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Constraints to Online Teaching in Institutes of Higher Education during Pandemic COVID-19: A Case Study of CUI, Abbottabad Pakistan

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Abstract: In response to rapid spread of COVID-19 Novel Corona Virus, all the economic and social activities were ceased at national level. Educational institutes were the first to be locked down and universities were asked to deliver online courses. This was received with resistance from students and academic experts with claims that universities neither have the capacity to deliver online courses due to lack of adequately trained faculty members nor does the country have supportive infrastructure in the form of availability of internet across the country. The study was intended to understand the constraints faced by these university students who were offered online courses in the first phase. The data was collected from graduate students enrolled in social science department along with teaching faculty members. Questionnaires followed by in-depth interviews were used to collect the data from a sample of 16 students along with 4 faculty members and representative of technical team of the university. A FGD was conducted with the university management. Results showed that poor connectivity of internet, communication gap that is inherent to online education due to absence of physical class room environment and over exposure to screen is considered as the major constraint to online education. But with the passage of time acceptability to online education is increasing and students also see the positive dimensions of online education now and the start of second phase of online education seems much smooth now.

Keywords: *Covid19 novel corona virus; online education; constraints to education.*

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1. Introduction

The provision of higher education through online courses was advocated primarily on two grounds, one, it considerably cuts the costs of otherwise very expensive higher education and two, its reaches out beyond borders and enables the students from developing countries to access the courses offered at leading educational institutes of the world (Bawa, 2009). Something that could guarantee the emancipation of education itself, both for the learners and the teachers (Suoranta, 2015). Considering the increasing political pressure on the governments to provide quality education and realizing the link between higher education and economic gains, the online education was considered as a potent force that could play very important role in international development (Bawa, 2009; Lane, 2016). Potential significance of online education during disasters was first realized during the Swine Flu Pandemic of 2009. US Department of Education directed the educational institutes to devise the crisis plans, train faculty for online classes, develop infrastructure and use available resources online (Ash & Davis, 2009).

The covid-19 pandemic has result in complete lockdown of most severely affected countries, the other not so badly affected are on partial lockdowns where important sectors of the economy are allowed to work. Either partial or complete closure, educational institutes in most of these countries are closed for relatively longer periods of time and universities are offering online courses in most of these countries. New policies are being devised and student teacher training programs being conducted online to make the delivery of the courses more effective (Stiffler, 2020). The limited studies conducted on the efficacy of the online education in the wake of pandemic, especially in those countries that had no well-established Learning Mechanism Systems, lack any conclusive or suggestive outcome and only hint towards more detailed studies with more elaborative date (Osadcha, 2020). The spread of the Covid-19 in South Asian counties has been rather limited as compared to Europe and the US. First patient with Covid-19 was detected on February 26, 2020 and from March 13, 2020 universities were closed for all academic activities. Considering the uncertain future and length of closure of academic activities at the campuses, universities were asked to offer online courses, that posed enormous challenges for the universities and students alike, universities are trying to cope up with.

Since, different provinces had to decide independently about reducing the mobility of the people, the closure of educational institutes in

different parts of the country took place gradually starting from the Sindh province that was first to receive the patients of COVID-19 and notified closure of all public and private educational institutes in the first week of March. National Coordination Committee, presided over by Prime Minister, notified on 13th of March that all educational institutions, including schools, tuition centers, colleges and universities, will remain closed in the country till April 5, 2020 and the decision to prolong the closure will be reviewed to take any further decision. Federal Government issued the second notification on 9th of April prolonged the closure of all educational institutes till May 31, 2020. The federal minister for education made it clear that this order includes all faculty and administrative staff of the higher educational institutes as well (Khalid, 2020).

At a time when higher education institutions around the globe are fast shifting to online learning in the wake of closures to contain the spread of coronavirus, Higher Education Commission of Pakistan advised all universities with well-built learning management systems[1] (LMS) to initiate online classes through an official notification. However universities facing technological, technical, or spatial limitations could remain closed for academic activities till 31 May 2020 and mark the said period as summer vacation ("HEC Orders", 2020). New semester in most of the universities start in February, March and concludes in the months of July and August. So most of universities had just started the semesters when they had to suspend all educational activities. Considering the uncertainty of how the conditions will unfold, there is every possibility that closure of universities may extend beyond 31st of May. Higher Education Commission issued directives to all remaining universities to improve their capacity for conducting online classes in case the closure is extended. Such universities shall plan, acquire, train, and execute an LMS from June 01, 2020, so that ongoing semester could be resumed and concluded online in case of extended closure of universities ("HEC Orders", 2020).

With this background the current study aimed: 1) to investigate the causes that made students reluctant to go for online education 2) the problems faced by the university administration to provide technical assistance to faculty members and students alike to adopt the mode of online education 3) the nature of issues faced by the students to work from home and the impact of such constraints on overall learning of the students.

[1] A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting, and delivery of educational courses, training programs, or learning and development programs (Ryann, 2009).

2. Research Methodology

The study uses a qualitative research approach. A total number of fifteen students were interviewed in depth via skype. The students were enrolled in MS and PhD in Development Studies. It was a purposively selected sample of students on many grounds. First, all of these students were registered in theoretical courses where there was no need of laboratory work and courses could be delivered completely online. Second, all the students were registered in four different courses but in all of these courses the composition of the class remained the same. This could help better understand the issues faced by the students in lecture delivery by minimizing the impact of heterogeneity that could have an impact on classroom environment. Third, the selection of a graduate course meant students will have better understanding of software used for the delivery of the lecture and lastly at MS level, students came with a diverse background where some students are doing job as well, few students are married and have family responsibilities and few others have come back to university after a long break from education. So the sample provides homogeneity in terms of courses offered and better understanding among each other for all the four courses registered yet provide a very good mixture of respondents who provide diversity in the data in terms of their background.

The second strata consisted of the administrative heads of different departments of the university. It provided an insight from the administration and faculty's perspective about online education. A focus group discussion (FGD) of 13 members was conducted for this purpose. Whereas the third strata consisted of technical staff engaged in providing trainings to the students and faculty members to use the software used for the course delivery. The technical staff was also responsible to provide assistance in trouble shooting and updating the software during the course. In depth interviews of two members from the technical staff were conducted. Online interviews were conducted with students whereas face to face interviews and FDG was conducted with the administrative and technical staff of the university while observing the precautionary measures as recommend by WHO and local government.

The data thus collected was analyzed using thematic analysis and was grouped under themes and sub themes for each strata. Overlapping and corresponding themes from different groups were classified under same themes and were discussed to generate meaningful understanding about the issue to be analyzed.

3. Results and Discussions

3.1. Reluctance to be Registered in Courses Offered Online

Online education at university level in Pakistan is offered since 2002, when Federal government launched Virtual University that offered degree programs through distant learning. The university covers at least one hundred cities of the country with the presence of one or more virtual campuses in each city (Virtual University, 2020). Despite of its presence in so many cities and having a huge network, lots of programs are yet to open the admissions. COMSATS University Islamabad (CUI) has also its own virtual campus that offers distance learning. All other campuses of CUI also offer limited number of compulsory courses that combine both distant learning and face to face teaching, termed as hybrid courses. There is a general perception that such online courses are not that famous among students. Even when there is no issue of connectivity, students find themselves less motivated to attend such online courses and find it rather difficult and less convenient to take a course where they cannot communicate with the course instructor face to face.

Even before the start of online classes officially, there was a wide spread reluctance to accept the online education among students. Huge question marks were put on possibility and the effectiveness of online education by students themselves, who took on social media, electronic media and even print media. "We reject online education" and "we want semester break" popped up as top trends in Pakistan on the microblogging website Twitter and the hash tag remained on the top for quite some time ("HEC Orders", 2020; "Students Decry", 2020). The discontent was based upon multiple issues faced by the students. Facebook became another medium of discontent where students posted thousands of comments on the official pages of the Higher Education Commission and those of universities opposing the online lectures on multiple grounds. There was hardly any comment favoring the initiative.

3.1.1. Anxiety caused by new mode of life

First wave of the negativity was very much intrinsic caused by the panic created by pandemic itself. Forced to stay at home for all the time was an unheard of scenario for most of students. There were lots of internal adjustments going on at household level along with fear of an unknown disease. Social media, news channels, print media, the stories from friends caused huge tensions, anxiety and distress. The announcement of online classes in such an environment was nothing more than adding up yet

another problem. This is even more important in case of graduate classes where a good number of students are married, employed and have kids at home. Considering that not only they had to work from home, take care of kids, and abandon all types of social life, the announcement of online classes was seen as a huge burden and met with very low acceptability earlier on.

"Staying at home most or all the time is one dimension. Our house is not built in a way to facilitate that kinds of life. With no terrace, lawn or plantation at home it becomes even more difficult and makes you sick in no time. Increasing screen time further, could have simply meant more anxiety"

These constraints are more prevalent in graduate programs especially in social sciences. A good number of students enrolled in evening programs are the ones who do jobs during the day. Since almost all of the institutes are asking to work from home now, students believe if universities will also offer compulsory online courses, it will be too much of screen time per day.

"80% students of masters have jobs. They are working 9 to 6 in front of a screen and then taking 3 hours of online classes. They can have prolonged eye conditions! 11 hours of eye strain daily is like setting your students up for stress and brain damage" Safa Wahid, Facebook.

3.1.2. Communication gap

It was observed that almost all the courses that were taken online, the students were connected through a software and videos were not allowed due to weak connectivity. To reduce the noise further all the students were required to keep the audios off as well. This further reduced the efficacy of online education and only hearing the lectures could not create that level of connectivity and bonding among students and the presenter. The students, most of the time were asked to write down their question in the comments section instead of asking in audio video format to avoid "the interruption" in the normal flow of the lecture. This created a huge communication gap between students themselves as well as between students and the teachers as well. One student expressed his concerns regarding the same issue and narrated:

"Communication gap has unfolded another dimension of meanings to me as a result of this online education. Lots of ideas are left unspoken, unexpressed and therefore, unfelt. Classroom providing physical proximity keeps me in flow to express, understand and question. Online mechanical way of communication seriously lacks this aspect".

The significance of facial expressions and body language during the lectures was yet another dimension that was seriously noticed by the students.

"*In a classroom setting, the teachers can notice very easily that someone wants to contribute to discussion or has a question so he stops at appropriate moment to include your view point in the discussion. In these online sessions that aspect is totally missing and you don't find yourself so much motivated to raise that point by writing on the wall of software used for online classes."* Expressed by a female student.

This communication gap is not only felt in the class rooms but also in some informal settings offered by the universities. The students were found sitting in the library discussion rooms, lawns, university cafes and restaurant discussing and sharing their view points about the topics they were introduced in the class rooms. Occasionally, their professors also joined them over a cup of tea to clarify some undiscussed ideas. Online classes along with formal classroom settings, barred them from such luxuries as well. This dimension of communication gap was shared by many students.

"Sitting with class fellows and sometimes with teachers having informal discussions is learning in itself. Some aspects of lecture which aren't understood become clear over a cup of tea".

3.1.3. Access to Internet and Gadgets

Since connectivity is the prerequisite to the online education services, first and most important constraint is the availability of internet services at the residences of the students. This is important to note that unlike China and many European countries where students were allowed to stay at student accommodations, in Pakistan, university administration was asked to make sure no students should stay at student accommodations administered by the university, within or outside the campus premises. In case of COMSATS University Islamabad (CUI) Abbottabad Campus, local administrations made frequent visits to the campus and all domestic students were asked to leave the accommodations well before the decision of offering online courses was reached. Since lots of students lived in far flung rural areas where internet was of very poor quality or not available at all, non-connectivity to internet posed one of the biggest challenges that was raised by the students. Referring to this problem of connectivity a student of International Islamic University tweeted,

"*The online classes system is not effective in our country. We request the government to provide better internet or a semester break as students from remote areas are unable to properly access the internet*" ("Students Decry", 2020).

The problem didn't exist in rural areas only, the poor quality of internet was considered as one of the biggest problems by the students of urban areas as well as was evident from the tweets and comments of hundreds of students. The poor connectivity because of poor internet

services would be further aggravated due the frequent interruption in power supply. Pakistan faced one the worst power shortages in its history recently. This was not only common residents but the commercial units and industry as well that had to face periodic power cut offs to manage power shortage in the country. Although, there has been tremendous improvement recently starting from revamping of network responsible for the supply of electricity to establishing a good number of new power houses, wind mills and rental power plants have been arranged by the successive government, the residential areas especially in smaller towns and cities still face periodic power shortages ("Energy Crisis", 2019; Rehman, 2019). Non-availability of gadgets required for online education was yet another problem faced by some students. When on campus, students could use the computers in library or different labs available for them, but at houses it was evident that some students might not have them. Even for those who could afford to buy, immediate purchase was not a possibility due to complete lock down of the markets. Jehanzeb Niazi, commented on the facebook page of Higher Education Commission.

"……. there are many students who don't have laptops or PCs. From where they will buy PC/laptop at the time of crisis when shops are closed".

In our study, most of the student belonged to urban areas so it was not the availability of internet services that was the biggest concern. It was rather, affordability of the internet services was considered an important constraint. This was particularly true for female students who considered it as a burden and extra expenses on the family budget. Although internet packages were available but provided too less data not sufficient enough even to take the classes, let alone the use of internet for preparing the assignment related to courses or for extra reference to study.

"Universities are putting lots of burden on students, we not only have to study on our own as teachers could merely guide us through online courses, but have to pay for services that were provided by the universities in normal circumstances for which we have actually paid. Now, we have to buy the internet packages for ourselves and university is not willing to reduce the fee for the services which we actually are not availing at all." Expressed by a female student.

3.1.4. Impact on Quality of Education

Yet another problem comes with the quality of teaching on these online platforms. The social media was stormed by the complaints of students expressing dissatisfaction over quality of teaching. One student, Muneeb Ullah Awan, from International Islamic University commented on twitter account of HEC.

"Teachers upload slides and say ...learn it and ask query (questions)...we are not scholars that understand each and every thing".

There were instances where, due to inadequate technical facilities or lack of technological training of the teachers, lectures of mathematics were delivered without any visual assistance available for the students. All these were reported and discussed upon not only in social media but students sent the recordings and evidences to electronic media and chairperson of HEC has to appear in many Television Talk shows to clarify how all this could be addressed. It was only after this that universities not having LMS were restricted to start online classes.

The findings of the study showed that students did not feel any compromise on the quality of teaching in terms of content discussed or shared with the student. It was primarily the limitations of the online teaching mechanism and available infrastructure that was the biggest constraint in quality teaching through online system. For example, the low speed of internet that restricted the use of audio and video conferencing mode during conduct of classes was one of the reasons increasing the communication gap between student and teachers. The increase in screen time and general anxiety that was caused by so many other factors, reduced the efficacy of the learning. In response to a question that what if students were not locked down at homes, were offered to pay less fee and all classes were offered through video conferencing, do you think you would have rated online education any higher? The answer was a yes in at least fifty percent of the cases, with reduced fee and more effective internet connection as major contributors to this positive answer. Fifty percent of the students still preferred the physical presence and preferred face to face learning mechanism much higher than online education.

3.1.5. Higher Fee for Lesser Services Provided

The lack of interest in online education is coupled with this feeling among students that they are paying high fees for a service (face to face teaching) they are not actually being offered. It is always advocated in online courses that it is cost effective. Since universities do not have to bear the expenses of electricity and physical space, the fee in such online courses is relatively low. Since, in current COVID-19 pandemic, universities could not come up with any policy at least until now regarding fee reduction, a good share of discontent addresses heavy fees that are not justified with such online classes.

"Online lectures, quizzes and assignments ……. will affect our grades. We have paid a heavy fee for quality and good education" Fasih commented on Facebook.

3.2. Positive Impact of Online Education

3.2.1. More Liberty to Students

Classroom environment of a setting where students are physically present in the class provides much more learning opportunities by engaging students and generating a more engaging discussions where body language does play a very important role. But at the same time, online classes have some positive dimensions as well. It provides more liberty and flexibility to students in terms of time management, better access to course aid material (especially if the recorded lectures of the faculty members are available for longer period of time on allocated course portals). Another dimension of such liberty is as expressed by one student is "freedom of action".

"*Freedom of action which was teachers' exclusive domain is now enjoyed by students as well. I have my personal example of daily consuming lunch …… when class is in progress*" argued a male student from MS calss.

This positive dimension of online classes is expressed by many students and seems to be one very strong argument in favor of online classes.

3.2.2. Cost of transportation

Since Transportation is one major issue in developing countries due to non-availability of good quality public transport system. The low per capita income and expensive private transport makes it further difficult for students to afford. The female students are relatively more vulnerable to bear this extra cost coupled with inconvenience of its own kind. Online classes provided one luxury where students don't have to pass through that trouble on daily basis.

"Online classes are a big relief, not only it cuts the cost of transportation but also stress I had to take daily in public transport". Expressed by a female student.

This positive dimension of feeling relief from taking the stress of public transport is not felt across the board. Obviously students having their own transportation do not feel the same way and although they agree to this positive dimension of online classes. They think it's the cost the students must bear to enjoy the positive dimensions of classes that are conduct physically in the university premises.

"If we are in universities to learn and agree that physical classrooms are much more effective way to do it, we need to bear this cost of transportation either monetary or in kind (stress taken while travelling in public transport)". Female student having her own vehicle for coming to university.

3.3. Overcoming Capacity Constraints for Online Education

To address these shortcomings and capacity constraints, HEC of Pakistan provided a transition time to the universities. Universities are advised that online classes shall be executed in two phases. For the first phase all universities with Learning Management Systems are asked to offer online courses. All the remaining universities that are not using LMS at present are asked to upgrade and develop such mechanisms that could enable these universities to offer online courses without compromising the quality of education. This transition time will be used for the training of the administration, faculty and students to familiarize with the online teaching, provision of necessary infrastructure for smooth conduction of classes and identify the nature of problems that could be faced in offering such online courses. HEC in the meanwhile pledged to provide technical assistance to the students that would enable them access to good quality internet services for the smooth conduction of online courses. For the universities, even with LMS, moving to online courses completely is nothing short of a huge challenge. A challenge that is multifaceted starting from the availability of adequate infrastructure to support online courses, students' acceptance and training to use the online systems and ultimately teachers training to deliver effectively.

CUI, Abbottabad campus has an effective learning management system, where students have online access to time table, course aid material in the form of notes, books, research articles and digital libraries, submission of assignments, details of exam results and detailed marks sheets for each semester etc. Since both faculty and students are used to it, the task to deliver online courses is relatively easier. The biggest constraint is the non-availability of the internet with a good number of students and the conduction of courses that involve the lab work.

To address the later, limited number of course are offered online and none of these courses involves the lab work. To address the issue of connectivity, university is offering courses in asynchronous mode. The faculty will make sure the availability of the recoded lectures on the student portal, accessible to the students for the whole semester. For each uploaded lecture, the teacher will provide a discussion session in synchronous mode through selected communication channel for which extensive training has

been provided to both faculty and students. Faculty is also allowed to use multiple channels for the delivery of lectures and course aid material for the ease of students.

Lots of other issues still need to be addressed. For instance, what if universities have to prolong the closure beyond May? How to address the courses that involve lab work? For some students coming from far off tribal areas and parts of Afghanistan there could be no internet at miles from their residences. Even in asynchronous mode, it might be impossible for them to carry on the online courses, how to address the issues of too much screen exposure that may ultimately result in students losing interest in continuing education? All such issues will need more out of box solutions if education has to carry on through online mode.

4. Conclusions

Online classes in institutes of higher education in Pakistan were started in two phases to provide some preparation time to universities who didn't have leaning management system in place since the start of the classes. For those universities where it was started in the first phase, students had a huge resistance against online classes which may be attributed to the anxiety of series of problems every household had to pass through due to lock down of the country and closure of all economic and social activities. The non-availability of gadgets necessary to take online classes, weak internet connectivity, over exposure to screen time and communication gap that may exist in online education are some of the constraints faced by students to online education. University, has tried to address many issue and is continuously adopting to these complexities and challenges paused by online education. Extensive training of the faculty members and students to use online education software, updating of the software to address specific issues, devising new rules for online classes through statutory bodies are some of the steps taken by the university to improve the quality of education and increase student satisfaction with this new system. Although some issues still need to be addressed e.g. disciplines that involve lab work pose a huge challenge for the universities to deal with. But while university is about to complete the first phase of online classes, university management and students both are working together to reduce all the constraints of online education and start accepting the limitations that are inherent to this kind of education set up.

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