COVID-19 and the Future of Online Learning; Perspective of Pakistani Students from Higher Education Institutions (HEIs)

Hafiz Muhammad Ihsan Zafeer[1], Li Yanping[2], Samra Maqbool[3]

[1,2]Shaanxi Normal University, Xi'an China
[3]Zhejiang Normal University, Jinhua, China

ABSTRACT: This study aimed to investigate the experience and satisfaction level of students from higher education institutions (HEIs) of online learning during COVID-19 and to get their perception about the future of online learning in Pakistan. A mixed-method approach was selected in this study. 330 participants participated in the quantitative survey questionnaire, while 4 were selected for semi-structured interviews. All participants were from two public universities located in Punjab, Pakistan. The quantitative findings indicated that most students did not have experience with online learning before the emergence of the pandemic. In comparison, the satisfaction level regarding virtual learning was negative. At the same time, interviews revealed that online learning could be beneficial for students who have bachelors and master's degrees, but the institutions and government should resolve the initial and necessary obstacles. Based on the study's findings, conclusion were presented.

KEYWORDS: COVID-19, online learning, Pakistani students' perceptions, Higher education institutions (HEIs).

I.   INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) proclaimed Coronavirus to be a pandemic [1]. People everywhere are confined to their houses to avoid certain death. Unfortunately, the educational system has been one of the many areas hit hard by the COVID-19 epidemic [2]. Since then, online education (also known as "e-learning") has emerged as a highly debated and contentious issue [3]. As the findings of other countries, Pakistan has documented a significant number of cases of COVID-19. The Higher Education Commission (HEC) of Pakistan and the Federal Government of Pakistan has made it mandatory for students to complete their education through remote study until the COVID-19 issue is resolved [4]. Online learning has been re-established as one of the essential parts of the teaching and learning process in higher education institutions (HEIs) all over the globe due to an extraordinary occurrence [5]. Online learning has replaced face-to-face physical contact as the norm for traditional learning. It has offered reassurance that pupils are not deprived of education and that learning is not suspended during an emergency [6].

One of the most crucial requirements for influencing the destiny of a country is access to high-quality education. Institutions of higher learning have shifted from on-campus to online instruction as a precaution against the COVID-19 epidemic. The coronavirus has had an impact on schools just as it has had an impact on other facets of society. Students were ordered by higher authorities to disengage from society by attending virtual classrooms from the comfort of their own homes [7].

Pakistan belongs to the group of developing states. There are still several regions in Pakistan with little or no Internet connectivity. E-learning is not something that can be accomplished immediately. The vast majority of students have no prior experience with distance education. Many pupils in Pakistan's rural regions have never used a computer, and even fewer have used a cell phone, tablet, or other electronic devices. Many educational institutions in Pakistan, an Asian nation, still perform many of their operations manually. Pakistan's distance education system is severely outdated and needs modernization owing to a lack of technological expertise and up-to-date materials [8].

1.2 Online Learning Trends in Pakistan

Most HEIs use conventional or offline modalities of instruction, whereas online education is less prevalent in Pakistan. Nonetheless, many institutions have adopted other approaches, such as E-learning and web-based learning. In this category, two institutes stand out. In 1974, Allama Iqbal Open University was founded to educate the masses, particularly the working class and those living in remote areas [9]. The Virtual University of Pakistan was established in 2002 to provide affordable education to students across the country Using modern information and communication technologies [10].

Despite the pandemic, these institutes continued to teach and learn online because they had pre-established systems [11]. However, due to the lack of a reliable management structure for adopting online education and general unpreparedness for such situations, many educational institutions could not provide online education to their students during the COVID-19 pandemic [12]. Compared to other countries, developing countries have been less prepared for online learning. There has been an increase in students living in remote Pakistan learning online as traditional teaching modalities have been rapidly replaced by online learning [13]. Understandably, many universities in Pakistan have struggled to overcome the challenges that arose due to COVID-19, as online education had not been a widespread mode of instruction before the outbreak [14]. There has been a limited focus on the effectiveness of online education in the past, despite its ability to allow students to continue their academic pursuits [15].

II. LITERATURE REVIEW

Researchers around the world are paying attention to the outbreak of COVID-19. In addition to affecting students' lives, the pandemic has also affected their education. The educational sector has been the subject of various studies looking at the epidemic's impact [16]. Many countries have seen the advancement of educational technology as a consequence of the pandemic: smartphones, tablets, virtual reality, augmented reality, and broadband internet connectivity have made it possible for online learners to be more productive, adaptive, and accessible [17]. Further, online delivery methods have become a popular method for higher education institutions worldwide [18].

As a form of online learning, it includes animations, simulations, audio, video clips, discussion groups, online mentoring and feedback, and the exchange of resources and learning resources through the internet [19]. Distance education was viewed as effective by 93% of medical students in their final year of study. Additionally, the study highlights some major issues medical students faced during e-learning, such as internet connectivity, student engagement, and faculty training. In contrast, online education is still considered better than traditional education despite the same limitations in another study on medical students [20].

As indicated byAbbasi, Ayoob [21]online education as perceived by students during the lockdown. A survey was conducted, and 382 responses were received. However, students in the medical and dental fields do not prefer online education over on-campus learning, despite technological advancements. The impact of online teaching on ESL students was studied. A total of 100 students' responded, and positive feedback was observed. The result indicates that most students expressed motivation and happiness about this new experience [22].

Mukhtar, Javed [23] Analyzed e-learning during COVID-19 to assess its advantages, limitations, and recommendations. Faculty members and students from a university participated in the case study. As Pakistan's remote learning program is still developing, faculty members need the training to develop study plans to reduce cognitive load and increase interaction.

Although many issues have been discussed in the literature, higher education institutions still have the chance to embrace online learning. COVID-19 has opened many doors of opportunity, and numerous institutions have already adopted e-learning. To take advantage of these opportunities, stakeholders should design online learning strategies now.

As a result, the purpose of this research was to investigate the perceptions and thoughts of students, enrolled in higher education institutions in Pakistan on the potential for online education to grow in the country. The perspectives of the students will help to gain a better understanding of their problems and experiences. The research findings will also assist policymakers in Pakistan's government, academia, and other sectors in formulating policies favorable to online education in future perspective. For this purpose two research questions were design; (1) to know about the experience and satisfaction level of University students regarding online learning during COVID-19? (2) To investigate the perceptions and thoughts of students about online learning in coming future?

III.   METHODOLOGY

A sequential mixed-methods design was selected for this study. The quantitative and qualitative approaches were used together [24, 25]. Scholars believe that acquiring knowledge can only be determined by one scientific method (positivism), and it is not possible to gain access to social reality (interpretivist). So, combining these paradigms is necessary to unravel the truth [26].

3.1 Criteria of Participants/Sample Selection

This study was conducted in Pakistan's Higher Education Institutions (HEIs). The participants were selected with experience attending and being involved in online learning during the Covid-19. The data for this study were collected from two universities in Punjab, Pakistan. Both of these universities are public institutions. The quantitative sample was consisted of 330 participants. While for qualitative sample the interviews were initially scheduled for 8 students. However, due to time constraints, 6 students were screened out. The final sample consists of 4 students who agreed to provide in-depth interviews.

2.07 Questionnaire & Data Analysis Procedure

A survey questionnaire was designed to collect the qualitative data, which consisted of 5 items. The survey participants were met at their universities. After explaining the purpose of this study and getting permission, survey sheets were distributed among participants with the request to fill out the survey sheets. It also ensured that the collected information would be kept secret and used only for academic purposes. For qualitative data collection the semi-structured interviews were conducted online in this study. After completing the interviews section, handwritten notes and recordings were manually checked for differences and similarities in participants' responses to make sense of the field data. Thematic analysis was then used to analyze the collected information. As a qualitative method, inductive analysis of students' explicit comments was used to discover themes that could be explored further. Finally, two themes were formulated such as; (1) Perception for online/E-learning, and perception about online learning in near future.

IV.   RESULTS

2.07 Demographic Profile of the participants

Table 1 shows a quantitative sample's demographic characteristics, divided into three variables: age, gender and departments. The description of these variables like; age ranged were from 21-25 (f = 134, % = 40.6), and 26-30 (f = 196, % = 59.4), while gender were male (f = 211, % = 63.9), female (f = 119, % = 36.1), and department categorized into three as; social sciences (f = 117, % = 35.5), engineering (f = 175, % = 53.0), and life sciences (f = 38, % = 11.5). Table 2 elaborates the profile of the qualitative sample, which was divided into the name (changed), age, gender, department and experience of online classes, which can be seen in the table below.

Table 1. Demographic Profile for Quantitative Sample

Variables		No	Percentage (%)
Age	21-25	134	40.6
	26-30	196	59.4
Total		330	100.0
Gender	Male	211	63.9
	Female	119	36.1
Total		330	100.0
Department	Social Sciences	117	35.5
	Engineering	175	53.0
	Life Sciences	38	11.5
Total		330	100.0

Table 2. Profile for Qualitative Sample

Alias	Age	Gender	Department	Attended online Semeter
R1	23	Male	Social Sciences	Yes
R2	26	Male	Engineering	Yes
R3	24	Female	Life	Yes

			sciences	
R4	29	Male	Social Sciences	Yes

Table 3 indicates the statements and responses of participants about the experience and satisfaction level of online learning and the perception of the future of online learning in Pakistan. The first statement asked the participants if they were familiar with online learning before COVID-19. Which (20.9%) of participants were familiar with online learning, while a significant percentage of participants (79.1%) were not familiar with the online learning method. And the next three statements were related to the satisfaction level with online learning and learning outcomes, in which a significant percentage showed dissatisfaction regarding online learning and learning outcomes. While the last statement was designed to know the participants' perception of the future of online learning in Pakistan, and the results revealed that most participants had not recommended online learning. So, to better understand and get in-depth knowledge about this phenomenon, semi-structured interviews were conducted with 4 respondents. The findings of the semi-structured interview are elaborated through themes.

Table 3. Responses on statements about the satisfaction level and future of online learning

Statements	Response	%	M ± SD
Do you use to attend online classes before pandemic?	Yes	20.9	1.79 ± 0.40
	No	79.1	
Are you satisfied with your online learning in previous semester during pandemic?	Very Dissatisfied	30.9	2.0 ± 1.00
	Dissatisfied	53.6	
	Neutral	3.6	
	Satisfied	7.9	
	Very Satisfied	3.9	
Are you satisfied that online learning is well-organized and operated without obstacles?	Very Dissatisfied	27.9	2.32 ± 1.28
	Dissatisfied	46.7	
	Neutral	1.5	
	Satisfied	13.9	
	Very Satisfied	10.0	
Are you satisfied with your online learning outcomes?	Very Dissatisfied	19.4	2.39 ± 1.34
	Dissatisfied	40.3	
	Neutral	2.7	
	Satisfied	16.7	
	Very Satisfied	10.9	
Based on your previous experience and results do you recommended online education in coming semester and near future?	Not Recommended at all	37.3	2.07 ± 1.19
	Not Recommended	43.6	
	Neutral	0.6	
	Recommended	12.1	
	Highly Recommended	6.4	

4.2 Theme 1. Experience of students for online/E-learning in Pakistan

Pakistani universities also switched to virtual classes during COVID-19 like many other countries,. Respondents discussed their personal experiences with online learning during the pandemic. In the interviews, participants stated that online learning was not motivating, and Pakistan, a

developing nation, has many obstacles to implementing online learning. These quotes provide insight into participants' experiences.

'It was the end of 2019 when COVID-19 cases appeared in the world as well as in Pakistan. A new program for online classes was introduced at my university at the beginning of 2022. It was a pretty enjoyable first online semester because electricity wasn't a problem in Pakistan in winter because of low electricity consumption. However, as the second semester began, I started losing interest since the lectures were more audio than visual'.

'I belong to a backward area, where most basic facilities were unavailable for attending online (virtual) classes. For example, there was no proper electricity or internet. So, I always feel that online learning is not suitable for me because it is affected my learning outcomes and ability'.

'I was not motivated and interested in online classes because, according to my mind, online learning does not put much liability on students, which makes the reason for lack of interest, and sometimes students do not pick and understand the exact meaning of what the teacher is saying'.

However, it is admitted that Pakistan is a developing nation facing many challenges; the education sector is neglected because of these challenges. In contrast, most of the students belong to backward areas and do not have many facilities for online learning and face various obstacles such as; a shad down of electricity, non-availability of internet, family interruption Etc.

4.3 Theme 2. Students' Perception about online learning in future

Online education has been explored in various forms and magnitudes worldwide for many years and is not a newly emerging phenomenon in international education. In developed countries, online and distance education has grown exponentially. As a result, developing nations are at a disadvantage. Respondents' perceptions are described in these quotes.

'Online education should prevail in Pakistan. But if we want effective virtual education, we need to organize conferences and seminars to educate teachers and students on using new technologies. Because it is my personal experience that initially, teachers had difficulty using MS Team, Gmail meetings, or Zoom effectively. It took them a while to become proficient with these tools, but they eventually learned how to use them over time'.

'Along with other challenges, power failure is the biggest barrier to online learning. Because of a sudden power failure, we are disconnected from online classes and miss the important information that impacts our learning outcomes. If we want online education to be effective in Pakistan, we need to resolve fundamental barriers like; the internet and electricity. Otherwise, online education would no longer be effective'.

However, as per respondents' perception, the basic facilities for online education are not available. Because of the absence of necessities, the future of online/virtual education is not bright in Pakistan.

V.   CONCLUSION

COVID-19 marked the emergence of online learning in Pakistani universities, which was not common. So, it is not surprising and understandable that many higher education institutes have found it difficult and students faced many challenges during their online learning. This study aimed to determine whether students at higher education institutions (HEIs) experienced problems with learning online in the wake of the COVID-19 pandemic and the future. Based on the quantitative results and interviews, students from higher education institutions (HEIs) shared mixed responses, especially those who lived in backward and remote areas. Due to administrative and technical issues, it was observed that at first, when the COVID-19 pandemic started and offline teaching and learning switched to virtual learning, students had many challenges learning online. The presence of other obstacles hinders students' practical knowledge, which negatively affects their future employment prospects. Graduate students in Pakistan who have completed at least a bachelor's degree and a master's degree can benefit from online education. Despite these concerns, students expressed concern about the barriers their peers face because of inadequate administration of HEIs and technological infrastructure deficits. Students consider it necessary for higher education institutions' authorities to resolve administration-related issues. Furthermore, the government and the national telecommunications regulatory authority should resolve technical issues before proceeding with distance learning.

REFERENCES

[1].   Cucinotta, D. and M. Vanelli, WHO declares COVID-19 a pandemic. Acta Bio

Medica: Atenei Parmensis, 2020. **91**(1): p. 157.

[2]. Shahzad, A., et al., Effects of COVID-19 in E-learning on higher education institution students: the group comparison between male and female.Quality & quantity, 2021. **55**(3): p. 805-826.

[3]. Liu, C., et al., A bibliometric review on latent topics and trends of the empirical MOOC literature (2008–2019). Asia Pacific Education Review, 2021. **22**(3): p. 515-534.

[4]. Maqsood, A., et al., The paradigm shift for educational system continuance in the advent of COVID-19 pandemic: mental health challenges and reflections. Current Research in Behavioral Sciences, 2021. **2**: p. 100011.

[5]. Le, H.T., et al., Anxiety and depression among people under the nationwide partial lockdown in Vietnam. Frontiers in public health, 2020. **8**: p. 589359.

[6]. Agu, C.F., et al., COVID- 19 pandemic effects on nursing education: looking through the lens of a developing country. International nursing review, 2021. **68**(2): p. 153-158.

[7]. Dogar, A.A., et al., Constraints to online teaching in institutes of higher education during pandemic COVID-19: A case study of CUI, Abbottabad Pakistan. Revista Romaneasca Pentru Educatie Multidimensionala, 2020. **12**(2Sup1): p. 12-24.

[8]. Baloch, I., et al., Pakistan Topic Brief: Providing Distance Learning to Hard-to-reach Children in Urban Slums and Remote Areas. EdTech Hub Helpdesk Response, 2020(17).

[9]. Iqbal, M.J. and M. Ahmad, Enhancing quality of education through e-learning: the case study of Allama Iqbal Open University. Turkish Online Journal of Distance Education, 2010. **11**(1): p. 84-97.

[10]. Toor, S.K., Hybrid Model for e‑ Learning at Virtual University of Pakistan. Electronic Journal of e-learning, 2005. **3**(1): p. pp55‑ 64-pp55‑ 64.

[11]. Khan, A., S. Niazi, and S. Saif, Universities unprepared for switch to remote learning. University World News: The Global Window on Higher Education, 2020. **26**.

[12]. Marinoni, G., H. Van't Land, and T. Jensen, The impact of Covid-19 on higher education around the world. IAU global survey report, 2020. **23**.

[13]. Iqbal, S.A., et al., Students' Perceptions and Experiences of Online Education in Pakistani Universities and Higher Education Institutes during COVID-19. Education Sciences, 2022. **12**(3): p. 166.

[14]. Tilak, J.B. and A.G. Kumar, Policy Changes in Global Higher Education: What Lessons Do We Learn from the COVID-19 Pandemic? Higher Education Policy, 2022: p. 1-19.

[15]. Bahasoan, A.N., et al., Effectiveness of online learning in pandemic COVID-19. International journal of science, technology & management, 2020. **1**(2): p. 100-106.

[16]. Sintema, E.J., Effect of COVID-19 on the performance of grade 12 students: Implications for STEM education. Eurasia Journal of Mathematics, Science and Technology Education, 2020. **16**(7): p. em1851.

[17]. Alsoud, A.R. and A.A. Harasis, The impact of COVID-19 pandemic on student's e-learning experience in Jordan. Journal of Theoretical and Applied Electronic Commerce Research, 2021. **16**(5): p. 1404-1414.

[18]. Efriana, L., Problems of online learning during COVID-19 pandemic in EFL classroom and the solution. JELITA, 2021: p. 38-47.

[19]. Khan, B.H., A framework for web-based learning. TechTrends, 2000. **44**(3): p. 51-51.

[20]. Iqbal, T., Medical students'e-learning during Covid-19 lockdown. Pakistan Journal of Physiology, 2020. **16**(1): p. 1-2.

[21]. Abbasi, S., et al., Perceptions of students regarding E-learning during Covid-19 at a private medical college. Pakistan journal of medical sciences, 2020. **36**(COVID19-S4): p. S57.

[22]. Shahzad, S.K., et al., Impact of Virtual Teaching on ESL Learners' Attitudes under COVID-19 Circumstances at Post Graduate Level in Pakistan. English Language Teaching, 2020. **13**(9): p. 1-9.

[23]. Mukhtar, K., et al., Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. Pakistan journal of medical sciences, 2020. **36**(COVID19-S4): p. S27.

[24]. Creswell, J.W. and J.D. Creswell, Research design: Qualitative, quantitative,

and mixed methods approaches. 2017: Sage publications.

[25].   Bowen, P., R. Rose, and A. Pilkington, Mixed methods-theory and practice. Sequential, explanatory approach. International Journal of Quantitative and Qualitative Research Methods, 2017. **5**(2): p. 10-27.

[26].   Kivunja, C. and A.B. Kuyini, Understanding and applying research paradigms in educational contexts. International Journal of higher education, 2017. **6**(5): p. 26-41.