. Students moderately agreed that they came across distractions from family during online classes (Mean Score - 3.73) and social bonding which is a major pillar of learning and development between teachers and students was

absent (Mean Score - 3.81). Students also had a difficulty learning courses involving calculations/numerical. This supports the findings of [10] who revealed that virtual learning hinders communication between learner and the educator that leads to absence of human touch. Thus, technical problems are also the obstacles in the way of learning and it slows down the learning process.

6 Conclusions

From the previous studies and the present research it is evident that online learning is not a cake walk. The issues need to be looked into seriously and suggest the curative measures. The following tips and tricks will contribute towards conducive online learning environment:

- Use of **VAR K Model** by the educators will go a long way in adjusting the teaching styles according to the learning styles of the students. VARK stands for Visual, Auditory, Reading/Writing and Kinesthetic. Visual learners learn through pictures, diagrams etc. Educators can make use of PowerPoint presentations with pictures, graphs, diagrams etc to make the online classes more meaningful. With regard to students with auditory learning styles they learn by listening and recording lectures. The Reading/Writing learners learn through reading books, writing, researching etc. Kinesthetic learners learn by doing or experiencing. Educators can involve such students in Acts, role plays, dramas etc
- Instructors have to make use of **Bloom's Digital Taxonomy**. This will enhance the educators' capabilities as to how to use technology and digital tools to facilitate students' learning process.
- Another innovative way to keep the learners awake in the online class is to follow **5/5/5 Rule** of PowerPoint presentation. According to this rule some experts suggest to have Five text heavy slides, each slide to have five lines of text and each line to have not more than five words. The idea is to keep the text in the slides as concise as possible otherwise it will be monotonous.
- Educators can start classes with a **warmer/game** preferably relating to subject. For example, in case of an English teacher, she can give a long word and encourage students come up with most number of words out of it. It will be highly engaging and fun.
- Some topics/subjects such as Math, Finance, Accounting and Engineering are hard to understand and moreover not all the learners are fast in learning. Some learners whose intelligent quotient is below average catch things very slowly. For such learners, recorded lectures are immensely helpful. Educators can post their recorded lectures on YouTube or College/University website.
- Short videos relating to the subject would also benefit the students in building their knowledge online
- A teacher can keep his or her webcam on and also insists the students to do so. Teacher can greet the students by calling their names. This will arouse interest among students to learn. This will also give a picture of real-life classroom.
- An investment in knowledge pays the best interest says Benjamin Franklin. So, to gain knowledge spending little more on high quality internet connection is worth. In case of students' inability to afford high quality internet connection, the most lucrative organizations can donate for the cause as a part of their social responsibility.
- COVID 19 Pandemic has taught us that the future is uncertain, and the students' needs to be trained to manage during crisis. In addition to this, imparting training to the students in handling technology help to boost online learning environment.
- Teachers need to encourage interactive session. Educators with strong subject knowledge, good communication skills, tone and pitch of voice will be able to handle online classes in a better way. There has to be two-way communications. After lectures are delivered, teacher can select students randomly and ask to summarize. This will ensure if the students understood the lectures. Teachers have to create an environment of belongingness and care. Little extra efforts on the part of students and teachers will build extra ordinary learning environment and make online learning an awesome experience. This will also ensure a social bonding between educators and learners
- The research recommends activating the role of Blackboard system in universities in light of crises, in general, and Coronavirus pandemic in particular, due to its positive impact in this field as well as conducting relevant researches. Thus, the above online teaching tips and tricks can definitely help educators and learners creating a great environment of learning.

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Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

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