

COVID-19 AND THE CHALLENGES OF E-LEARNING IN, SINDH PAKISTAN.

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ABSTRACT

OBJECTIVE: to have a well improved understanding of the attitude of students for the effectiveness of E- learning in higher education institutes in Hyderabad, Sindh, Pakistan. **METHADODOLOGY:** A short descriptive survey was conducted from May to June 2020 in three universities of district Jamshoro. The study population was selected by using simple random sampling technique. Total 450 students were selected for this study. A self-structured questionnaire was structured for this study. An online data collection was done from these university students. **RESULTS:** 450 total study population, with 150 MBBS, students, and 120, engineering students, MBBS, 180 social science students. Female participants (62.2%), mean \pm STD 1.4 \pm 0.49 of total study population and (37.3%) mean \pm STD 1.1 \pm 0.4, are males, usage of mobile phones being 340(75.6%) of total study population. with a total of 73(16.2%) of total population utilizing laptops for online classes, usage of desktops for online classes is restricted to 24% of study population, The gadget this is least used by university students is the tablets 24(5.3%). The satisfaction with e- learning was observed in 8.9%, quality of learning material was appreciated by 44.4% the class preparation was appreciated by 96.4%, student's population of 82.4 complained for teacher student interaction. lack of mental alertness was reported by 57.1%. **CONCLUSION:** E-learning, that covers education beyond the classroom, is inadequate in universities of Sindh, in the context of accessibility to the internet, electricity crises, the interaction of students and teachers, as well as the ability to question in these online classrooms.

KEY WORDS: E-learning, Higher Education, Accessibility, Students interaction

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INTRODUCTION

The World Health Organization (WHO), Statistics reveals that the outbreak of viral ailments signify a grave problem to community well-being, which include (SARS-Cov) severe acute respiratory syndrome coronavirus in 2002 to 2003,¹ and in 2009, H1N1 influenza². In 2012 Saudi Arabia (MERS-Cov)³ the Middle East respiratory syndrome coronavirus was identified. In 2019 on December 31st, an epidemic with unexplained low respiratory infections detected in Wuhan, was reported to the WHO as "pneumonia of unknown etiology." On February 11, 2020, the WHO Director-General, Dr. Tedros Adhanom Ghebreyesus, declared this as (COVID-19)⁴ The spread of coronavirus COVID-19 has immense influence on society, it became unescapable and is a threat for education.⁵ Almost all the educational institutes, universities are closed and classes are suspended, and lab practices stopped to prevent the widespread transmission.⁶ Some universities and institutes have adopted the online, distance or electronic learning (E-learning) over traditional type of

'in-person' lectures.⁷ Distant learning require a software for dispensing, pursuing, and handling of learning material over the Internet.⁸ In third world countries like Pakistan few institutes have the required technological support and infrastructure to adopt the online learning with ease, but in remote areas this shift will can add up on already existing burdens for learners and teachers both in the delivery of education.⁹ The COVID-19 pandemic has resulted in a substantial dependence on usage of online learning. So it is necessary to evaluate its effectiveness in providing students with quality education¹⁰

OBJECTIVE: The objective of this descriptive study is to have a well improved understanding of the discernments and attitude of students for the effectiveness of E- learning in higher education institutes in Hyderabad, Sindh, Pakistan.

METHODOLOGY:

A short descriptive survey was conducted from May to June 2020 in three universities of district Jamshoro. Ethical approval for this study was taken from ethical review board of Physiology University of Sindh (Ref No116/20.)The study population was selected by using simple random sampling technique. Total 450 students were selected for this study,120 students were selected from Mehran university,150 students were selected from Liaquat University of medical and health sciences, and 180 students were selected from Sindh university. A self-structured questionnaire was structured for this study,an online data collection was done from these university students, by the questionnaire asit simplifies the data collection from large study population in short period of time. The questionnaire was simplified to avoid errors and doubts, the confusing questions were avoided.

The questionnaire contains three sections. The total participation, the male to female ratio from each institute, was included in first portion, the preferred gadgets for the currently available learning methods by the students and its reliability, and shortcomings was taken into second portion. The last portion of the questionnaire addressed the perception of students about e- learning, and its comparison to traditional teaching.

Sampling technique: Randomized sampling technique.

Duration of study: From May 2020 to June 2020

Statistical analysis: The Data was entered in Excel sheet and also in SPSS 22.0 version. ANOVA, Binary Logistic Regression was applied and are shown as percentages and proportions.

RESULTS

In Table -1, it is shown that both the medical and engineering students representation in responding the questionnaire is close to one another, with 150 MBBS, students, and 120, engineering students, MBBS, respondents slightly more than engineering, the response of social science students is greater among all three study groups, i.e., 180 respondents. Females greatly surpassed males, in responses as (62.2%), mean \pm STD 1.4 \pm 0.49 of total study population are females, and (37.3%) mean \pm STD 1.1 \pm 0.4, are males. The total study population mean \pm STD 1.6 \pm 0.5 with a p-value of <0.005.

Table-1 Distribution of study participants

	MBBS	Engineering	Social Scien	Mean \pm ST	P-value
Females	90(60%)	48(40%)	145(80.1%)	1.4 \pm 0.49	<0.005
Males	60(40%)	72(60%)	36(19.9%)	1.1 \pm 0.4	
Total	150	180	120	1.6 \pm 0.5	

In table -2,The frequency of multiple gadgets usage is given, with mobile phones, being the most abundantly used gadget to access the e- learning, with 117(78%) of MBBS students,96(80%) of engineering, and 127(70.6%) of social sciences students, The overall usage of mobile phones being340(75.6%) of total study population. After mobile phones thelaptops are widely used by the students, 18(12.0%) MBBS students, 16(13.3%) engineering students and 39(21.7%) of social sciences students opted for laptop usage with a total of 73(16.2%) of total population utilizing laptops for online classes.

The usage of desktops for online classes is restricted to 24% of study population, with 11(7.3%) MBBS, students, 6(5.0%) of engineering and 7(3.9%) of social science students only. The gadget this is least used by university students is the tablets 24(5.3%), The MBBS users, 4 (2.7%), engineering users, 2(1.7%) and only 7 (3.9%) social science users.

In Table-3,the feedback of students towards e- learning is shown by percentages of the positive and negative responses and odd ratio, by means of binary logistic regression method.The discrimination of e-learning was found decline odd ratio(OR) and confidential interval (CI) 0.72(0.13-3.64), the student interaction and mental alertness is also found decrease OR (CI) i-e0.94(0.35-1.51) and 0.98(0.23-1.13), whereas quality of e-learning, prepared classes and traditional learning shown increased the OR as shown in Table-3.

In this study it is found that females are more interested in the e-Learning pattern of studies, which is similar to a study suggesting, that females have promising results than males due to their self-regulating learning patterns.¹¹

In this study mobile phones are used by a large number of student population to access online classes, A research conducted in Asian countries also has similar results, indicating mobile phones

DISCUSSION:

In this study mobile phones are used by a large number of student population to access online classes, A research conducted in Asian countries

computers is a must. The reliance on technology is a main hindrance to distance learning. If any malfunction of software

Table-2 Gadgets used by study participants

	Gadget used	Disciplines			Total
		MBB (n=15)	Engineeri (n=120)	Social scien (n=180)	
	mobile	117	96	127	340
		(78%)	(80%)	(70.6%)	(75.6%)
	Laptop	18	16	39	73
		(12.0%)	(13.3%)	(21.7%)	(16.2%)
	Desktop	11	6	7	24
		(7.3%)	(5.0%)	(3.9%)	(5.3%)
tablets	4	2	7	13	
	(2.7%)	(1.7%)	(3.9%)	(2.9%)	
Total		150	120	180	450
		33.3%	26.7%	40.0%	100.0%

also has similar results, indicating mobile phones being an important gadget in facilitating e-Learning.¹² Another study in compliance with this study suggests, that the accessibility of the online class is easy with mobile phones as one can have access to the class anywhere, and will not have to worry about internet and power connections¹³

In third world countries like Pakistan, the access to internet and if it is available then the provision of constant internet connection is always a problem. The lectures are delivered online; the availability of equipment like laptop and In this study only 8.9% of the students are satisfied with the e-learning, which is in disagreement to another study shows most of population are

and hardware, and during, electricity disturbance the accessibility to the lecture is ceased¹⁴ this is true for this study, as preference of laptop 73% is more than that of desktops 24% in this study, as desktops need continuous supply of power.

In this study very small population used the tablets 13% that is also suggested by another study, showing use of tablets in online classes is not great due to its limitations.¹⁵

Table-3 Student feedback towards e-learning

	Response		95% Confidence Interval for OR
Over all Discernment	Positive	24 (5.3%)	0.72(0.13-3.64)
	Negative	426 (94.7%)	
Satisfaction with e-learning	Positive	40 (8.9%)	0.85(0.35-2.67)
	Negative	410(91.1%)	
Quality of e-learning	Positive	200(44.4%)	1(1.67-3.91)
	Negative	250(55.6%)	
Classes well prepared	Positive	434(96.4%)	3(1.52-4.35)
	Negative	16(3.6%)	
Student teacher interaction	Positive	79(17.6%)	0.94(0.35-1.51)
	Negative	371(82.4%)	
e-learning is better	Positive	18(4.0%)	0.56(0.13-0.98)
	Negative	432(96%)	
Traditional learning is better	Positive	420(93.3%)	2(1.32-3.69)
	Negative	30(6.7%)	
Mental alertness	Positive	193(42.9%)	0.98(0.23-1.13)
	Negative	257(57.1%)	

satisfied, because of the engaging environment, and flexibility¹⁶.

One of the previous studies suggest that in e-learning, regulating educational content, exercising duty, avoiding the spreading of resources, growing diverse communications, quick and easy overview of contents, is visibly noticed,¹⁷ which is consistent with our study showing the content of the online classes is well prepared i.e.,96.4%

In this study it is observed that 82.4% learners experience difficulty in student teacher interaction, only 17.6% were satisfied with the student teacher interaction, which is in also observed in another study by Dumford¹⁸ suggesting as there is no interaction in online classes among the students, to gain adequate knowledge by online teaching, one has to remain motivated, and try not to lose his focus.

Difficulty in maintaining communication between teacher and students is observed in this study, which is in favor of the previous research showing, individual contact between learner and teachers is not available in online classes, it is very significant to recognize how to maintain communication in online learning.¹⁹ Another study also suggests, increased chances of distraction observed in online classes, because of lack of any teachers face to face interaction.²⁰

It is also documented in previous studies that students are unable to perform well in online classes, as they can't communicate with teachers as they do in normal study days.²¹

When students are attending the online classes, most of the queries of the students remain unanswered because of difficulty of contacting the teacher.²² In this study lack of mental alertness was reported by (57.1%) of the total study population, which corresponds to another study conducted in Punjab which suggests, limited attention span by the students²³

CONCLUSION:

It is concluded that, E-learning, a web-based knowledge transfer system, that covers education beyond the classroom, is inadequate in universities of Sindh, in the context of accessibility to the internet, electricity crises, the interaction of students and teachers, as well as the ability to question in these online classrooms, the reduced participation is observed, students cannot catch up the lectures they missed, until provided with recordings.

RECOMMENDATIONS:

To implement an effective e-learning course, team work must take place among, technology experts, teaching faculty and students, to help this system become more beneficial for the performance and knowledge of students. Blended education should be used in normal days without pandemic too, to familiarize the students with this pattern of teaching. So as the students and teachers both should be accustomed to switch between traditional and e-learning methods of education.

ETHICS APPROVAL: The ERC gave ethical review approval

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin

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REFERENCES:

1. Habibzadeh P, of ES-T international journal, 2020 undefined. The novel coronavirus: a bird's eye view. ncbi.nlm.nih.gov.
2. Bissel S, Carter C, Wang G, ... SJ-TA journal of, 2019 undefined. Age-Related Pathology Associated with H1N1 A/California/07/2009 Influenza Virus Infection. Elsevier.
3. Alfaraj S, Al-Tawfiq J, Memish Z. Middle East Respiratory Syndrome Coronavirus (MERS-CoV) infection during pregnancy: Report of two cases & review of the literature KEYWORDS. 2019;
4. Cascella M, Rajnik M, Cuomo A, Dulebohn SC, Di Napoli R. Features, Evaluation and Treatment Coronavirus (COVID-19). StatPearls. StatPearls Publishing; 2020.
5. Ferrel M, Cureus JR-, 2020 undefined. The impact of COVID-19 on medical education. ncbi.nlm.nih.gov.
6. Hale T, Angrist N, Kira B, Petherick A, Phillips T, Webster S. Variation in government responses to COVID-19. bsg.ox.ac.uk. 2020.
7. Moran J, Briscoe G, Peglow S. Current Technology in Advancing Medical Education: Perspectives for Learning and Providing Care. Acad Psychiatry. 2018 Dec 1;42(6):796–9.
8. Mukhtar K, Javed K, Arooj M, Sethi A. Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. Pakistan J Med Sci. 2020 May 18;36(COVID19-S4).
9. Sandars J, Correia R, Dankbaar M, de Jong P, Goh PS, Hege I, et al. Twelve tips for rapidly migrating to online learning during the COVID-19 pandemic. MedEdPublish. 2020 Apr 29;9(1).
10. Hodges C, Moore S, Lockee B, Trust T, Bond A. The Difference Between Emergency Remote Teaching and Online Learning. 2020.
11. Volchok E. Differences in the Performance of Male and Female Students in Partially Online Courses at a Community College. Community Coll J Res Pract. 2019 Dec 2;43(12):904–20.
12. Hashim AS, Fatimah W, Ahmad WFW, Jaafar A, Nordin SM. Practitioners' Validation on Effectiveness of Mobile School Model. 2013;
13. Mao C. Research on Undergraduate Students' Usage Satisfaction of Mobile Learning. Creat Educ. 2014 May 15;05(08):614–8.
14. Sadeghi M. A shift from classroom to distance learning: Advantages and limitations. Int J Res English Educ. 2019;4:1–81.
15. J A. Computers in the classroom:

- desktop vs. laptop vs. tablet - Stone Group [Internet]. [cited 2020 Jul 6]. Available from: <https://www.stonegroup.co.uk/insights/computers-in-the-classroom/>
16. Alharbi H. Traditional versus e-learning language lessons courses: a comparative analysis of student perceptions and performance through an Arabic language lessons: a case study Recommended Citation.
 17. Bahramnezhad F, Asgari P, Ghiyasvandian S, Shiri M, Bahramnezhad F. The Learners' Satisfaction of E-learning: A Review Article. *Am J Educ Res.* 2016 Apr 1;4(4):347–52.
 18. Dumford AD, Miller AL. Online learning in higher education: exploring advantages and disadvantages for engagement. *J Comput High Educ.* 2018 Dec 1;30(3):452–65.
 19. Roberts JD, Roberts MG, Tarpey MD, Weekes JC, Thomas CH. The effect of a decaffeinated green tea extract formula on fat oxidation, body composition and exercise performance. *J Int Soc Sports Nutr.* 2015;12(1):1.
 20. Bijeesh N. Advantages and disadvantages of distance learning. 2017;
 21. Nagrale P. Advantages and disadvantages of distance education. 2013;
 22. Srivastava P. Advantages & Disadvantages of E-Education & E-Learning. Vol. 2, NRJP Journals 2018.nrjp.co.in *Journal of Retail Marketing & Distribution Management.* 2018.
 23. Bradbury NA. Attention span during lectures: 8 seconds, 10 minutes, or more? *Adv Physiol Educ.* 2016;40(4):509–13.