

IMPACT OF ONLINE CLASSES DURING THIRD WAVE OF COVID-19 PANDEMIC AMONG UNIVERSITY STUDENTS AND TEACHERS IN PAKISTAN

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ABSTRACT

Background: The spread of COVID-19 triggered a range of health sector responses. As a response to minimize the spread, e-learning schemes are employed in many countries including Pakistan. It is playing an important role during this outbreak; however, there are technical, educational, financial, infrastructural, and socio-economic barriers that exist in the developing countries like Pakistan. These barriers have huge impact on the e-learning process in the country on both students and teachers.

Purpose: This study tends to investigate the impact of online classes on students learning process and teachers fulfilling their responsibilities at university level, particularly during the lockdown of the third wave of COVID-19.

Methods: For the data collection, a descriptive cross-sectional online and self-administrated survey has been conducted. The study sample has been made from eight different private and public sector universities of Khyber Pakhtunkhwa, Pakistan.

Results: The results of the study have presented interesting facts which are not common in developed countries. Around 47.5% of teachers have reported their anxiousness about their online class cause of electrical problems and also 30.5% of the Internet connectivity issues. More than half of the students i.e., 58.5% have faced disturbance due to power shortage (load shedding) and around 56.7% have highlighted the Internet issue including availability and signal strength. The study has also shown that only 59% of the students have fully access their online

classes on time. 60.8% of students have used cellular data packages for their online classes due to lack of infrastructure for Internet connectivity. 71.1% students have used smartphones and there is a positive association of proposed Demographic variables of the participants with most of the statement (details and barrier/benefit). (P-value <0.05)

Conclusion: E-learning is an excellent alternative of education in the current COVID-19 situation; however, in the context of a developing country like Pakistan, it is not effective unless the factors mentioned above and affecting the e-learning process are worked on. This study finding has potential to facilitate in solving actual problems faced by the teachers and students in e-learning process and resolving these issues/factors can to improve the online educational system.

Keyword: *COVID-19 pandemic, teacher, students, online classes, problems*

1 Introduction

Coronavirus disease (i.e., COVID-19) is an infectious disease initially identified in Wuhan city of China in December 2019 is now a pandemic affecting several countries. Presently, COVID-19 has affected peoples worldwide and the number of confirmed cases are 118 058 503 and over 2 621 046 have died because of the infection in the above 200 countries ^[1]. Pakistan has COVID-19 confirmed cases are 597 497 and 13 377 death cases are reported are around as of March 12th, 2021^[2].

The worldwide outbreak of coronavirus disease 2019 (COVID-19) has triggered several of the public-health responses. Closures of schools and universities are some of the high profile social distancing procedures used to slow the transmission of this infectious disease. Countries in Asia and Europe have closure nationwide schools, colleges, and universities, while some US districts and states have also off the schools. These closures keep students from interacting with one another and reduce the number of cases ^[3]. Before the outbreak in the city of China, Wuhan in December 2019, no one has

known about this new virus or disease. COVID-19 is now a global pandemic affecting several countries ^[4]. The pandemic has changed social interactions, including education system. Social distancing also called the physical distancing is aimed at reducing community transmission of COVID-19, which can spread rapidly in densely populated areas such as universities and schools.

Suggestion of the current observations is that the new virus is generally transferrable to people of all ages. However, those who interact directly with people who have symptomatic or asymptomatic COVID-19, such as health care staff and other hospital patients, are at a higher risk of infections. Currently, the management of COVID-19 is highly supportive (WHO 2020), the approach to Pandemic is to control the cause of transmission of infection, reduce the risk of outbreak, use infection prevention and control measures and Support the affected patient with effective treatment, isolation, and supportive treatment ^[4]. The spread of virus and the need for educational continuation have compelled the institutions

to immediately move to distance learning or e-learning. While most health authorities believe that social distancing is the safest way to combat COVID-19's potential threat, the act of specific of instituting emergency e-Learning protocols has little effect on the global epidemic itself, but only indirectly by preventing face-to-face interactions in the classroom [5].

During this pandemic, e-learning tools are becoming increasingly important; their purposes to help teachers, schools, colleges, and universities facilitate the learning of the students during the period of schools, colleges, and universities closure. Besides that, the majority of these systems are free, which can support in continuing education during the epidemic [6]. The accomplishment of any information system depends on the system usage by users [7]. However, in the sense of e-learning during epidemic disease student's ubiquity and reception of the e-learning system should be considered. Teachers and students both face challenges when teaching and learning. In a developing country like Pakistan, technological, academic, and socio-economic problems are exist that could disrupt the process of e-learning process [8]. Even before to the pandemic, online teaching was not a major education system in schools, colleges, and universities [9]. Moreover, almost 27.5 % are net user and 55% of the population in Pakistan is estimated to be access to the net, most of them live in urban areas [10].

Therefore, in the current scenario of Pakistan, starting online classes in rural higher education institutes is not adequate and inequalities occur between students who reside in urban areas and the students who

reside in rural areas, and also, between the rich and the poor who cannot afford internet access will arises gap in continuing education with e-learning during the third wave of COVID-19. Moreover, in a country like a Pakistan, there is a legitimate problem that arises of how they bridge the digital division.

Review of COVID-19 in Khyber Pakhtunkhwa

The Pandemic is thought to be spreading in Pakistan. On February 26, 2020, the first confirm case of COVID-19 was reported in Karachi, Pakistan, which has estimated population of 204.65 million [11-12]. Due to a lack of preventive measures, the spread was spread very fast in the whole country. Pakistan is now the eight largest COVID-19 affected country in Asia having confirmed cases are around 0.60 M and over 21K deaths [13]. However, the current situation in Khyber Pakhtunkhwa, According to Pakistan's last update at 3:36 P Mon March 14, 2021, 75725 confirmed cases were reported, 2153 of death case of COVID-19. Of the 75725 confirm cases, 70514 patients are recovered [14].

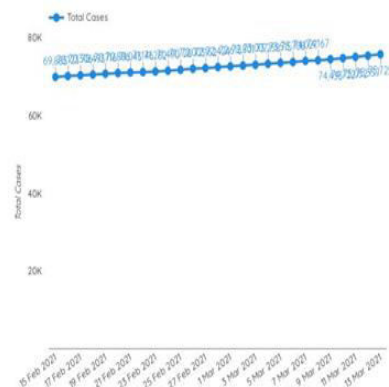


Figure 1: Total confirmed cases in Khyber Pakhtunkhwa

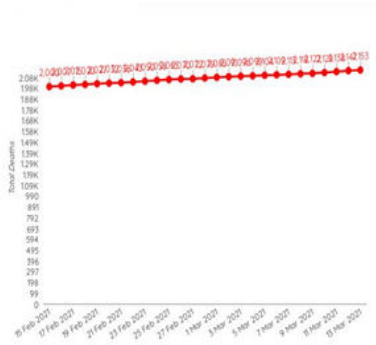


Figure 2: Death cases in Khyber Pakhtunkhwa

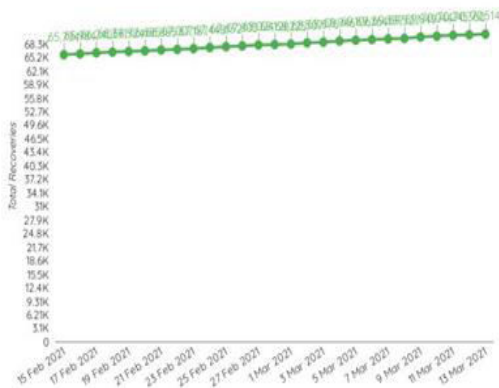


Figure 3: Total recoveries

The Justification of the study

The closing of educational institutions are affecting not only teachers, students, and families, but they have far-reaching societal and economic consequences. In response to closure of educational institution, UNESCO suggested the use of distance learning programs and open learning softwares and platforms that institutions and teachers can use to interact with students remotely and minimize disturbance in the education [15].As

UNESCO report, as of 14 March 2021, approximately 144,697,476 students have been affected due to closing of institutions in response to the COVID-19, 26 countries have applied nationwide closing of education institutions [16].Many other states have ratified local closures that would affect millions of existing students. Only in Pakistan more than 5 million schools going students are affected due to this epidemic disease [17].However, it is impossible to predict how the COVID-19 will outspreadand the possibility of imposing social distancing restrictions.

In south Asia many other developing states, large number of population does not have access to the internet and electronic devices and even internet experience of the peoples for access and some infrastructural divide. The infrastructural difference can be observed in a variety of forms, including the discrepancy of Internet speeds between different areas.People who reside in urban areas have access to Internet much better than peoples who are living in rural areas [18].

There are 61.34M internet subscribers which are using internet in Pakistan as of January 2021[19].But the population of Pakistan is 223.0M as of 14 March 2021. According to worldometer report all the students have not high-speed internet access [20].In the context of Pakistan, online classes practices is very new to various education institutions (teachers and students) and also, most regions of the country, there is also no stable electricity and internet service. However, the aim of this research was tocarry out these issues which are faced by teachers and students of Pakistan during online classes

Methods

3.1 Study sample and Data collections

This research was employed a descriptive study that focused on university students and faculty members of higher education institutions in Khyber Pakhtunkhwa, Pakistan. The total study sample size was made of 927 participants who were selected from eight private and public sector Universities which are (i.e. The University of Agriculture Peshawar, Khushal Khan Khattak University, University of Peshawar, Islamia College University, Kohat University of Science and Technology, University of Science and Technology Bannu, University of Lakki Marwat, Qurtaba University Peshawar) located in Khyber Pakhtunkhwa. Private and public sector universities were selected by the method of convenience sampling technique.

This study was used an adopted questionnaire for gathering data obtained from the study of [21], and were distributed via e-mail and social media platforms to get a response from teachers, and students who were taking online class. The questionnaires were filled by the teachers and students at the time of gathering data were included in the study.

3.2 Measurements

This study used SPSS tools for the gathered data. Percentage and association were done for investigating with a significance level of 0.05. The particular objectives of the study were to examine the approach toward benefits of the electronic learning process among Teachers and University students to evaluate the main issues faced by students while they learning through the Online process and also evaluate the fundamental

issues faced by the teachers while they teaching through online process.

Table no 1 Gender Frequency Distributions

Respondents	Gender	Number	Percentage
Teachers	Male Respondents	56	68.3%
	Female Respondents	26	31.7%
Total Teachers: 82 (8.85%)			
Students	Male Respondents	669	79.2%
	Female Respondents	176	20.8%
Total Students: 845 (91.15%)			
Total Study Respondents: 927 (100%)			

Among 927 participants, 82 participants were teachers having of 8.85% and 845 participants were students have of 91.15%.

Among 82 teachers, majority (68.3%) of the respondents were male have of age group 31-40. Likewise, less than half (43%) of the respondents were from urban area. In lastly, most of the (47%) respondent's families income per month was between rupees 40000 to 1,10,000.

Similarly, among 845 students, more than half (53%) of the respondents were ages between 26-35 years. Majority (79.2%) of the respondents were male. Likewise, more than half (57%) of the respondents were undergraduate. In lastly, the respondent's student, their families incomes

per month were lies between rupees 30000-50000.

4 Study Findings

Table no 1: Details of teachers

Step 1- Teachers attitude toward benefits of online classes, Teachers (n-82)				
	Research study items	Agree	Disagree	Don't know
1	I like online class from home than from Universities	31 (37.8%)	44 (53.7%)	7 (8.5%)
2	It was difficulty to faced various people in University, that is now relax for me because of online class	15 (18.3 %)	62 (75.6%)	5 (6.1 %)
3	I am happy to be updated with digital technology used for taking online class	71 (86.6 %)	8 (9.8 %)	3 (3.6%)
4	Online class save times, so free for others working	67 (81.7%)	10 (12.2 %)	5 (6.1 %)
5	I am glad that can involve in the online class and take care of the family atthe same time	69 (84.1%)	6 (7.3%)	7 (8.5%)
6	Save travel cost, as I cannot travel from home to university now online class save these	73 (89.0%)	6 (7.3%)	3 (3.6%)
7	Risk of road accident decrease with the online class as I cannot travel from home to universities	57 (69.5%)	19 (23.2%)	6 (7.3%)

The above table had shown the study respondents’ attitude towards the advantages of E-Learning (online classes). But more than half of the respondents (53.7%) ignore the advantages of e-learning and do not agree to take online classes. 75.6% of respondents did not face any issue which confronted various Teachers and Students in Universities. Moreover, most of the study respondents (86.6%) were happy to use e-mobile learning tool (Smartphones) for taking an online class and 81.7% were glad for the online class and save times, and consecutively 84.1%, 89%, 69.5% agreed for taking online as well as transportable cost, reduced hazards, and accident respectively.

The above table has described the respondent's issue regarding online classes.

So, 30.5% of study respondents were not having internet access for taking an online class at their home. Likewise, 47.5% of respondents of the study were getting upset because of electricity load shedding. Similarly, 50.0% of the respondents have felt difficulty with the net issue. Likewise, 54.8% % of the respondents have used internet packages (daily, weekly, and monthly) for an online class, and also 19.5% of respondents have no information about login and logout to the university concerned software (LMS, MIS, Google meet, etc.), uploading (assignments, Mid and Final papers), and their submission. 73.2%, respondents were glad for online class allotted times. Furthermore, 71.9% of the respondents have a device for an online class, and 67.1% were of them used personal computer/ laptop, and 29.3% were used their smartphones for an online class.

Table no 3: Details of teachers

Step 3- Details of difficulties/issues regarding online classes, Teachers (n-82)				
	Research study items	Agree (%)	Disagree (%)	Sometimes D (%)
1	I receive feedback from students when I ask queries from the online process through concerned software (LMS, GOOGLE, MEET, etc.)	45 (54.9%)	13 (15.8%)	24 (29.3%)
2	I am satisfied from my students about given assignment through online class	51 (62.3%)	13 (15.8%)	18 (21.9%)
3	I am capable to satisfy my students questions about course through online class	59 (71.9%)	7 (8.5%)	16 (19.5%)
4	I am capable to achieve daily objective about course through online class	51 (62.2%)	17 (20.7%)	14 (17.1%)
5	I am capable to gives alternative notes to my class students while they face problems in starting an online class	39 (47.6%)	21 (25.6%)	22 (26.8%)
6	I am capable to have best communication with class students during online class	46 (56.1%)	15 (18.3%)	21 (25.6%)
7	I am providing homes work and assignments after online class	56 (68.3%)	7 (8.5%)	19 (23.2%)
8	I give response to class students about their assignments	42 (51.2%)	16 (19.5%)	24 (29.3%)
9	I am very upset cause of net/ electricity issues during online class	35 (42.7%)	21 (25.6%)	26 (31.7%)
10	I am very upset about students queries that I am not able to clear regarding course	31 (37.8%)	41 (50.0%)	10 (12.2%)

The above table no 3, depicts the clear evidentially image of the study respondents that 54.9% of the respondents are satisfied and obtain a response from the students when they upload queries. But 37.7% fully disagreed with submitting given assignments by the teachers. Moreover, 71.9% of the study respondents were also satisfied to capable the student's requirements for online courses. Thus, 37.8% of study respondents did not agree to fulfill the objective through online courses about institute assign course. Likewise, 47.6% of respondents were able to give alternative notes to students when they have a login to the online classes and 43.9% of the respondents were not fully agreed on good communication with students during an online class. After taking online classes, 68.3% of the study respondents gave subject assignments/case studies to their students. Similarly, 51.2% of the respondents gave feedback to their students regarding assumed assignments. Furthermore, 57.3% of study respondents were getting fully upset because of internet connecting issues, and load shedding (electricity) problems during an online class. Finally, 62.2% were felt uneasy that not capable to clear the queries of the students about the assigned course through an online class.

Table no 4: Details about students

Step 4- attitude toward benefits of online classes, Uni-Students(n-845)				
S	Research study items	Agree	Disagree	Don't know
1	I like online class from home than from Universities	323 (38.2%)	441 (52.2%)	81 (9.6%)
2	It was difficult to face by various people in University, that is now relaxing for me because of online class	277 (32.8%)	501 (59.3%)	67 (7.9%)
3	I am happy to be updated with digital technology used for taking an online class	508 (60.1%)	296 (35.0%)	41 (4.8%)
4	Online class save time, so free for others working	439 (51.9%)	355 (42.1%)	51 (6.0%)
5	I am glad that can involve in an online class and take care of the family during the same time	581 (68.7%)	189 (22.4%)	75 (8.9%)
6	Save travel cost, as I cannot travel from home to university now online class save these	517 (61.2%)	263 (31.1%)	65 (7.7%)
7	Risk of road accident decrease with the online class as I cannot travel from home to universities	601 (71.1%)	215 (25.4%)	29 (3.4%)

The above table no 4 displays; the study respondent's (University Student) approaches towards advantages of an online class. In first, (52.2%) of the respondents' views is that we do not agree to take an online class from home than Universities. 59.3% of the respondents didn't get any difficulty which are facing various peoples in universities and most of the respondents were happy having in percentage (60.1%) for updated with digital technology (Smart Phones, Laptop, Pc, etc.) for taking an online class. Furthermore, more than half of the respondents (51.9%) were agreed with taking online class and times saved, as like (68.7%), (61.2%), and (71.1%) were glad for an online class, because of saving times, take care of families, reduce the risk of accidents, and cost of transportation respectively.

Table no 5: Details about students

Step 5- Issues details regarding online classes, Uni-Students(n-845)				
	Research study items	Agree (%)	Disagree (%)	Sometimes D (%)
1	I have a facility for access internet for online class in home	499 (59.0%)	223 (26.4%)	123 (14.5%)
2	I get upset for taking online class cause of load	494 (58.5%)	237 (28.0%)	114 (13.5%)
3	shedding issues			
4	I get upset for taking online class cause of internet issue	479 (56.7%)	313 (37.0%)	53(6.3%)
5	I use data package for online class	395 (46.7%)	331 (39.2%)	119 (14.1%)
6	I have information about media (internet) which is used for e-learning e.g. login, start record, upload, submission, leave, etc.	559 (66.1%)	191(22.6%)	95 (11.2%)
7	I am glad with the assigned time of online class	513 (60.7%)	238 (28.2%)	94 (11.1%)
8	I have devices for takingan online class at my home	481 (56.9%)	297 (35.1%)	67 (7.9%)
9	I feel like I am not getting full responsiveness from a teacher in an online class	268 (31.7%)	476 (56.3%)	101 (11.9%)
10	I am using phones device (laptop/pc) for online class	392 (46.4%)	314 (37.1%)	139 (16.4%)

The above table has shown, those issues which were faced by respondents (University Students) towards online classes. Only (59.0%) respondents have full access to the internet for their online classes at home. So, more than half of the study respondents (58.5%), were upset because of electricity (load shedding) problems, and also (56.7%) respondents were the more disturbing cause of Internet issues (connecting, login, downloading/uploading i.e. papers, assignments, lecture notes, etc.).Further, less than half of the respondents (60.8%) were using net packages (i.e. daily, weekly, monthly pack, etc.) for taking an online class and above

more than half, (66.1%) respondents have fully aware of how to login to the online software (i.e. LMS, Google Meet) for taking online class, as well as submitting/downloading, log out, etc. only 39.3% of the respondents were unhappy with the time assigned by the Universities for an online class. More than half of the study respondents (56.9%) have agreed to have all devices at their home for an online class. 31.7% of the respondents were felt like not getting full attention from teachers in an online class. Lastly, 46.4% of respondents have used laptops and personal computers for taking an online class.

Table no 6: Details about students

Step 6- Issues details regarding online classes, Uni-Students(n-845)				
	Research study items	Agree (%)	Disagree(%)	Sometimes D (%)
1	I use mobile (smart phones) for my online class	601 (71.1%)	149 (17.6%)	95 (11.2%)
2	I communicate formally with my class teachers during my online class	639 (75.6%)	121(14.3%)	85(10.5%)
3	I am not attentive to login to my online class even if don't have any issue for me for joining	325 (38.5%)	403 (47.7%)	117 (13.8%)
4	I can collect notes, class lecture, and materials from teachers even when not able to take my online class	401 (47.4%)	391 (46.3%)	53 (6.3%)
5	I can clarify my queries through question and answers session of online class	502 (59.4%)	223 (26.4%)	120 (14.2%)
6	I receive daily home works (assignments/case study etc.) from my teacher after taking an online class	383 (45.3%)	170 (20.1%)	292(34.5%)
7	I don't have any issue in doing assignments after the online class	466 (55.1%)	178 (21.1%)	201(23.8%)
8	I am very glad that my class teacher is giving response for my assignments	349 (41.3%)	214 (25.3%)	282 (33.4%)
9	I am unhappy cause of net and electricity issue during taking online class	526 (62.2%)	105 (12.4%)	214 (25.3%)
10	I am sad cause I can't recognize the contents provided by class teachers in an online class	319 (37.7%)	225 (26.6%)	301 (35.6%)

The above table depicts clear evidence that more than half of the University Students (71.1%) used a smartphone for taking an

online class. Also, 24.4% of the respondents haven't good communication with their class teachers. Only 47.7% of the respondents were happy to take the online class even if do not have any issues with joining. Likewise, (47.4%) study respondents were got notes (i.e. assignments, case studies, home works, etc.) from class teachers also if they were not capable of login to online software. Furthermore, 59.4% of the respondents were complete their queries through an online class, and also half of the respondents (54.7%) did not collect assignments from class teachers after taking online regularly. So, 55.1% of respondents have no issue with writing assignments after their online class. Similarly, 41.3% of the respondents were very happy with their class teachers when they gave responses for their (i.e. assignments, case studies, etc.) after online class.

Additionally, more than half of the respondents (62.2%) were in trouble because of electricity and internet issues for taking online class daily, and also a maximum number of respondents (73.4%) were sad and did not understand the course contents which provided by the class teachers. With (consider P-value 0.05), the association of the basic issue regarding online class with selected demographic variables and also calculated, give us positive association of the issues with teachers age, and their residence, and age, their residence, their education level, and students income.

5 Discussions

According to past study findings, Owusu-Fordjour, C. (2020) examined the covid-19 pandemic impact on the e-learning

process, which the Ghanaian students highlight that, 18.7% of respondents were agreed to learn at home effectively during covid-19. Likewise, 42.2% of respondents (teachers) and 35.5% respondents (students) were fully agreed to take an online class from the house. In this study, 69.2% of the respondent's teachers and 53.2% of students have faced issues (net access issue). Only 36.4% of the respondent's issues were internet access for an online class. But 64.4% of students and 84.6% of teachers have full access to taking an online class. Furthermore, 62.2% of respondents were fully agreed to understand regarding e-learning podium. Alike, in the study (74.4%) students and (76%) teachers also agreed about the platform of the e-learning process [22].

Moreover, Mohammed Amin Almaiah (May 2020) explored the basic and critical factors which influenced the online learning process due to covid-19 infectious and significantly founds that technological factors were one of the main issues which affect online learning process. Also, more than half of the respondents were disturbed because of the electricity problem, and (63.6%) were disturbed because of the net issue. Similarly, 42.3% of respondents (teachers) were got anxious about taking the online class cause of the electricity issue and the respondents 48.1% (students) because the net issue [23].

5 Conclusions

In the wake of the globally COVID-19 pandemic, world organizations were very affected ranging from levels of economy, religions, and education systems among others. The current study was examined the

impact of globally spread pandemic covid-19 on online classes among university students and teachers of Khyber Pakhtunkhwa.

This study concludes that the respondents were distressed from the online class cause of electricity and Net issues, also university students and teachers were constrained for data packs for their e-learning process. Thus, the consequences of the study will go a worthy and long way to help policymakers to bring out continued policies to review those basic issues faced by university students and teachers during online classes.

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