Assessment of Learning Ability by Online Survey in Students during the Pandemic of COVID-19 and Its Influence on Students with Respect to Jordanian Students

Mohammad Yousef Alsaraireh[1], Om Dubey[2].

[1]Al-Balqa Applied University, Jordan.
[2]Godavari Institute of Engineering and Technology, India.
Email:[2]omforensic@gmail.com.

ABSTRACT

Education sector is one of the huge sectors which are severely affected during Novel corona virus disease   (COVID-19) pandemic. However, there are indeed some positive signs across the globe, in the form of distance learning, were remarked in this area of education but many difficulties have arisen in online learning simultaneously. This paper aims to address hitherto unreported difficulties during online e-learning process. In the present study, total 880 student samples surveys were considered across all the parts of Jordan. The samples were collected through online Google forms by circulating the same through social media platforms and online learning portals. The received responses showed the mixed statements for the e-learning. On the one hand the group of students those having technological support like laptop and computer with good internet speed has shown positive interest towards the online learning but on other hand the other group has shown less interest. Nevertheless, both the groups were fully agreed that the outcome of the learning was not properly addressed as in case of physical class room program. Students felt the need of physical interaction between learners and instructor. During the pandemic of COVID-9 in Jordan, there is opportunity felt by education sector to leap from the conventional method of learning to technology based online learning programme. After carefully observations of 26,400 questionnaires, the responses from the students of Jordan mirrored that there was a wide scope of the improvements in the technology-based education.

Introduction

Learning is a process which goes on throughout of our life; learning begins from home itself, where parents try to inculcate the habit of learning in the kids. Right to education is considered as a fundamental right of the human beings[1]. According to Universal Human rights declaration 1948 article 26, the higher education should be provided in an accessible and cost-effective manner.

In Jordan, the primary education is compulsory, and the parents are also free to choose the type of education whatever they want to give to their kids. This freedom to choose desire topic of study in education system makes it more appropriate in the modern education context. But, in this smooth process of education the dark Year 2020 came with big catastrophe which eventually led to many loss and defeat in almost every sector. The pandemic of COVID-19 has also taken jobs away from the many people worked for temporary or permanent period along with this socio-economic crisis which led down the decreased or low income in one's life. This pandemic year undoubtedly affected the working of many industries especially those who were depended on the physical presence of their employees on workplace. Education sector is one of those industries which are highly affected by the COVID-19 pandemic because this sector highly depends on the physical exercise. That's why the education sector is considered as the worst hit sector till today which becomes necessary to implement and invent new and most promising methods to continue education during the lockdown of COVID-19. This was happened because of the improper planning in education system due to lack of information of the normal condition and uncertainty of the reopening of the regular classes. Experts from World Economic Forum have already reported that the COVID-19 has changed the education forever[1]. In this regard, an alternative method needs to be incorporated for efficient learning process in the education system.

Before the pandemic of COVID-19, the education system followed the physical classroom practiced which creates the face to face opportunity to communicate dialogues between learners and instructor. Within limited period, new technologies had necessitated to be adopted by both learners and instructor which resulted in learning gap because both were not well prepared for such global crisis. This learning gap significantly affected the study of students. Therefore, there is a need to study the learning difficulties by the students across the world during this pandemic situation. This article reflects only on the survey of 880 students across the different colleges and universities established in Jordan. Moreover, the study also reveals the user friendliness and the incapability of students during the pandemic of COVID-19 with the technology.

2. State of Novel Corona Virus (COVID-19)The pandemic of year 2020 in the form of   COVID-19, has undoubtedly shocked the whole world. Although, human beings have developed sound technology, innovation, and medical care in every field but still there is a plenty of scopes which require more research and innovation to bring the better result for sustainable society at large scale. COVID-19 is the viral infection caused by Corona virus and it causes serious and bad effects on human lungs. Viruses are microscopic

organisms that replicate themselves inside the living cells of organism at times creating infection, but all are not very often serious infection. There are viruses which are living within our body and they have proved to be beneficial for us [2]. On the other hand, viruses like the SARS, MERS, and Corona have proved to be very fatal to individual and the modern society. The outbreak of COVID-19 was announced by World Health Organization(WHO) to be global disaster, there is no certain proof as to how COVID-19 virus emerged but there has been strong belief that it might have been originated from the Bats [3]. The sign and symptoms of COVID-19 virus were at those times not observed therefore in order to know whether the person having traces of COVID-19 virus or might have come across the carrier of COVID-19 virus, could be confirmed only when the RT-PCR (Reverse Transcriptase Polymerase Chain Reaction) testing method was found to be active [4]. It also takes longer times such as three days to fourteen days in order to show the symptoms and at times the victim of virus may be asymptomatic that means it might not show the symptoms also [5]. Major symptoms were found in the patients of Corona victim are shortness of Breath, High fever, Less Oxygen in Blood, Sore throat, Rhinorrhea, Cough, and Diarrhoea[6]. The very first case of Corona Virus was reported by competent authority in Jordan was on 2nd March 2020 soon after that necessary measures were taken to stop the spread of Corona Virus. In fact, the Nation was put under the complete lockdown on 17^{th}March 2020 [7].

The first case of Corona virus was detected in the Wuhan City of Hubei province in China and located in fish market [8]. The novel corona virus belonged to a family was found to be the same as it was in year 2002-2003 of SARS (Severe Acute Respiratory Syndrome)[9]. Till date, there is little known about the COVID-19 because of the less data available and every time research is done on the novel virus, this article is able to make readers knowledge breast with the recent surveys results and is considered to be good enough for information point of views. The future looks uncertain as to when normal life will start even if a hard pressing concern vaccination is developed still there will be a long time taken by countries to get back to normal condition. Ultimately this will pave the path for new technology and approaches in the education sector to accept and resume normal study in colleges and universities.

Need of E-Learning

During the lockdown one major issue to be addressed was about the teaching students of educational bodies like Schools, Colleges, and University. In this pandemic and short period of time, the teachers and students adopted new method of learning to bridge the gap of learning from home i.e., e-learning. In this scenario, conventional mode of teaching (face to face teaching in physical presence) could not take place and students and teachers had needed to adapt new technology to learn. This process of online learning proved to be beneficial in some extent and on the other hand there was also some difficulty in online lectures [10]. Teaching method, educational operation, and examination method also had to be implemented in new improvised method, which is one the the most formidable challenges.

The pandemic of COVID 19 has led to crisis in educational system forcing many of us to adopt distance education and e-learning. Many educational institutes had to suspend their academics activities for indefinite period because of administrative guidelines. Due to this people are forced, to stay home, and to learn an alternative technique of learning which involves various challenge to be dealt with it[11]. Online platforms have emerged to bridge the gap of learning and continued education[1]. There has been a lot of online training going on by educational organisation to keep records with technology for both Teachers and Students. Many private sectors have emerged with new online platform for learning. According to the study made by[12], the educational institutes have changed their conventional learning methods and adopted contemporary learning methods like Videoconferencing, Archived Videos, Simulations, and E-learning modules. Indeed, these methods had been turned out to be a privileged facility which enables all students and teachers to interact with each other.

Virtual learning has its own charm and calamity. Advantages of getting education system in virtual mode gives the feasibility of time, audience can choose their comfortable time to view the contents. Students can sit back in their place of comfort and access the virtual class contents. The technology gives the advantage of reaching to large audience at one time and we can also get the feedback of the speaker within short span of time by giving the feedback link to the students which can be submitted and analysed in short time. There are few disadvantages also associated with e-learning first, there is always some limitation of technology and the user may not be very friendly with the platform which ultimately results in the inconvenience of learning. Secondly, there is always issue of time management in case of live sessions because one time does not fit to all. Thirdly, there is no personal attention to each candidate as in case of conventional teaching where face to face and personal interaction was possible because of this the quality of education is always compromised. Coming to another disadvantage is network issue here it is noteworthy to mention that not all the regions in Jordan are having good and proper internet connectivity. In e-learning the connectivity of internet should be good enough at both the end i.e., instructor and learners which may be the problem when someone be the part of bad internet geographical regions.

[13] conducted a study and described that the outcome of this pandemic in future would make us more ready to deal with similar kind of universal threat and make us more innovative in educational sector. Therefore, we need to give our prime concern on the efficient utilisation of e-learning and highlight some of the associated drawbacks so that in future it may be practiced in more efficient manner.

Methodology

To understand the efficient utilisation of e-learning an online survey technique was used in the present research work. Here, a Google survey form was created which included thirty questions and the responses were collected by issuing the link of the survey form to students of college and university in Jordan. These thirty questions were analysed in the form of Q_1 to Q_{30} which is mention in Table

1. The total of 880 samples was considered for the present study. The questions in the Google form were put in such a manner that it included all the aspect of online learning and its hindrances. The responses were collected from the students from different social media platforms like WhatsApp, Facebook, LinkedIn, and open source learning management system called Moodle in the form of Yes (Y) or No (N) option which were provided in the Google form. Once the responses were received from the different sources then it is analysed to understand its efficiency in e-learning.

Table 1. Preparation of Questionnaire

Sl. No.	Questions	Questionnaire	Responses
1.	Q1	I can use Laptop or Computer.	Y/N
2.	Q2	I can access computer on regular basis when required.	Y/N
3.	Q3	I have internet connection in my computer.	Y/N
4.	Q4	I have the habit of attending Library on regular basis.	Y/N
5.	Q5	I welcome the habit of making handwritten notes.	Y/N
6.	Q6	I am not very comfortable with keyboard typing.	Y/N
7.	Q7	I can spend 20 hours per week during the daytime for my online studies.	Y/N
8.	Q8	Downloading and installing software on my computer is an easy task for me.	Y/N
9.	Q9	I like to work independently.	Y/N
10.	Q10	I am a postponer when it comes to schoolwork and deadlines.	Y/N
11.	Q11	I can easily spend lot of time on computer.	Y/N
12.	Q12	I am friendly with E-mail and a web browser.	Y/N
13.	Q13	I am comfortable if I don't have to meet my tutor or classmates in person.	Y/N
14.	Q14	I am happy that I don't have to drive/ride to college/University.	Y/N
15.	Q15	I can host class on getting good feedback from my teachers.	Y/N
16.	Q16	I will ask doubt or question in online class without hesitation.	Y/N
17.	Q17	I would like to attend classes at different location and time instead of being tied to a set time and place.	Y/N
18.	Q18	It would be exciting to attend classes with students across Jordan.	Y/N
19.	Q19	I want to adapt new technologies which help in learning and problem solving.	Y/N
20.	Q20	I am confident that quality based learning can take place without face-to-face interaction.	Y/N
21.	Q21	I find that the Learning objectives and Learning outcomes of course is not affected in e-classes.	Y/N
22.	Q22	Online lectures have not affected my learning.	Y/N
23.	Q23	I feel more self-disciplined and self-motivated.	Y/N
24.	Q24	I think nonverbal and behavioural cues are an important part of expression.	Y/N
25.	Q25	I find there is a sense of lack of identity and affirmation.	Y/N
26.	Q26	I have uncertainty about the career aspect.	Y/N
27.	Q27	I am less distracted while attending e-classes.	Y/N
28.	Q28	I am more engaged in online discussions compared to face-face lectures.	Y/N
29.	Q29	I have no uncertainty in understanding and determining academic needs.	Y/N
30.	Q30	I think online lectures may not affect my ability of intrapersonal expression and interaction.	Y/N

Results and Discussion

The responses from the Google form is analysed in the form of percentage which is depicted in Table 2 and the same representation in the form of pie chart is shown in the appendix. The highest "yes" response of 83% is received by the Q_1 which shows the availability of laptop or computer is quite enough in the study circle of Jordan. In Table 2, it is clear that, almost 81% of the students have the internet connection their computer in different part of Jordan which means e-learning can be implemented here without much difficulty. Further, the 60.2% (Q_{13}) of the students tick "NO" when it was asked that whether they are comfortable in study if they don't have to meet the tutor in the person. This shows the importances of physical learning process where a learner can directly ask the question form his/her tutor. A mix response of 50%-50% (Q_{22}) is received when it was asked that whether the online study is affecting the learning of the learner, this shows that a plenty of work need to be done in the online learning system so that it can provide an efficient E-learning mechanism to the students of the Jordan. The received responses from various samples are
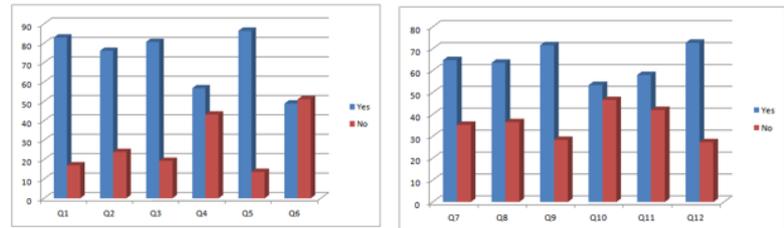
Table 2. Responses of the Questionnaire

| Sl. No.	Questions	Responses in Percentage	
		Yes	No
1.	Q1	83	17
2.	Q2	76.1	23.9
3.	Q3	80.7	19.3
4.	Q4	56.8	43.2
5.	Q5	86.4	13.6
6.	Q6	48.9	51.1
7.	Q7	64.8	35.2
8.	Q8	63.6	36.4
9.	Q9	71.6	28.4
10	Q10	53.4	46.6
11	Q11	58	42
12	Q12	72.7	27.3
13	Q13	39.8	60.2
14	Q14	40.9	59.1
15	Q15	72.7	27.3
16	Q16	69.3	30.7
17	Q17	62.5	37.5
18	Q18	77.3	22.7
19	Q19	72.7	27.3
20	Q20	63.6	36.4
21	Q21	51.1	48.9
22	Q22	50	50
23	Q23	59.1	40.9
24	Q24	65.9	34.1
25	Q25	62.5	37.5
26	Q26	61.4	38.6
27	Q27	63.6	36.4
28	Q28	56.8	43.2
29	Q29	63.6	36.4
30	Q30	64.8	35.2

e-learning class. There is a lot of positive signs which were also observed, it the favour of online classes which can be seen by Table 2. Despite of many advantages in online learning, there are some important issues such as, Q_4, Q_6, Q_9, Q_{10}, Q_{11}, Q_{12}, Q_{21}, Q_{22} and Q_{23} need to be addressed for efficient utilisation of online e-learning mechanism in future.
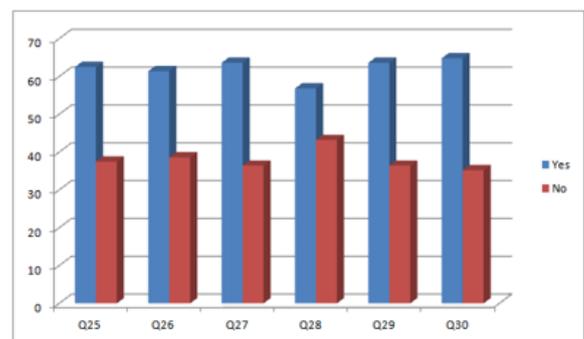
Figure 1. Responses of questionnaires from Q_1 to Q_{12}

Figure 2. Responses of questionnaires from Q_{13} to Q_{24}
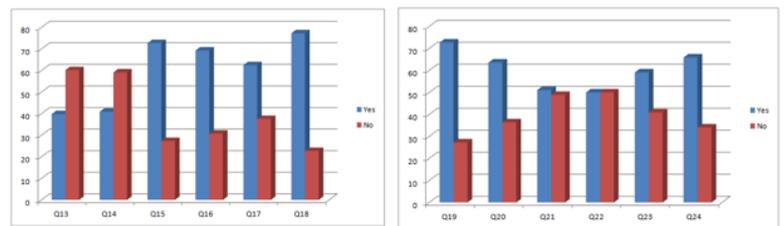
Figure 3. Responses of questionnaires from Q_{25} to Q_{30}

Conclusions

In the present study, the responses from 880 students across Jordan for 30 questionnaires through Google forms collected from different resources are secured. Precise conclusion could be drawn for different aspects of learning and teaching through online platforms. Few key responses to be highlighted here are that majority of the students had the access to laptop and computer (83%) along with good internet speed (81%) still they were not friendly and comfortable in using tools for studying online. Online lectures are good in many ways but at the same time there is indeed a need of physical interaction between teacher and students for better learning and understanding which could be seen by responses with 49.9%. There is equal number of students who felt that their learning was not affected by

chart. Nearly, 49% (Q_{21}) of the student group were thinking that their course objective and outcomes were not properly addressed in the present e-learning system. This is attributed due to the non-performance of laboratory work in the e-learning system. To address the laboratory-oriented topic is the biggest challenge in the present e-learning system. There is a need to address this problem in order to get the efficient e-learning mechanism. During e-learning students are not supposed to attend the library which creates a physiological impact when they were attending the online education session. Here, almost 44% (Q_4) students were having the habit to visit the library on the regular basis. Also, arranging the study material (especially old literatures) which was not easily available in the online platform is very difficult thus a comfortable learning environment need to be developed to promote such things so that e-learning mechanism can be utilised efficiently. Moreover, many students find difficulties (42% Q_{11}) when they asked to seat in front of the system for long time, this degrading the efficiency of

online lectures 50%. In the similar manner there were almost equal number of students who felt face to face interaction was important in teaching. Therefore, it can be easily concluded that although technology can help us to fill the gap of learning still there is necessity of physical interaction between students and teachers in the present context of Jordan.

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