



## Online Learning at University Level amid COVID-19 Outbreak: A Survey of UMT Students

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**Abstract:** *This research inquires impact of COVID-19 outbreak on education. It measured the effectiveness and productivity of online learning during pandemic. Online mode of education. Knowing the role of information and communication technologies in assisting and facilitating online learning was also one of the main objectives. Online Survey was conducted for data collection. Sample was selected from University of Management and Technology using simple random sampling. According to the results, respondents agreed that COVID-19 has affected education at university level badly. Respondent agreed that sudden switch to online learning due to COVID-19 has created unrest among students. Respondents also strongly agreed that online learning is less effective and classroom learning is more effective. In current research, it has been observed that respondents strongly disagreed and 19.50% disagreed that ICTs have facilitated them during their online learning amid COVID-19.*

**Key Words:** COVID-19, online learning, ICTs

### Introduction

World is experiencing a sudden, hysterical COVID-19 fatal outbreak that is playing terribly with all human faculties and resources. Worldwide lock down has been observed. Education sector is one of the most affected areas by this pandemic. Teaching and learning process striving for being effective. Education patterns are under unexpected shift of change. Higher-level educational institutions have been thrust into arranging online classes. Almost every university has taken measures for online learning. Information and communication technologies (ICTs) are used for this purpose. Rationally, this is very important to measure or assess the different aspects of impact of prevailing phenomenon on university level education.

### COVID-19

World Health Organization has officially announced the names of both, disease and its virus on 11 February 2020. The names of the Disease is “Coronavirus disease (COVID-19)”, and official name of Virus is “Severe acute respiratory syndrome coronavirus 2” (SARS-CoV-2) [\(World Health Organization, 2020\)](#).

In biological terms, coronaviruses are a proper family of viruses, which are called zoonotic viruses in medical. These viruses transmit and travel from animals to human. COVID-19 is the recent zoonotic viruses that emerged and infected human beings [\(McLeod, 2020\)](#).

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## History of Corona Virus Pandemic

If you go through the history of Pandemics, you can find a long list of almost twenty pandemics spread in different time span of history. Our ancestor also experienced different pandemics but as the population was not so dense at that time so spread was not at that fast. Now every corner of the world is linked and cannot be put in isolation, thus epidemics and pandemics spread at a vast drastic level [\(Mcleod, 2020\)](#).

In history, disease outbreaks have crushed humanity by changing the course of history and even sometimes threatened as the end of entire civilizations [\\_\(Owen, 2020\)](#). Two coronavirus outbreaks have been noticed in recent years. Middle East Respiratory Syndrome (MERS-CoV) of 2012 was found to transmit from dromedary camels to humans. In 2002, Severe Acute Respiratory Syndrome (SARS-CoV) was found to transmit from civet cats to humans [\\_\(Mcleod, 2020\)](#).

Recent COVID-19 was reported as Pneumonia of unknown cause for the first time in Wuhan, China to the WHO Country Office on 31 December 2019. The Pandemic was declared a Public Health Emergency of International Concern on 30 January 2020 [\\_\(World Health Organization , 2020\)](#).

Internationally there are more than 2 million cases have been recorded. COVID-19 pandemic was officially confirmed to have reached in Pakistan in February 2020. As of 19 April 2020, the confirmed cases are over 8,348, with 1,868 recoveries and 168 deaths. Punjab is suffering from highest number of cases with 3,822. The country is partially under lockdown with option of later extend [\\_\(Government Of Pakistan , 2020\)](#).

## Symptoms, Precautions and Treatment

The symptoms of COVID-19 infection resemble and alike to common and respiratory disorder as fever, breathe problem and fever. At sever level it causes acute respiratory syndrome, Kidney failure, pneumonia and even death. It can get viral from person to person during sneezing and coughing [\(Mcleod, 2020\)](#).

Social distancing, frequently hand wash, use of hand sanitizers, cover you cough with bend elbow or tissues are some of the precautionary measures recommended officially by every doctor from every corner of the world [\\_\(World Health Organization , 2020\)](#).

No medicine or treatment has been recommended officially by any country or organization of the world [\\_\(World Health Organization , 2020\)](#).

## Online Learning

Online learning is education that takes place over the Internet. It is often referred to as “e-learning” among other terms. However, online learning is just one type of “distance learning” - the umbrella term for any learning that takes place across distance and not in a traditional classroom [\\_\(Stern, n.d.\)](#). Online learning is a buzz term used in education. In 1980’s computers entered in almost every home that makes it easier for people to learn about different subjects and skill they needed. In 90’s there were so many schools offering online courses. At the start of 21<sup>st</sup> century, the change was radical. Online learning had a boom. Technology was being used by business institutions to educational institutions [\\_\(ExploreTalent LMS, 2014\)](#).

In Pakistan, with advancement in ICTs, online world has also changed its trends. Use of Information and Communication Technology (ICT) changed educational methods as well. With 3G and 4G it has become easier to access online databases of universities through LMS, online lectures and conference calls for online learning.

In this research online leanings includes learning using information and communication technologies i.e. websites, LMS, E-mail, and different social Networking Apps (whatsapp, Facebook).

## Websites

A website is a central location of web pages that are related and can be accessed by visiting the home

page of the website using a browser [\(Computer Hope , 2020\)](#). They can be identified by a common domain. Websites constitute World Wide Web (WWW).

## LMS

In Higher Education Learning Management Service is used by students to access assignments, take exams, collaborate with peers, and communicate with professors and more. The LMS in higher education is in fact a central location for recommended courses and all resources, enabling professors and faculty to get a comprehensive overview of learning in departments, courses, by individual learners, and much more [\(eThink, 2019\)](#).

## E-Mail

E-Mail stand for electronic mail. It is the exchange of computer messages by telecommunication. You can use email even for sending non-text files such as images and sound files. Email is one of the initiative activities over the internet. Still a large percentage of total traffic over internet consists of emails. Some popular email sites are Gmail, Yahoo Mail. Microsoft Outlook etc. [\(Rouse, n.d.\)](#).

## Social Networking Applications

Social media is the websites and applications, which allow people to communicate and share content quickly, efficiently, and in real-time [\(Hudson, 2019\)](#). Some names of social media apps are Facebook, Whats app, Instagram, Twitter, LinkedIn, Snapchat etc.

## Problem Statement

Currently, we are facing COVID-19 pandemic that is playing havoc with every sphere of life in every corner of the world. According to WHO's Last update of 15 April 2020, COVID-19 outbreak situation statistical are horrifying with 1,918,138 confirmed cases, 123126 confirmed deaths, 213 countries, areas or territories with active cases (World Health Organization , 2020).

Keeping in view the above-described prevailing situation, it is need of time to measure the impacts of COVID-19 in every field of life so that planning can be made for future. For this purpose research is inevitable not only for measuring the impact and loss but also for setting future policies up basing on the findings of the research Education is acknowledged as one of the most important areas of life in every country of the world. It is mother field and nursery for all other professional fields. Impact of COVID-19 on education is very crucial. According to UNESCO 1,575,270,054, learners have been affected that is 91.3% of total enrolled learners with 191 countrywide closures [\(UNESCO, 2020\)](#). All the educationists of the world are expecting a transition in teaching and learning style amid COVID-19. In few recent weeks, coronavirus (COVID-19) has changed the ways students are educated around the globe. These instant changes give food of thought how education could change for the better or the worse in the long term [\(Tam and El-Azhar, 2020\)](#). According to above United Nations Educational, Scientific and Cultural Organization (UNESCO) report, worldwide closure of educational institutions forced institutions to organize online teaching and learning. Online learning has many impacts that can affect educational process.

## Objectives of this Research

- To identify the impact of COVID-19 on education at University Level
- To figure out the effectiveness of online classes amid COVID-19
- To identify the effects of online learning on students during COVID-19
- To identify the role of Information and Communication Technologies (ICTs) in online learning during COVID-19

## Significance of the Study

World is facing COVID-19 pandemic that is going to change the world order. It is expected that world is might not be the same before this health emergency. It has affected every country around the globe.

COVID-19 is the virus that has not only infected human beings but also destroyed world economy and changed trends of life. It has affected every sphere of life. Education has been greatly affected by coronavirus. There is a closure of educational institutions in almost every country. In Pakistan Higher Education Commission (HEC) has instructed the universities to arrange online classes to maintain social distance amid corona virus outbreak [\(khan et al. , 2020\)](#). This study is going to find the impact of COVID-19 outbreak on higher education. This research will also highlight the impact and effectiveness of online learning and will figure out the role of information and communication technologies (ICTs) in online classes during the closure of universities amid COVID-19 health emergency. Many researches covered different aspects in the area that will assist this research and make it more relevant to the issue.

## Literature Review

Online learning is an impactful and very important mode of education. With technological development, it has taken more importance. Information and communication technologies (ICTs) are facilitating the access to internet. This emergence of technological patterns plays radically important role in our education process. This is a task for educational scientists to assess how technologies are effecting and forming our education arrays. Education is a place where we give opportunity to our new generation to get familiar with new world of technologies [\(Vlieghe & Leuven, 2018\)](#). Online learning is very easy to define. Some defined it in the context of technology that it is mode of education accessed through technology. Some talk about its connectivity, flexibility and interactive abilities. It is accepted and said that online learning is modern and developed shape of distance learning [\(Moore, Dickson-Deane, & Galyen, 2011\)](#). In offline classes or traditional education setting, people go to some educational institution for attaining education from an instructor following a course work. On the other hand, there are so many terms are used for Non-traditional education that is through online methods such as online learning, web based learning, technology based learning, e-learning, network based learning and computer based learning. According to the concept of McLuhan “Medium is the Message”, technological development in the society changes the patterns of the lives and improves living standards. If we see the concept of media determinism, it changes our society. we look back, invention of printing technology eradicated the church monopoly, invention of telegraph hastens the process of news wires, photocopier monopoly of govt. printers were ended by PVT printers in old Soviet Union. Social media always threatens civil stability even in one party country like china and North Korea. Keeping in view even macro effects of media, we cannot ignore that new technological development affects us [\(Postman, 2016\)](#). It is very important to observe and inquire that how technological developments have changed teaching and learning method. How technology played important role and effected education. McLuhan said that it would be wrong if someone thinks that bureaucracy and curriculum are responsible for change in school or education, rather change starts from outside the school. Change starts from where child got after school. Outside literature is much more impactful that inside [\(McLuhan, Education in Electronic Age, 1967\)](#).

Debate about online learning, its impact and different aspects has been a keen interest of social sciences researchers and educational professionals. Many researchers have conducted researches on online learning to measure its effectiveness comparing traditional classroom learning. Relevant literature is available in abundance that would refine this study. It would highlight the different dimensions of research about online learning. This review would not only justify this study but also give a rationale to this research. It would give a view of topics’ background, major findings and current gaps.

A study was conducted to compared in-class and online quiz and described their effects on students’ performance. Online web-based instructor Mallard was used for conducting quiz. Number of the students participated in online quiz was 297 whereas 291 students took traditional quiz. According to results, students were highly satisfied with web-based assessment. It was proved evident that web-based technology is promising for instructions in higher-level education. Study showed agreement with many previous researches that supported web-based leaning [\(DeSouza & Fleming, 2003\)](#).

A research about improving online learning and identifying helpful components and challenges perceived by students was conducted. Mixed method was used by the researcher. First, a survey was used

in which 76 students participated and later a follow up interview method was used, 14 students participated in those interviews. According to results, course design, learner motivation, time management and comfortableness with online technology affected the success in online learning. These components were helpful for the students. Technological problems, perceived lack of community sense, time constraints and difficulty in understanding the objectives of online course were the challenges perceived by online students. There was assumption about the honesty of the participants with their response and being true representatives of the population. Limitations of the study were in generalization of its results as it was confined to the graduation students only so results could not be generalized to all students [\(Song, S.Singleton, R.Hill, & HwaKoh, 2004\)](#).

A was conducted focusing on the art of online learning, comparing online instructions and in-class instructions. Study was mainly focused on three areas; difference in technology comfort level, difference in locus of control beliefs and difference in learning outcomes of the students participated in both synchronous and asynchronous instruction. Survey was conducted using a questionnaire as instrument. This research came up with results that technology comfort was not an issue but there was a difference in comfort with computer only and comfort with internet. Students participated in in-class instructions received high grades. Students taking online class were likely to fail. There was no difference in locus of control beliefs [\(Harris & Parrish, 2008\)](#).

A research based on comparison of group cohesion, class performance and participation level was conducted. The study was conducted in an educational psychology course at Southeastern State University, USA. A sample of 68 students (male & female) was surveyed briefly. It showed that group cohesion and class performance were different in both online and live classes but class participation was the same. Hence, study explored that live class can have better group cohesion that leads to class performance so this study proved that students of traditional class can have better results than online students [\(Galyon, Heaton, Best, & Williams, 2016\)](#).

A study conducted compared the effectiveness of classroom and online learning. Researcher measured the effectiveness in relation to student's interaction and performance in the class of research method using students' performance record and student's response taken by a survey method. This study was conducted to document the learning effectiveness so that the efforts could be made for continuous improving learning outcomes. Three online and three offline classes were used as sample of the study. According to results, online learning was effective. Large numbers of students (58%) were satisfied with online learning, 60% students were in comfort with technology usage and availability. These results were in agreement with the previous researches that encouraged student participation [\(Ni, 2013\)](#).

A profound analytical study was conducted in which researcher focused on how new technological development affected our education. Study explained and inferred that we should not only try to socialize our new generation with technology usage in education rather we needed to give them potential so that they could relate themselves with new technological culture in education [\(Vlieghe & Leuven, 2018\)](#).

Keeping in view the comparatively latest and fresh literature availability, some authentic websites were also reviewed by the researcher that could enhance the insight to the topic. Literature from website would also give a deep understanding of impact of COVID-19 on education.

In rapid response briefing note prepared by EdTech team of World Bank's Education Global Practice (2020), it has been stated that students and teachers will be affected by online leaning in many ways. It has been mentioned that students from poor families with no or limited internet availability would be suffering. Students with previous experience of online learning would take more advantages as compared to those who are experiencing online leaning for the first time. Possibility is there that the best students of off line class with limited exposure to online learning environment lose the grades. According to this note transition to online, in short period usually brings lower learning outcomes due to the lack of familiarity with process, tools, limited access to devices and inconvenient environment at domestic level. It includes that motivation is a major aspect for both teachers and students and it is very crucial for long time online leaning. Teachers are also going to be affected. According to the paper, few

teachers can easily transfer from synchronous to asynchronous teaching methods with broader exposure of technology but most of them need proper training (The World Bank, 2020) .

In a website article, it is stated that student assessment method is one of the difficult things for educationists amid lockdown of educational institutions due to COVID-19 pandemic. Some students are going to take advantages like in Norway decision has been taken of awarding degrees to all the students of a class without assessment. Many institutions are shifting from conventional exams to online assessment tools that are new thing for most of the students and teachers [\(Burgess & Sievertsen, 2020\)](#).

World's leading organizations working for education like UNESCO and Commonwealth of Learning have uploaded education resources for online leaning guideline and assistance during COVID-19 outbreak. These resources are enriched in quality with the mission of facilitating constituents and keep the education process get going during lockdown of educational institutions.

In given literature view there is rich, deep and relevant information that back this study. Literature has discussed important aspects and results of previous researches conducted about the effects of online learning. Latest literature retrieved from different websites represents the emergency measures taken by world organizations about education amid this novel pandemic that shows the gravity of issue of education emergency in the world. Mostly researches discussed the facets of online learning like effectiveness of online learning, issues of online learning, helpful components in online leaning, comparison of offline class and online class environment, learning outcomes, comparison of assessment in both modes of education, students' perceptions about online learning etc.

Keeping in view the above inferences, this study found some gap to add something new to this area of research about online learning.

## Gap

This study aims to find the impact of COVID-19 on education at the university level. COVID-19 is not a common rather novel phenomenon, so the finding of this study about its impact on university level education would guide and help future researches. Most of the researches were conducted to measure some specific aspects and effects of online learning that is why the samples of those studies were selected through nonprobability sampling i.e. A complete session or whole class etc. but the sample for this study would be selected through probability sampling so results could be generalized. Current online learning is not an option and has not been adopted willingly; it is an education emergency and compulsion, so in this situation perception of the students about online learning during COVID-19 would be very important for educationists.

## Theoretical Framework

### Media Determinism (Medium Theory)

Media determinism is also known as medium theory is the appropriate theory for theoretical framework in the research. This theory is an explaining aspect of technological determinism. It explains the relationship between technological developments and their impacts on the society. Medium theory was presented by Marshall McLuhan in his book "Understanding Media" in 1964. This theory based on the concept of "Medium is the message". Media determinism is very important here regarding technological development in media. When you talk about online learning, communities, identities, and advancement in media technologies, Media determinism idea indorses itself. Technology and media advancement always change the way of communication and we cannot save ourselves from these changes. Our experience was brought under control via technological extensions of our faculties. TV is an extension of our vision [\(Esteban-Guitart, 2015\)](#). With the changing modes of medium, same message has different effects. McLuhan presented concept "medium is the message". Medium is the extension of human faculties and message is the effect of that developed faculty [\(McLuhan, Understanding Media: The Extension of Man , 1964\)](#). According to McLuhan message is the new pattern and change that caused by innovation in human lives. Axe is the developed shape of human arm TV is the extension of vision; clothes are the extension of body [\(Federman, 2004\)](#). According to McLuhan TV is a cool medium because

it engages many senses of human beings. Now we are living in Mobile Centered society. This medium is neither hot nor cold in McLuhan's definition rather it is Ultra cold because it offers highly active participation of users. Digital technology includes wireless, mobile, ubiquitous, multimodal and multi semiotic technologies. Unlike other technologies, this does not merely amplify one particular human faculty but instead many integrated psychological and social applications and functions: communication, perception, creativity, language, intelligence, writing, reading, artistic skills etc. (Esteban-Guitart, 2015).

According to above discussion and concepts of media determinism, it is fair to use this theory in this research. Information and communication Technologies (ICTs) are used in online learning. This study is about the effectiveness of online learning. Keeping in view the topic of this research there are so many things to take under considerations like the availability and accessibility of the ICTs, knowledge of using ICTs, distortion, and other barriers in online learning using ICTs, which can affect the medium and consequently the quality of the message compromised. This theory is relevant to the study because online learning is dependent on the technology and this theory talks about technology as the extensions of human faculties and medium are the message.

### Research Questions

- Q1: What is the impact of Covid-19 on higher-level education?
- Q2: What are the effects of online classes on students during COVID-19?
- Q3: What is the effectiveness of online classes during COVID-19?
- Q4: What is the role of Information and communication Technology in education during COVID-19?

### Hypotheses

- H1: COVID-19 pandemic affected education badly.
- H2: Online learning amid COVID-19 caused unrest among students.
- H3: Online learning is less effective than Classroom learning.
- H4: Students like to participate more in offline class than online classes.
- H5: Information and Communication Technologies affected online learning positively during COVID-19.

### Methodology

All the variables of the hypotheses have been tested through survey questionnaire by covering different dimensions keeping in view the validity of the results.

### Research Design

There were five hypotheses to test statistically in this research so using the quantitative research method survey was conducted as a research design. Survey was administered online due to not physical reach amid COVID-19 social distancing.

### Data Collection Tool

Survey questionnaire was used as data collection tool with 22 survey questionnaire items. Questions about gender and education level were with two options of each. Other 20 questions were MCQs questions using Likert scale with categories; strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5. Validity of the instrument has been a keen consideration, so all the questions used, were relevant to the objectives of the study.

### Population

As this research is about University level education, so population of this study is the students of University of Management and Technology, Lahore.

## Sample Selection and Size

Respondents have been selected through probability sampling method using simple random sampling. Simple random sampling would make results generalizable. Students from graduation and post graduation levels with no age limitations were selected. Sample was consisting of both male and female students with  $n=100$  in numbers. Sharply 250 students were targeted for 100 responses, out of which  $n=87$  responded.

## Statistical Tool

Simple percentage method has been used for the analysis of the data.

## Results

Survey has been administered with 22 questions, 2 question were about demographics; Gender and Education level. Total sample was 100, 87 questionnaires were answered. According to online survey results, male respondents were 49.40 % and female respondents were 50.60% as shown in the figure-1.

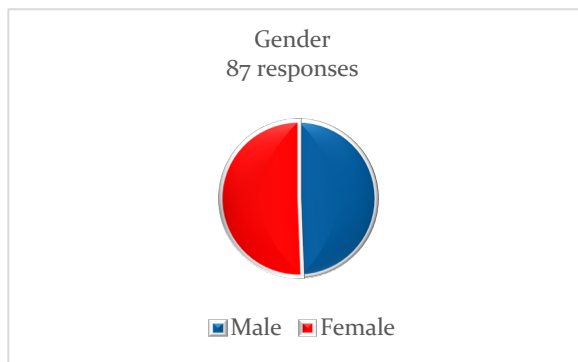


Fig: 1

Second demographic was education level of the respondent. This was added to the validity of the results. According to the results 35.60% respondent were form graduation level and 64.40 % of respondents were from post-graduation level as shown in figure-2.

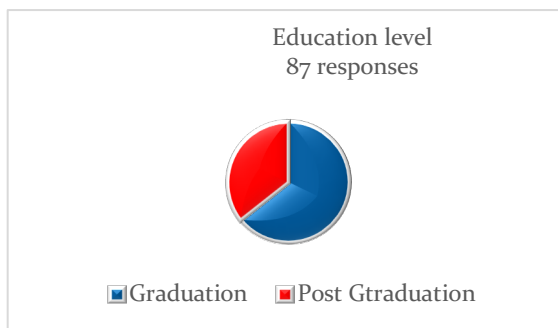


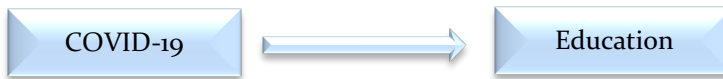
Figure 2

Now we discuss the results of the survey relevant to hypothesis proposed before. Each hypothesis and its results are described and presented here with the help of graphs for better understanding and making them illustrative.

**H<sub>1</sub>:** COVID-19 pandemic affected education badly.



In this hypothesis, there is causal effect relation. COVID-19 is independent variable whereas education is dependent variable.



According to the results, shown in the Figure.3, 75.90% of the respondents strongly agreed and 15.50% agreed to the fact that COVID-19 has affected education at university level badly. Hence, first hypothesis is proved.

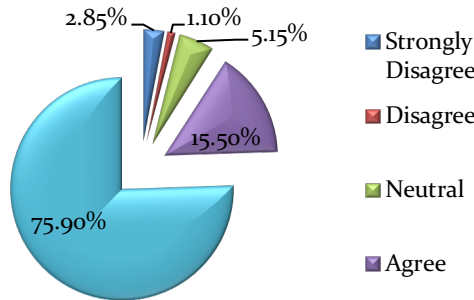


Figure 3

H2: Online learning amid COVID-19 caused unrest among students.

There are two variables in this hypothesis with relation to cause and effect. One is independent and the other one is dependent.



After calculating the results of the survey, this hypothesis is also proved true. Respondents strongly agreed with 62.10% and agreed with 19.55% that sudden switch to online learning due to COVID-19 has created unrest among students. (Figure 4)

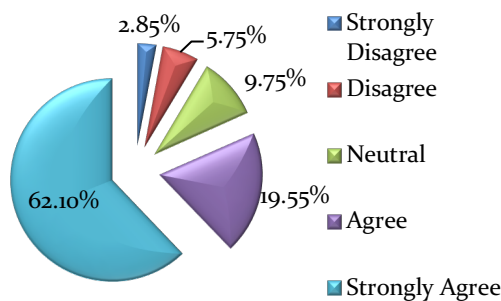
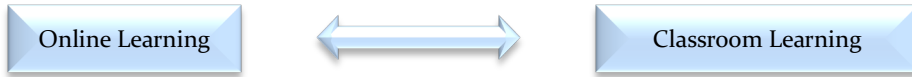


Figure 4

H3: Online learning is less effective than Classroom learning.

In this hypothesis, two variables are found with comparative and directional relations. It shows comparison between two variables; online learning and classroom learning with assumption-based direction that classroom learning is more effective than online learning.



According to the results, respondents strongly agreed with 65.13% and agreed with 11.06% that online learning is less effective and offline or classroom learning is more effective. Results are shown in Figure 5.

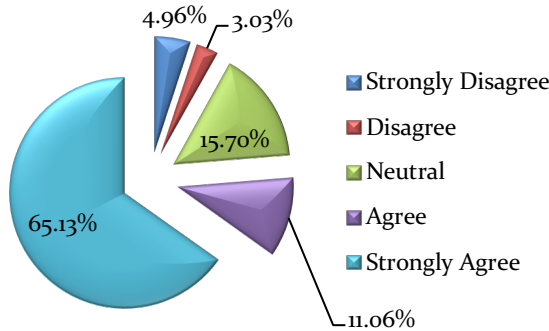
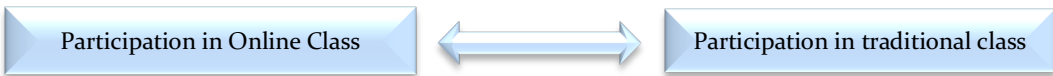


Figure 5

H4: Students like to participate more in offline class than online class.

In this hypothesis, there is a comparative and directional relation. Students like to participate more in traditional class than online class shows comparison. When it talks about more or less that shows its direction.



Survey results shown in Figure 6 are quite evident in supporting and proving this hypothesis as well. Respondent strongly agreed with 59.80% and agreed with 18.40% with the hypothesis that traditional classes are more interactive than online classes and they can participate more in traditional classes.

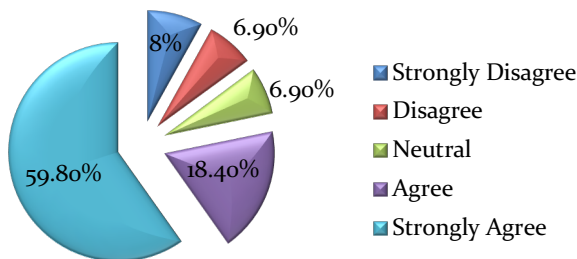


Figure 3

H5: Information and Communication Technologies affected online learning positively during COVID-19.

In this hypothesis, there is cause and effect relation between two variables. ICTs effected student's performance positively by facilitating them in participation in online classes and making available other online helpful resources.



Information and Communication Technologies always play basic and positive role in online learning. However, in current research 33.30% of the respondents strongly disagreed and 19.50% agreed that ICTs have facilitated them during their online leaning and 25.30% of the respondents remain neutral. (Figuer.7)

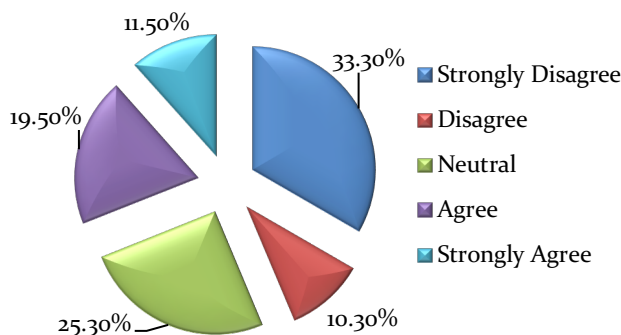


Figure 4

## Discussion

Main purposes of this research were to measure the effects of COVID-19 on education, effectiveness of online learning, its effects on student and role of ICTs in online learning. Results have been described. Four out of five hypotheses have been proved by the results. For a deep look and understanding of the findings of the study, let us have a detailed analysis of the results.

First hypothesis consists of two variables with relation of cause and effects. COVID-19 was an independent variable effecting education that is dependent variable. This assumption needed to be proved whether this pandemic effected university level education or not. Results mentioned above showed that 75.90 % of respondents strongly agreed to this assumption. Only 2.85% of respondents were strongly disagreeing, 1.1% respondents disagreed and 5.15% were neutral in this regard. To reach the factors that effected education, respondents were asked about the bad effects of pandemic on teachers and students. Respondents asserted with 80.50% of responses in strong agreements that pandemic affected both students and teachers. 71.30 % of the respondents strongly agreed and 19.50% agreed that pandemic affected higher-level education badly.

Second hypothesis was about to inquire the psychological effects of emergency switch to online learning on students. When question about the unrest was asked 62.10% of respondents strongly agreed and 19.55% agreed that online learning during COVID-19 caused unrest to them. Only 2.85% and 5.75% were strongly disagreed and disagreed respectively, 9.75 % of respondents were neutral. To inquire the reason and rational of being unrest question was asked about depression among the students, 64.40% respondents strongly agreed and 16.10% agreed that this online leaning during COVID-19 caused even depression to many points of the learning.

Third hypothesis was having comparative relation between its two variables, online and offline learning in terms of more effectiveness. Overall results showed 65.13% of respondents were in strong agreement, and 11.06% agreed that offline learning or traditional classroom learning is more effective

than online learning. Only 4.96% strongly disagreed, 3.03% disagreed and 15.70% were neutral. Keeping in view the effectiveness of online learning and level of university education, where both theoretical and project base learning modes are adopted, question was asked about the effectiveness of online learning in project based and theoretical based classes. Results showed 70.10% strongly agreed and 12.60% agreed that online learning is less effective than offline learning in project-based classes. In theoretical based classes also, online learning was less effective, 57.50% of respondents showed strong agreement and 14.90% showed agreement.

Fourth hypothesis was about the participation of the students in online classes. This hypothesis was also approved that students like to participate more in offline classes. Students responded 59.80% in strong agreement, 18.40% in agreement that they like to participate in more offline class. Only 8% were strongly disagreeing, 6.9% were disagreeing and 6.9% were neutral. To validate the response another question was also asked that students can equally participate in both online and offline classes. Students disagreed with 35.60% and disagreed with 10.30% with it. Only 11.50% strongly agreed and 16.11% agreed with that.

Fifth and last hypothesis was very important about the ICTs to inquire whether Information and communication Technologies facilitated student amid COVID-19 and effected this emergency online learning positively. Results were quite shocked and alarming that 33.30% of the respondents strongly disagreed that ICTs facilitated them during this online education emergency, 10.30% disagreed and 25% were neutral. Here 25% neutrality is big amount that matters a lot and may fall in agree or disagree category. There came the question why ICTs have not facilitated student. Some factors affected the phenomenon. For example, according to research results, 31.40% of respondents have not easily access to internet and 31.40% have not easy access to even ICTs.

Above discussion tells the whole story of the research that it has completed its objectives. Four out of five hypotheses have been proved. This research gives a deep understanding of phenomenon under study.

## Recommendations

COVID-19 is not a common phenomenon rather a novel pandemic. It is leaving its negative effects on education. Those effects can be related to psychological issue, students-teachers' interaction issues etc. There is more need to research in this regard. Almost all the educational institutions and engaged in online education. These institutions are of many kinds from primary education to higher-level education. All levels of education need such kind of research to make this emergency online learning process more effective. This is unique, novel and unusual time and research about the different aspects of the prevailing phenomenon would give guidelines for such coming situations. This research showed that in such situation, educational institutions should build a proper mechanism of online learning. They must conduct researches to investigate the factors that can cause depression and unrest among students. No inquiry should be left unanswered. There should be no communication gap between students, teachers and institution. Institution should plane the process of online learning keeping in view the geographic, techno- graphics and demographics of the students and teachers so that online learning never struggles against such barriers again and can be more fluent and productive.

## The Limitations

This study has been conducted during COVID-19 Lockdown. University of Management and Technology was also closed due to social distancing. It was not easy to reach the respondents. Sample size was n=100, 250 respondents were approached online but only 87 respondents responded. Not a professional statistical tool like SPSS has been used. Only simple percentage method has been used for analyzing results. This study is limited to only University level education. It could be done on that of school and college. This is also limited to only one university. There are so many other public as well as PVT sector universities going through same situation. This could be research of a vast level but being a student, it was not feasible for the researcher to conduct that. Biasness of the respondents might be another limitation.

## **Implementations**

This study can be very useful in education sector to measure the effectiveness of online learning, effectiveness of use of ICTs in online learning. It can also be used to measure the depression and unrest level among student due to instant shift to online learning. Sample for this study has been selected through simple random sampling. This study can be generalized for further policymaking. World has never observed such pandemic in recent decades, so research done on education in this phase will be a guideline for taking measure in any such next educational emergency. This study can also provide base and direction to future researches in this field.

## **Conclusion**

The declared objectives of this study have been achieved. All the hypotheses have been tested. First four hypotheses have been proved by the results of the research and last one is disapproved. Results showed that COVID-19 effected University level education badly. Students of UMT are not enjoying a good deal in online learning. Online learning put the student under pressure and caused unrest. ICTs are not as much effective as they were thought to be due to unavailability of internet in most of the areas and gadget to most of the students. This research tells the alarming situation of the students from a University like UMT that is Lahore based and one of the leading PVT sector universities of Pakistan, there must be gravity of affairs in the educational institutions of remote areas.

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## Annexure

### **Online Learning at University Level amid COVID-19 Outbreak: A Survey of UMT Students**

Dear Respondent,

The researcher is a student of MPhil (Media & Communication Studies) from University of Management and Technology, Lahore. The objectives of this survey are to measure the effects of COVID-19 on education at university level, effects of online classes on student at university level, effectiveness of online classes, and participation of students in online classes and role of Information and Communication Technologies (ICTs) amid online learning.

Your opinion will be confidential so feel free while answering this questionnaire. The results of this survey will be used for educational purpose. It will take hardly 10 minutes of your precious time. Your unbiased response is inevitable for the study.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

1. Gender:

- a. Male**                      **b. Female**

2. Education Level:

- a. Graduation Level**                      **b. Post-Graduation Level**

3. COVID-19 is a Pandemic with vast negative effects on different fields of life.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

4. COVID-19 Pandemic affected students and teachers badly.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

5. COVID-19 Pandemic affected higher-level education drastically.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

6. Instant switch to online classes caused unrest in you.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

7. Online learning put you under depression on many points of the study.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

8. Evaluation methods of students adopted by teachers in online learning are valid.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

9. Offline classes are more effective than online classes.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

10. Online classes are not effective for project related classes.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

11. Online classes are not effective for theoretical subjects.

- a. Strongly Disagree**    **b. Disagree**                      **c. Neutral**                      **d. Agree**                      **e. Strongly Agree**

12. You are satisfied with educational productivity in online classes.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
13. It is difficult to make and submit assignments in online classes.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
14. Teachers teach more effectively in online classes.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
15. Online classes are less interactive than offline classes.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
16. Online classes affect student-teacher relationship badly.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
17. You would like to continue online classes even after COVID-19 Pandemic ends.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
18. You can equally participate in both offline and online classes.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
15. You can participate more in traditional class than online class.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
16. You have easily access to internet.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
17. You have easily access to Information & Communication Technologies for online Learning.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree
18. Information & Communication Technologies facilitated you in online learning.  
a. Strongly Disagree   b. Disagree   c. Neutral   d. Agree   e. Strongly Agree