IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Attitude Of Nursing Undergraduates Of Farasan Island Towards Synchronous E-Learning During Current Pandemic SARS COV-2

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Abstract

Background: The SARS COV-2 pandemic has led to a disruption of synchronous education in the classrooms throughout the world. In this situation, E-learning has been a boon for sustenance of continued uninterrupted teaching and learning processes without geographical restrictions. However, E-learning is a novel experience for majority of students.

Aim: The study was therefore, conducted with the aim to investigate the attitude of nursing students in Farasan, Jazan University, KSA towards e-learning to evaluate if e-learning enables students to continue their education similar to the traditional approach during this global health crisis (SARS COV-2).

Methodology: A cross-sectional survey was carried out using online Google survey questionnaire with 5-point's likert's scale. The study had 228 nursing students (aged between 19-23 years) from Department of Nursing, Farasan University College. The students were from different academic years during the academic semester 2020-2021. The survey questionnaire focused on student's attitude towards synchronized E-learning and had multiple questions that made up a score that reflects their attitude towards synchronized online learning experience during current situation of SARS Cov-2 precautions. The study was focused on research investigating if e-learning enables students to continue their education similar to the traditional approach.

The survey was voluntarily, and all data were collected and recorded via Google forms with maintaining high levels of anonymity. Since the study does not require any kind of sampling from human body directly and indirectly, informed consent was considered as the ethical approval form.

Descriptive statistics was performed for data analyses. Spearman correlation was applied to find statistical difference between different variables of the study. Statistical significance was fixed at P-value <0.05.

Results: The results revealed that The college administration maintained all strings attached between faculty, students, and the administrative assistants and closely monitored all educational activities Despite its several benefits, students are of opinion of hybrid teaching sessions as they feel that E-learning alone cannot compensate with the psychomotor skills they develop during actual laboratory sessions and also the cognitive skills which they develop during actual seminar presentation in front of audience and Instructors/Faculties.

Overall, 68.6% of students had negative attitudes towards exclusive online laboratory sessions and seminar presentation. Highest level of unsatisfaction was recorded for the final year students (56.6%) and the lowest level of total negative attitude was noted among academic students in the first and second year students (12%) using e-learning. However, network issues remained as one of the most common reasons of the negative attitude among students at all levels who belong to remote areas (31.1%).

Conclusions and Recommendations: Students' feedback can help institutions to improve the exclusive e-learning experience for students in the time of the pandemic. Since synchronized e-learning at this large scale is a new experience for student's community, the outcomes of the study could be helpful to plan a systematic strategy for further improvement of e-learning. A moderately negative correlation was found between e-learning and the attitudes (r=-0.564). Students' feedback as the outcomes of present study could help to chalk out plans for future.

Key words: E-learning, Farasan Island, Nursing undergraduates, Synchronous, SARS Cov-2

Introduction

Current pandemic has forced the world to fully adopt online teaching and learning strategies in the academic semester of 2019-2020 till uncertainty. Various professional entrance examinations had been suspended globally in view of this pandemic. Universities around the world are now trying to make the most of the technological revolution and provide a better educational learning environment for different stakeholders. During the current SARS COV-2 pandemic, Kingdom of Saudi Arabia has been proactive in implementing disease containment measures and working to meet the communities need and demands in a very short time (Hilton, 2020) and declared the shift of the regular on-campus teaching and learning activities to e-learning system on March 9th, 2020. The Kingdom of Saudi Arabia (KSA) has witnessed unprecedented growth in higher education and E-learning in recent times. In the last five years, a national center for E-learning has been established; and E-units or departments have been set-up in almost every university (Al-Sheri, 2010).

It is currently estimated that 30, 260, 000 people in Kingdome of Saudi Arabia (89% of the population) use the internet, 96% of the population uses smartphones (Digital Saudi Arabia 2019, URL http://www.slideshare.net/DataReportal/), and the majority of the population now has access to smartphones, laptop computers, desktop computers, and tablets; therefore, digital service provision was much easier in KSA and had aided the mitigation efforts established by the government.

In this connection, the Ministry of Higher Education has provided the Universities with all facilities for the sustenance of teaching and learning smoothly during this time of global health crisis. Blackboard Collaborate Ultra was mainly utilized as a real time videoconferencing tool for all online teaching and learning activities in most of the Saudi Universities. Online exams, homework, and quizzes were fully implemented at full scale within the Blackboard environment. Faculties and students were given timely training by conducting online workshop sessions. Moreover, zoom app is also being used for various workshop sessions with student, and faculties and all types of academic counseling and community service activities.

Online learning is the use of internet and some other important technologies to develop materials for educational purposes, instructional delivery and management of program (Fry, 2001). Hrastinski (2008) stated that the two types of online learning, namely asynchronous and synchronous online learning, are majorly compared but for online learning to be effective and efficient, instructors, organizations and institutions must have comprehensive understanding of the benefits and limitations.

Effective online education consists of online teaching and learning, boosting of several research works, principles, prototypes, theories, ethics and appraisal of benchmark concentrations on quality online course design, teaching and learning (Hodges et al., 2020; Bozkurt & Sharma, 2020), since it has been confirmed that effective online learning is a byproduct of cautious design and planning of instruction with the application of organized model for designing and development of instruction (Branch & Dousay, 2015). The absence of the cautious design and development process (Branch & Dousay, 2015) in the migration process gave birth to the rejection of the contemporary online education experience during this pandemic as effective online education but rather as emergency remote teaching (Bozkurt & Sharma, 2020; Hodges et al., 2020; Vlachopoulos, 2020).

Teaching and learning related to the subjects such as Science, medical science and Nursing professions rely mainly on different traditional and student-centered teaching methodologies involving didactic/synchronous lectures sessions, seminars, experiential and practical training, laboratory sessions, as well as team and problem-based techniques such as small group discussions (Blouin et al., 2008; Imanieh et al., 2013; Galvao et al., 2014). Didactic lectures can be conducted in either a traditional class-room way (face-to face-learning) or through the virtual online learning, if it is the only available method of teaching, that is, when academic institutions shift to virtual platforms exclusively. The quality is expected to be comparable and the attainment of learning outcomes is not expected to be compromised. However, other teaching and learning activities cannot meet their learning outcomes without an effective physical, and social, interaction between the instructor and learners and between learners themselves.

The schedule flexibility is, without no doubt, an important advantage, the student having the opportunity to learn irrespective of his location and time. Reducing costs is another benefit together with time saving, in case of students who are commuting or involved in part-time job. E-learning allows students to adapt their learning schedule according their job schedule. Still, there are certain disadvantages which are connected to technical aspects of the e-learning system, related to the availability of certain technologies not only for learning institutions, but also for students. In spite of its multiple advantages there are quite a few limitations of e-learning such as social isolation, lack of student-teacher interaction and connectivity issues.

Dowling et al. (2003) argue that making learning materials available online results in improved learning results only for specific forms of collective assessment. Also, Mayes (2002) asked a question of whether e-Learning is simply a support device for existing methods of learning. The most noticeable condemnation of e-Learning is the complete absence of vital personal interactions, not only between learners and instructors, but also among colleague learners (Arkrful & Abaidoo, 2014; Young, 1997; Burdman, 1998). Moreover, an important disadvantage concerns students' abilities to use it efficiently the technology.

The basic abilities needed by a student entering an e-learning program refer to use of writing software, internet browsing, and email communication. If these are missing, learning efficiency through e-learning diminishes, the student having to face a stressful feeling, which can turn into frustration and insecurity. These emotions influencing the student's attitude toward e-learning usually appear due to the lack of human interaction with colleagues and especially with their professors who can induce a certain discipline of working for students, establishing rules, dead-lines, evaluation systems throughout the whole period of learning. For this reason, students with low motivation, not being constraint by the presence of a professor as in traditional system, cannot adapt easily to e-learning.

Farasan is a beautiful Island, located about 40 kilometers offshore from the city of Jazan. It is close to being registered under UNESCO's Man and Biosphere Program. It has a vast educational institute; University College Farasan-Province with a well-established Department of Nursing, affiliated to Jazan University.

Despite all its beauty and natural wealth, scientifically it has been less studied (Faqhi & Sayed, 2021) and there is an absolute lack of published information about nursing students' attitude towards e-learning in this time of SARS COV-2. For these reasons, present study was undertaken to generate the data on students' attitude towards e-learning in Farasan Campus. Data would be of high significance in further improvement, planning and quality assurance of teaching and learning process.

Methodology

In this study, we used the feedback questionnaire results of 228 students (aged between 19-23 years) of Department of Nursing. The study was focused on research investigating if e-learning enables students to continue their education similar to the traditional on-campus approach. Demographic information of study participants are provided in Table 1.

Study design

A descriptive, cross-sectional research design was utilized.

Study Setting

The study was conducted at Department of Nursing, University College Farasan Campus, Jazan University, KSA.

Variables of the Study

Independent variables were the evaluation points of questionnaire whereas Attitude towards e-learning was the Dependent Variable

Subjects

A random sample technique was employed during the academic year 2020-2021.

Inclusion Criteria

Nursing students enrolled in the academic year 2020-2021 and who were willing to participate.

Exclusion Criteria

Students who were reluctant or unwilling to participate were excluded from the study and those which were of non-nursing subjects.

Tools for Data Collection

To fulfill the aim of the study, online Google questionnaires were developed by researchers which were used as tool for data collection.

Questionnaire design

The survey contained 17 likert's-scale based questions on demographic information of the participants and their attitudes toward online education, prior experience, and barriers to use online education tools. The survey questions were developed after extensive review of the literature on the issue (Abbasi et al., 2020; Al Qahtani et al., 2020; Al-Sheikh 2020; Diayb & Elgahsh, 2020; Khalil et al., 2020; Puljak et al., 2020).

Data collection

Data were collected from mid of October 2020 until end of November 2020. Student participants were asked to complete an online self-reporting questionnaire to facilitate the distribution process and increase efficiency of data collection. Participants were sent the link of the questionnaire alongwith the informed consent on their WhatsApp group. The informed consent had a clear statement informing that their identities will remain anonymous to the research team to maintain privacy and that their responses will be strictly confidential and will be used for research purposes exclusively. The informed consent form that was attached in the first page

of the survey included detailed information about the purpose of the study, risks, and benefits associated with the study. The consent statement also informed the recipients about the researchers' name and contact details through WhatsApp. The statement also clearly mentioned that their participation is exclusively optional. Recipients who began a survey were informed that they could quit participating at any time with no consequences.

Scoring system

The subjects' response was rated on a five-point Likert's Scale from "1" (strongly disagree) to "5" (strongly agree). The score of the items was summed-up and the total divided by the number of the items, giving a mean score for student attitudes toward e-learning. These scores were converted into a percent score. The scores of less than 60% were considered negative attitudes, while the scores of 60% and more were considered positive attitudes toward e-learning, Likert's scale-based questions were used to assess the attitudes of students. The questions are listed in Table 2.

Ethical approval

The study was conducted with careful attention to ethical standards of research and rights of the participants to accept or decline to participate in the study. A clear statement was mentioned in the informed consent that the participant's information will be treated with full confidentiality and will be used only for the research purpose. The respondents' anonymity was maintained as they weren't required to mention their names. Since the study does not require any kind of sampling from human body directly and indirectly, informed consent was considered as the ethical approval form.

Statistical Analysis

The data were collected and tabulated into the personal computer for descriptive statistics. Statistical analysis was done using Statistical Package for Social Science (MS Excel 2010; SPSS version 17, Illnois, USA). Quantitative data were expressed as mean and standard deviation (X±SD). Qualitative data were expressed as Frequencies and percentages. A comparison was performed using chi-square test and ANOVA test. Correlation between variables was evaluated using spearman's Pearson's correlation coefficient (r). Chronbach's Alpha (Reliability-test) was also computed for all measurements of questionnaire. P-value at <0.05 was used to determine the level of significance.

Results

The results revealed that the college administration maintained all strings attached between faculty, students, and the administrative assistants and closely monitored all educational activities Despite its several benefits, students are of opinion of hybrid teaching sessions as they feel that E-learning alone cannot compensate with the psychomotor skills they develop during actual laboratory sessions and also the cognitive skills which they develop during actual seminar presentation in front of audience and Instructors/Faculties.

Overall, 68.6% of students had negative attitudes towards online laboratory and seminar presentation sessions (Table 3 & Figure 1). Highest level of unsatisfaction was recorded for the final year students (68.12%) and the lowest level of total negative attitude was noted among academic students in the first and second year students (12%) using e-learning. However, network issues remained the most common reason of the negative attitude among students at all levels that belong to remote areas (31.1%).

Discussions

The SARS COV-2 is the greatest challenge that educational systems have ever coped with (Daniel, 2020) and many governments worldwide have switched over the educational institutions to online teaching almost overnight. In this situation, E-learning tools have played a crucial role during this pandemic, helping schools and universities facilitate student learning during the closure of universities and schools (Subedi et al., 2020). The learners with a fixed mindset find difficulties to adapt and adjust, whereas the learners with a growth mindset quickly adapt to a new learning environment. There is no one-size-fits-all pedagogy for online learning. There are a variety of subjects with varying needs. Different subjects and age groups require different approaches to online learning (Doucet et al., 2020). Online learning cannot be effectively and efficiently applied in some disciplines and this compatibility gap is yet to be filled (Leszczyński et al., 2018).

Nursing program of Jazan University consists of nearly 40 different courses including the course of English language. Some courses as Pediatrics, Obs & Gyne, Infectious diseases, Medical Microbiology, Biochemistry and Biology for Health Specialties are solely dependent on laboratory sessions for their practical part. Such courses cannot go exclusively online and hence blended teaching could be adopted for theses course. Also, to hone up the cognitive and psychomotor skills among the students, the laboratory sessions and seminars need actual sessions rather than virtual one. Students from remote areas and marginalized sections mainly face enormous challenges for the study during this pandemic. This study suggests targeted interventions to create a positive space for study among students from the vulnerable section of society. Remote area students faced technical obstacles as network issues due to bleak network in many of the remote areas and the consequent interruptions in joining the synchronous lecture sessions and the impediment to following lessons.

In the beginning of the SARS COV-2 pandemic, none of the universities however, were ready for a complete shift to online education. The use of suitable and relevant pedagogy for online education may depend on the expertise and exposure to information and communications technology for both educators and the learners. Some of the online platforms used so far include unified communication and collaboration platforms such as Microsoft Teams, Google Classroom, Canvas and Blackboard, which allow the teachers to create educational courses, training and skill development programmes (Petrie, 2020). They include options of workplace chat, video meeting and file storage that keep classes organized and easy to work. They usually support the sharing of a variety of content like Word, PDF, Excel file, audio, videos and many more. These also allow the tracking of student learning and assessment by using quizzes and the rubric-based assessment of submitted assignments. These platforms have become very effective way of encouraging skills such as problem-solving, critical thinking and self-directed learning.

In present study, 68.12% of the respondents supported hybrid teaching as they are of the opinion that they learn and develop skills better in on-campus lecture sessions. The outcomes of the present study are in line with various other studies which have also found that students feel that they learn better in physical classrooms than through online education (Bojovic et al., 2020). Students miss the help they receive from their peers in classrooms and laboratories and access to library (Patricia, 2020). Nevertheless, students feel that online education helped them to continue their study during the pandemic (Mishra et al., 2020). Universities are now using innovative strategies to ensure continuity of education for their students (Zhu & Liu, 2020).

One of the major difficulties of on-line teaching are associated with the issues related to security and confidentiality of exams and other data, which might affect the courses and exams and their results, and this is confirmed by the literature (Chen & He, 2013). During the performance of electronic exams, the professors cannot guarantee that the student is not trying to cheat, and the professor cannot guarantee that the one who takes the exam is the student herself and not someone else.

The curricula could be revised to incorporate the blended learning program. Since Professors are accustomed to teach in physical classrooms and most of them had no experience of teaching online before this pandemic, they have learnt new techniques and adjusted to online teaching in the last 6 months (Mahmood, 2020).

In modern educational environments, success of distance learning depends, in a great level, on the perceptions of teachers as many of them have doubts about the effectiveness of online- education, using as argument restrictions regarding time factors and technical problems (Anderson & Dron, 2011; Hung, 2016). It is, therefore, necessary to help faculties by providing regular feedback about the quality assessment of online education (Meyer & Barefield, 2010) because their beliefs in higher education system about the transition to e-learning will remain inadequate without satisfying these needs (Leontyeva, 2018).

Another recommendation is to identify possible factors affecting the satisfaction of both educators and learners about e-learning, and to create and validate an instrument that could be used to measure faculty and student's satisfaction within the context of the e- learning system.

Conclusion

Students' feedbacks are highly valuable and can definitely help institutions to improve the exclusive e-learning experience for students in the time of the pandemic. Many countries have substantial issues with a reliable Internet connection and access to digital devices.

Recommendations

Since e-learning at this large scale is a new experience for student's community, the outcomes of the study could also be helpful to plan a systematic strategy for further improvement of e-learning. Occasional peer review of online-lectures, peer to peer discussion on tools and techniques for online education could be of great value to professors for further improvement of synchronous e-learning teaching and learning sessions.

Online education has come in to save academic year of many students and educational institutes globally should implement an online learning programme into their systems to deal with unprecedented situations. Practically, this study will help the government and policymakers identify the student's mental well-being and take more appropriate action to address these issues.

Remote areas students should be helped with scholarships or the free data package schemes with high bandwidth so that their learning satisfaction does not compromise due to quality of network access and use. Also, adequate funding is necessary so that stakeholders may develop the technological skills by joining various national and international workshops.

Availability of Data Materials

The data that support the findings of this study are available from the corresponding author upon reasonable request/in according to the Journal's norms. The study was conducted under ethical guidelines. Since the study does not require any kind of sampling from human body directly and indirectly, informed consent was considered as the ethical approval form.

Funding

The study is not funded from any government or private sector

Conflict of Interest

Not applicable

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Appendices

N= Number
KSA= Kingdom of Saudi Arabia
f= Frequency

Table 1.

Demographic characteristics of study participants (N=228)

Demographic Characteristics	**Frequency (f)**	**Percentage (%)**	***P*-value**
	No.	%	
Mean age (19±3 year)			
≤20 year	107	47	<0.052
>20 year	121	53	<0.023
Gender			
Male	-	-	-
Female	*228*	*100*	<0.014
Residence			
Local city (Farasan)	144	63	<0.23
Non-local (Outside Farasan)	84	37	<2.80
Academic Semester (Ist)	2020-2021		
StudyYear			
1st	21	10	<0.042
2nd	22	13	<0.013
3rd	34	44	<0.013
4th	77	66	<0.013
5th	66	77	<0.013
6th	88	54	<0.013
7th	55	65	<0.013
8th	77	66	<0.013

P<0.05 is statistically significant

Table 2.

Attitude of study participants towards e-learning (N=228)

Items	Strongly agree N (%)	Agree N (%)	Neutral N (%)	Disagree N (%)	Strongly disagree N (%)
During SARS COV-2, the e-learning system provided by University has been highly beneficial for us to access continued learning	89	7	3	1	0
University has adequately executed e-learning system using Blackboard Ultra	89	9	0	2	0
During this pandemic, we are benefited from University's e-learning platform	74	12	1	12	1
E- courses available on e-learning web portals are an important reference for me	76	9	8	7	0
University/College has provided enough training within the campus both Actual and online to use the e-learning system.	81	15	0	4	0

Whenever needed, I get technical support from the IT section by the highly skilled e-learning committee of the college/university.	71	3	5	11	10
Discussion forums are considered an important part of e-learning system	66	12	12	10	0
Recorded lectures help compensate for the virtual class.	75	20	5	0	0
Guidelines and instructions on Deanship of e-learning website help the use of e-learning portals.	91	5	0	4	0
The instructions are easy to understand (user-friendly)	87	3	9	1	0
Instructors interact with their students through e-learning web portals.	95	2	3	0	0
Instructors provide feedbacks on e-courses	50	30	8	12	0
The E-learning system in the University is very easy.	97	3	0	0	0
Resources and activities published on e-learning web portals are useful and relevant	88	12	0	0	0
The communication system used by the University via SMS is efficient and good.	98	2	0	0	0
The virtual classroom system by Blackboard is a good system.	88	2	0	10	0
E-learning cannot compensate with our psychomotor skills we develop during actual laboratory sessions	29	2	1	59	9
E-learning is not that much beneficial for cognitive skills we develop during actual seminar presentation was	49	5	0	46	0
We feel the need of actual classroom along with the e-learning platform	77	11	0	12	0

Table 3.

Satisfied study participants percentages (N=228)

Studies	Satisfied (%)
Abbasi et al. 2020	77%
Amir et al. 2020	65%
Qazi et al. 2020	50%
Zwilling et al. 2020	40%
Present Study	31.4%

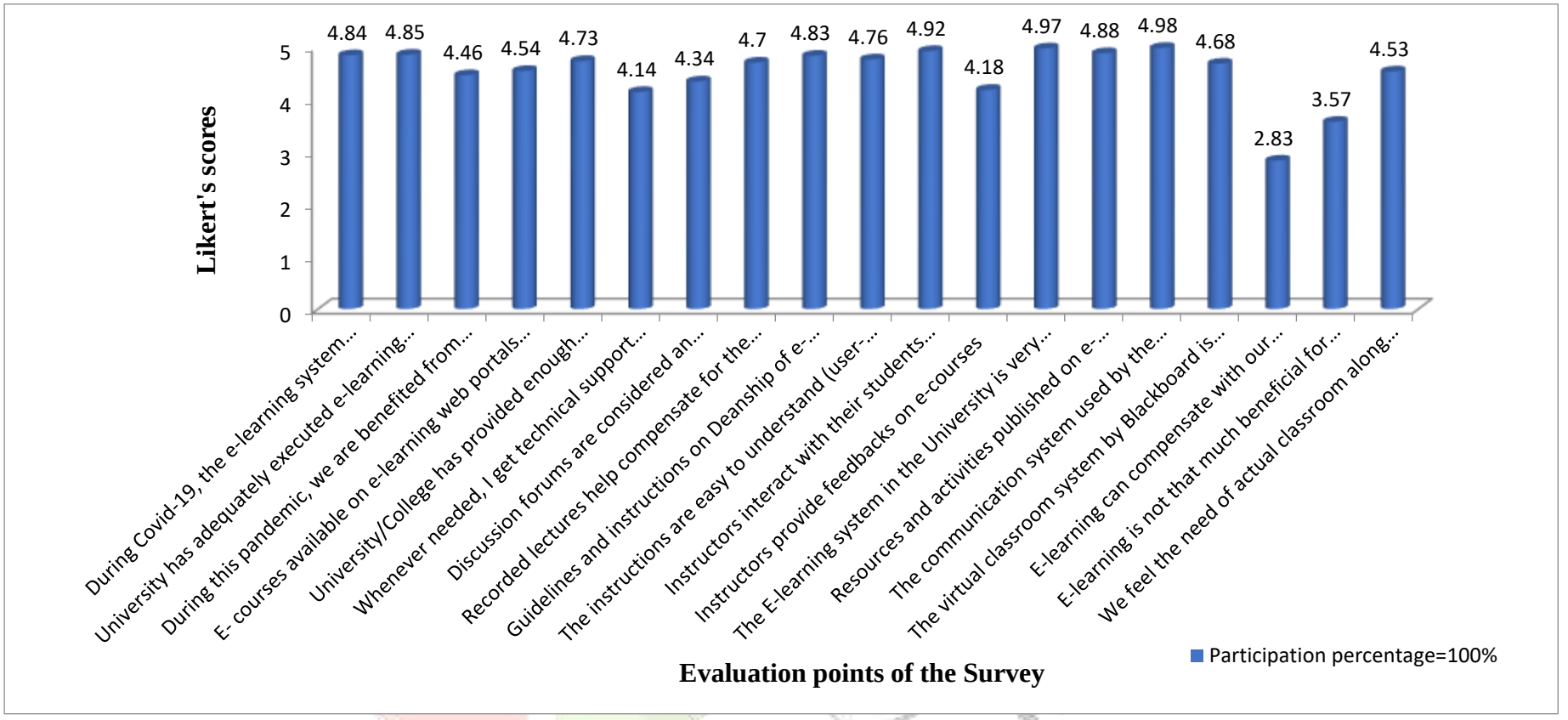
Likert's scores
0
1
2
3
4
5
4.84
4.85
4.46
4.54
4.73
4.14
4.34
4.7
4.83
4.76
4.92
4.18
4.97
4.88
4.98
4.68
2.83
3.57
4.53
During Covid-19, the e-learning system...
University has adequately executed e-learning...
During this pandemic, we are benefited from...
E- courses available on e-learning web portals...
University/College has provided enough...
Whenever needed, I get technical support...
Discussion forums are considered an...
Recorded lectures help compensate for the...
Guidelines and instructions on Deanship of e-...
The instructions are easy to understand (user-...
Instructors interact with their students...
Instructors provide feedbacks on e-courses
The E-learning system in the University is very...
Resources and activities published on e-...
The communication system used by the...
The virtual classroom system by Blackboard is...
E-learning can compensate with our...
E-learning is not that much beneficial for...
We feel the need of actual classroom along...
Participation percentage=100%
Evaluation points of the Survey

Figure 1