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## Grounded Theory Approach To Measure The Impact Of COVID-19 Pandemic On Higher Education Of Pakistan

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### ABSTRACT –

The existing study was conducted on the COVID-19 effects on the Higher Education System of Pakistan. The sample has been taken from The Universities operating in the Peshawar education sector. The study has interviewed 25 teachers from the different Higher Education Institutes. Grounded theory analysis was used to decode the theoretical views of respondents and to measure the harmful effects of COVID-19 on education. Results show online classes have been started by universities but the students from remote rural areas are facing poor internet or no internet facility which is the biggest challenge for the success of the online learning system. The study has extended the theoretical perception of grounded theory for the COVID-19 and its impact on the education sector. Different studies have been conducted on COVID-19 and education but minimum empirical work has been available on the emerging economies. The findings of present study can be helpful in re-shaping the education sector of Pakistan which has been affected by COVID-19.

**Keyword: COVID-19, Education Sector, Teachers, Interview, Grounded theory, Peshawar, etc**

### 1. INTRODUCTION

The COVID-19 pandemic is considering now the censorious factor in the health and education sector around the world. In the beginning, COVID-19 was taken on a lighter note by the majority of the countries but with the passage of time and increase in the number of patients and death cases, the majority of the countries observe its harmful effects (Russell et al., 2020). Now COVID-19 is the most harmful health crisis in history. The education sector around the world has shown greater expansion over the last 30 years and new technological tools have been introduced to the students for positive learning. Due to the emergence of COVID-19 different countries around the world have taken different measures to control the consequences i.e. online learning systems,

social distance, lockdown, etc. Pakistan has also faced the harmful effects of COVID-19 and they decided to go to lockdown on 13<sup>th</sup> March 2020 by taking the first step of closure of schools and educational institutes. COVID-19 becomes the most critical factor for the stability of the education system in Pakistan (Waris et al., 2020).

Going to schools can be considered as the source of polishing student qualities and helpful in acquiring new and updated skills. While the student's time in schools is the fun time and is the source of social awareness and increasing the student's ability, which is good from an economic perspective (Sahin et al., 2020). Even the student's shorter time in school can help get new skills and their growth in their social life. But can we measure the consequence of COVID-19 in the education system of Pakistan? In this situation, the perception of students and teachers can help get the correct idea about the harmful effects of COVID-19 on their system process and also their social life (Saqlain et al., 2020).

The closure of schools and forcing them to social distance seem to be the most logical and understandable action taken by the officials but prolong closure might have a negative and long-run impact the most talented and vulnerable students (Wang et al., 2020). Since the students might have lesser opportunities for greater learning at home and the time out of schools will lead to a heavy burden on their parents who have to face the most difficult time by maintaining their economic status in the society. But eliminating the social distance and get close to each other will have to face the loss of human capital and diminish economic opportunities in society (Zu et al., 2020).

The government officials have decided to close down the educational institutes and shifted the system to virtual learning and online learning system. Now the online learning system is the major challenge to the educationists and heads of the Institutes to control the consequences of COVID-19 to the education sector in Pakistan (Dawn News, Ali, 2020). The major challenges to the policymakers are the preparation of the student for this kind of education system, different needs of different students, use of resources, technological tools, etc. in this scenario the homeschooling the major shock to most of the parents around the world and also a threat to the student's learning and their social life as well (Mohammad and Khan, 2020). The shift of the education system online is considering as moving by untested and unprecedented scale especially in Pakistan. In remote areas of Pakistan, there are such areas where there is no internet facility and the online learning system is now impossible for them. The same issue is the major challenge for the policymakers and government to get assurance that every student must be involved in the online learning system (Hashimm, 2020).

## **2. LITERATURE REVIEW**

Zhou et al., (2020), the student and teacher's assessment in the online learning system is the major threat in this case due to the existence of trial and error and will lead to the failure of this system by getting poor grades by students and not satisfied performance of teachers. These issues can be considered as short-term issues but they have a long-run impact on the students, teachers, and education system.

Daniels, (2020), student's families are central to education and in the online learning system and homeschooling, the importance of families in the positive education environment is increased manifold. In this condition, the students are having some fun moments, angry moments, some inspirational moments, some frustrating moments and it seems an unlikely condition after losing

the school environment (Daniels, 2020). In the school environment, teachers are dedicated to students and try to do their positive part in the learning system but in the online learning system, the devotion and dedication might decline which is an absence of learning and active environment for students and teachers which can lead to positive learning.

Saqlain et al., (2020), the conditions are even more severe in low-income countries like Pakistan where the parents are trying for the survival of their income during lockdown by the governments. The permanent lockdown by the government leads to diminishing the economic opportunities for low income and even average income families. The arrangement of a meal, child care, quality education in diminished economic opportunities is the most significant challenge by Pakistani families. These issues in the country will lead to face the biggest challenges by the decision-makers to get balance decisions to save people's lives and also provide enough economic opportunities (Waris et al., 2020).

After evaluating different articles, the existing study does not found any specific work which has been done on the harmful effects of COVID-19 on the higher education system. Russell et al., (2020) have conducted their study on the school closure in China, Hong Kong, and Singapore, but the study has evaluated the effects but no responses from the educationists i.e from students, teachers, etc. Another study has been found Waris et al., (2020) from a Pakistani perspective but this study has based on the medical resource used to control the COVID-19 pandemic in the country. No specific study has been found in the context of Higher Education in Pakistan and even outside Pakistan. So the existing study has taken the gap and tried to evaluate the responses of students and teachers by a qualitative approach to measure the true feelings of these communities and analyze the effects of the COVID-19 on the education sector.

### **3. MATERIALS AND METHODS**

The higher education system is the backbone of every education sector and its importance is far more than important for a developing country like Pakistan. The study was conducted among the Higher Education Institutes working in Peshawar. The Public and Private sector Universities in Peshawar were taken as the study population of the study. The study objective was to measure the feelings of teachers engaged with both public and private sector universities in Peshawar. Due to the closure of higher education institutes in Pakistan, it was hard to contact students and teachers and collect the desired size of the sample.

#### **3.1 Sampling Procedure**

The concept of sampling terminology is not very common in qualitative study especially at the start of the study (Tariq et al., 2020). The study is based on the grounded theory which uses comparative methods of data analysis and collection (Cresswell and Porth, 2017). Therefore, a multistage sampling procedure has been at inception used 6 un-structured pilot interviews, and then 25 structured interviews have been conducted with the faculty members. According to Tariq et al., (2020) the studies based on grounded theory usually three-stage of the open coding process. Usually, a purposive sampling technique can be used in the open coding process. In axial coding, the sampling procedure is highly systematic. While in selective coding, the findings of the interviews based have been explored still the theoretical saturation (Tariq et al., 2020 & Posch, 2018).

#### **3.2 Number Interview Respondents**

For grounded theory, a different number of interviews has been recommended by different studies i.e. 20 to 30 recommended by Creswell and Poth (2017). The study of Bryman et al., (2002) stated that 50 numbers for interviews will be favorable, Charmaz (2006) recommended 25 interviews respondents while Guest et al., (2006) argued that 15 numbers will be appropriate for the interview schedule. The existing study has taken the balance term in case of an interview to get more accurate findings while too little might affect the findings.

### **3.3 Approaching Interview Respondents**

In this regard, the study has used personal contacts and referrals to approach the willing teachers who want to be a part of the interview schedule. By following the maintenance of social distance and avoid face-to-face interaction, some of the teachers were interviewed on the phone while some of them were involved by video call facility i.e. WhatsApp facility. The study has prepared a set of different questions that can be related to the student's assessment, curriculum, online learning system, etc, and then were asked by the respondents. The respondent's responses were recorded in written form. Every interview has been constructed saved in written form and then the responses have been decode and analyze the important points related to the study objectives.

### **3.4 Development of Interview Guide**

According to Tariq et al., (2020) & Anderson & Holloway (2014) the recursive refinement process has been made with the interview guide. At the initial stage, six un-structured interviews were conducted with faculty members. Respondents were asked grand, mini, and comprehensive questions regarding the online education system adopted in the course of COVID-19 in the education sector. The respondents were given a comfortable space to get more accurate results in a highly friendly environment and also follow the SOPs of social distancing. According to Anderson and Holloway (2014) in the course of interview prompts, pauses, verbal, and non-verbal were used to record during the process of data collection. To record the true voice of respondents, the study also recorded the unspoken paralanguage "nodes", "voices" "silence". "Leaning back, forward", the repeated sentences were carefully recorded. As per the study of Creswell and Poth (2017) refinement has been made with the interview guide and then checked for pre-testing after the completion of initial drafting to ensure the trustworthiness of the study.

### **3.5 Procedure for grounded-based-theory analysis**

As discussed above, the grounded based theory analysis consists of open, axial, and selective coding stages that occurred with the accurate method of data collection (Flick, 2005). This concept provided a determination of different emergent in the grounded theory-based study as compared to grounded theory analysis which is based on one level of analysis. The findings are taken from the initial stage i.e. open coding has been organized in sequential manners with axial and selective coding. In the open stage of data collection, no filter for data analysis has been used this leads to having a large amount of data in the open stage. This process according to Tariq et al., (2020) allows us to understand the social process of interest of the respondents regarding online education. The theoretical approach has been used in the open stage as the new respondents have been asked different questions based on previous interviews. In the axial stage, the majority of the respondent's replies were found changed from the open stage which leads to select more mature categories. In the selective coding stage, the researcher wove together all the mature categories taken from the previous coding stage.

## 4. RESULTS

### 4.1 Grounded theory

The study empirical findings were grouped into mature categories that corresponded multiple questions to the existing study. In the process of data collection, the theoretical point of saturation has been received after the 20<sup>th</sup> interviews, after which the new concepts have been eliminated and repetition of responses received.

### 4.2 Open, Axial & Selective coding analysis

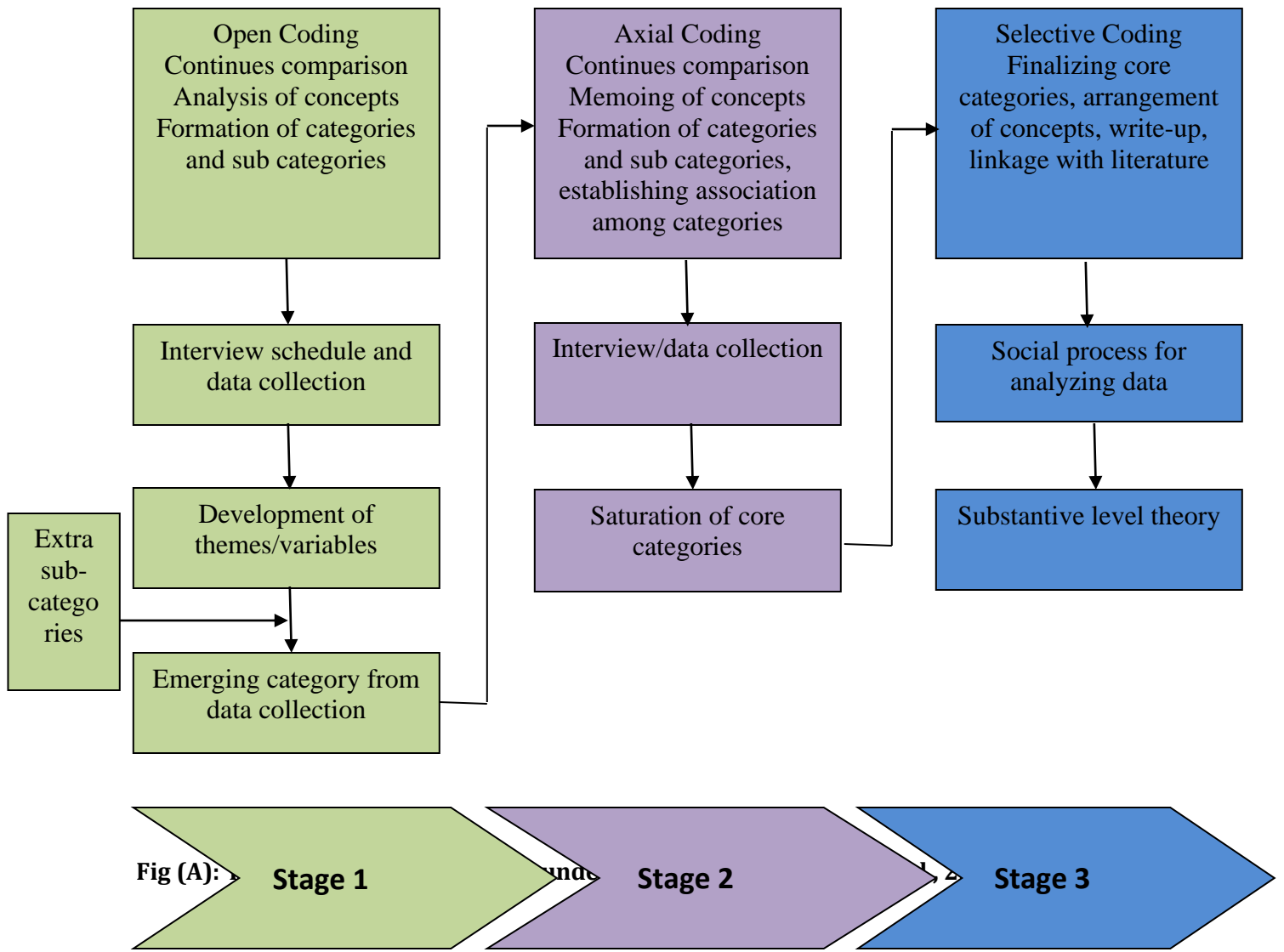
The results have been interpreted based on qualitative approaches as the data has been collected by interviews from the students and faculty members. The researchers have interviewed the respondent and note down the important points observing in the process of the interview. When the interviews have been finalized then the construction of interviews has been done and the important points of interviews have been elaborated. **Fig (A)** shows the three-stage of grounded theory analysis which have been done by the interview's data collection. Three-stage grounded theory analysis has been used to analyze the questions that were included in the interview guide. The paper has used grounded theory analysis for the evaluation responses of faculty members regarding the impact of COVID-19 on the higher education in Pakistan and Peshawar has been taken a case study.

In this section the question **what is the role of technology in the adoption of an online learning system?** When the respondents have been asked about the impacts of COVID-19, the majority of the students consider it the biggest challenge for the students and management as well. 90% of the teachers consider COVID-19 as the biggest challenge. COVID-19 is the hard rock challenge for the existing Institutions and most of the impact is on the negative side due to the technological capabilities of these universities. The COVID-19 takes the students learning and career both to great danger as the majority of the students enrolled are from the remote areas where they are not having internet facility. The COVID-19 has shown its negative consequences on every sector but the education sector is affecting the most. The closure of higher education brings a challenge for the management to continue their standards and delivery to students who are now in disburse form. The findings can be consistent with the Shabir (2020) who argued that the emergence of COVID-19 expose the technological structure of universities as they are not in a position in providing online learning system for the students except LUMS, IBA, and UMT who are maintain their standards but providing most recent and technological support for the learning system for their students.

**What is the financial impact of COVID-19?** The interviewees were having major concerns about the financial impact of COVID-19 on students and teachers. 100 percent of the interviewees were agreed on the negative impact of COVID-19 on their financial health. COVID-19 first direct hit our financial condition as the private sector universities have stopped their salaries while some of the universities have cut a portion of their salaries. Due to the lockdown, all the students are not sitting in their homes and they are not paying their monthly fees OR semester fee which makes financial disasters for both public and private universities. Due to the COVID-19 pandemic, governments cut down education sector budgets which bring financial disaster for the education sector especially in public sector institutions. Tuition fees are the major sources of revenue for the university and due to the lockdown and slow receiving from the students, the management is not

cutting their portion of salaries while some of them have stopped them. While another factor is that the government is forcing the universities to give relief to the students from their resources due to the COVID-19 and take half-payments from the students which again increasing the financial burden on the universities. In the public sector, the government announces that no employee will be fire from the job as lockdown declares by the government, this again creating financial stress for them as surviving without opening their buildings, collecting timely fees, etc. Mario et al., (2020) studied the financial impact of COVID-19 and findings argued that the COVID-19 has shown a major impact on the stock markets around the world which confirms the financial impact. The government should support the education sector as in this condition the only hope is the government or else the majority of the teachers in the private sector will get unemployed. The response of the government in the current situation in Pakistan is very discouraging as they should announce bail-out packages for the education sector so that they manage their financial needs and also they pay their salaries to their staff. As the institutions need to pay their salaries to their staff without taking financial help from the government and not collecting fees from the students.

**Does COVID-19 can lead to downsizing in the education sector?** The majority of the interviewees were agreed that the major impact can be seen in the shape of employees firing as most of the private institutions goes on downsizing. In the current situation, it is very hard for universities to manage the expenditure from their resources as the government cuts the education budget for the universities. SO there is no option for them to fire a certain portion of employees. Some of the universities have increased their tuition fees to save them from the financial impact due to the higher inflation rate and also due to the COVID-19 pandemic.



In the education sector of Pakistan, both public and private sector universities are facing heaving financial burdens due to the financial cut-down of the budget from HEC and argued to manage the financial expenses from their resources. The majority of the universities have increased their fees and trying to manage their expenses i.e. LUMS as the leading institution of the country has increased their tuition by 41 percent to save from the financial effect of the COVID-19 pandemic. The majority of the universities have stopped their scholarship programs as they are not in a position to give any financial support to the needy students and this will be the most dangerous impact of COVID-19 on student's careers. This has been argued that in the education sector of Pakistan, all the universities are offering certain financial support for the needy student. Due to the COVID-19 pandemic, the universities can't manage their expenditure, so they decided to stop the different scholarship which has been running from their resources. University of Management and Technology (UMT) is offering certain scholarship even in this critical situation. The university has starts Qarz-e-Hasna for the students who have been affected by COVID-19 and this is purely on an Islamic basis. The rescheduling is purely on an installment basis. Matthias et al., (2020) studied the COVID-19 impact on employment in Australia and they found the same results that due to COVID-19, unemployment has been increased.

**Does online learning system is effective in the education sector?** Due to the outbreak of COVID-19, almost all of the universities have shifted their learning system to an online system. They have started online classes in different software applications. It is very hard for the teachers and students to involve in the online education system as some of the teachers living in the remote areas where the technology gadgets are not very easy to use. For the teachers who know the new technology and also they have smartphones along with the internet, can manage the online learning system but those who lack these options are facing a tough time to continue their courses. Most of the universities who are already using strong and standard technology for their faculty and students are not facing any issue but those who just shift to the online learning system are facing heavy challenges to the fruit of the system. Like Iqra National University in Peshawar are having a standard technology system for their students is now not facing any issues to get involved in their students in the online learning system. For students living in remote areas, they have established certain points along with living facilities, and students are living there and enjoying their online learning system. To save from the severe effects of COVID-19 on the students, the universities should adopt an online learning system to save the precious time of faculty and students.

In an online learning system, classroom management is the biggest challenge for the teachers. The interviewee argued that sometimes the students facing problems in the online classes especially when the subject is practical related i.e. Mathematics, Physics, Chemistry, Accounting, etc. The students are not taking online classes seriously as they are not seeing teachers face-to-face which can motivate them to get involved in the lecture. Sometimes for teachers, it is very difficult to control the naughty and disturbance-making students in the online class. The subjects who involve the white board-related activities i.e. Accounting, Maths, etc are easy for teachers to manage but impossible for students to get the idea of the teacher accurately.

In the outbreak of the COVID-19 pandemic, the solution of the disturbed education system is to use the distance learning solution suggested by WHO. Higher Education Commission Pakistan is consistently reviewing the suggestions forwarding from WHO and other authorities and trying to implement the suggested changes in the education system of Pakistan. HEC has launched a "Virtual Learning" system for the educational institutes so that the students might attend the class physically. HEC has issued certain guidelines for learners who are willing to use the Virtual Learning System (HEC, 2020). The interviewees were agreed that the online learning system is



dependent on the poor internet connectivity in the different areas in Pakistan. The online learning system is based on the internet and the majority of our students belong to areas where there is no internet facility, so the students from remote rural areas are at higher risk of their career. Internet is the basic factor of the online learning system and playing important role in the online classes organized by public and private sector universities under HEC. In the remote rural areas of Pakistan, they do not have an internet facility which makes the biggest challenge for the universities to shift to an online learning system. Some of the universities have opened their centers in the nearest location for remote areas students where they can use internet facilities and get involved in the online classes. The universities need to provide all the facilities for the student and teachers as well so that they can take full advantage of the online learning system.

The socialization is the most important factor which needs to be included in the personal lives of teachers. In the Pakhtun society, socialization is the most important part of every person. Every person uses to visit their relatives, friends, Hujra, etc to keep in touch with society even in the COVID-19 pandemic. Without socialization, I cannot even imagine my career. Here in this organization, I am very much satisfied with the socialization of the faculty members. In the Pukhtun society, one cannot interact with society. But to the COVID-19 pandemic, it is now not possible to socializing freely in our society.

## **5. CONCLUSION & RECOMMENDATIONS**

The education sector can be considered as the backbone for every developing country like Pakistan and they are trying to save their education sector from the negative impacts of COVID-19. Due to the spreading of COVID-19, most of the countries in the world have decided on the closure of their education institutes to save their students and related categories. China was the first country that decides of closing its education sector as the severity of COVID-19 has been seen visibly. At the initial stage, Pakistan did not close their education institutes but the rapid spread of COVID-19 force them to close their institutes in March 2020. The existing study has used the approach to evaluate the impact of the COVID-19 pandemic on the higher education of Pakistan. The data has been collected from a qualitative approach and conducting interviews with teachers of universities in Peshawar. The data has been collected from Qurtuba University and the University of Agriculture Peshawar. 19 interviews have been conducted with the teachers and the grounded theory approach has been used to analyze the information collected in interviews. The findings suggested that the universities are facing a heaving financial burden due to COVID-19. Due to lockdown and implementation of the online learning system, students are sitting in their homes and not regularly paying their tuition fees. The financial earnings due to lockdown are not good enough to support the financial needs of the universities. Due to financial losses, private universities are firing their surplus employees or cutting their salaries to save from the financial impact of COVID-19. The universities have shifted to online classes but due to the limited access by the students and teachers to the technological tools, they are facing challenges in getting positive feedback from the online classes. The majority of the students in Peshawar universities are from remote rural where either is no internet or very poor connectivity of the internet in these areas. The teachers are also facing financial loss due to COVID-19, as they are now getting low salaries to manage their expenses which the biggest challenge for an individual to continue their living standards. The decrease in income for the private universities teachers, the ultimate effect is on their day to day life and education of their children.

## 6. RECOMMENDATIONS

- The only solution for the COVID-19 pandemic in the education is the online learning system and this can be only achieved by providing internet facility to the students of remote areas and also providing internet along with the smartphone to the faculty so that they can get the positive results from the online learning system.
- An education emergency should declare by the government and make financial plans for education institutes to support the affected universities in different parts of the country.
- The universities should provide online learning centers for the students of remote rural areas. In these centers, the universities should provide teachers and students living, dining facilities. The centers should be equipped with the latest technological equipment which can be effective in the online learning system i.e. updated PCs, laptops, smartphones, etc.
- The government just recently adopted the strategy of smart lockdown in which they limited the highly affected areas and remain open to the least infected COVID-19 areas. The same strategy can be adopted in the education sector as the government should open those education institutes who are least infected areas and highly affected areas education institutes should remain closed. It will be very easy for the government and HEC to focus on a limited number of educational institutes.
- Universities management should not allow sick students and teachers to come to university. They should ensure the proper use of sanitizers, hand washing, and other precautionary measures for COVID-19. The management should adopt social distancing after reopening the institutes.
- Some of the institutes are having a higher number of students but they have a limited facility of computer labs and other facilities, so they can take the strategy of engaging these students and teachers in different shifts which can help ensure the social distance.
- Due to the COVID-19 pandemic, all the sectors are facing loss due to continuous lockdown. As education is the non-profit-making sector, the government should give bail-out packages to the institutes who are facing financial disturbance. The financial support can make these universities pay their employees' salaries and also they can provide financial assistance to the COVID-19 affected students and teachers i.e. Qarz-e-Hasna on an Islamic basis.
- The government should support to enhance the preparation of the education institutes and try to keep them open, by developing the protocols for the selected institutes to keep them open. The selective approach should be adopted and the government should open recommended areas institutes. The same strategy has been adopted in India, Canada, Brazil, and Australia and they got positive results.
- Different online applications i.e. Zoom, Google Classroom, etc should be used by the institutes to continue the learning system of students and engage their teachers to follow the syllabus for the whole academic year.



### A Cyclical approach for education emergency

- The cyclical approach has been suggested by the World Bank (Kaliopé and Tigran, 2020) but this can be used when the country declares an education emergency. Pakistan should start “preparing” and make response plans for the affected universities. The preparation can be included in the setting up the protocols for the education institutes. This can help facilitate “coping” when the COVID-19 came to its least negative consequences. The “recovery” stage includes the implementation of the strategies and plans to get recovery in the education sector.

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