

**CHALLENGES FACED BY STUDENTS AND FACULTY DURING ONLINE CLASSES AND EXAMINATIONS – FINDING A WAY FORWARD.**

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Abstract

Introduction: The traditional concept of classroom learning has been gradually replaced by online teaching since the year 2020 when the world witnessed COVID-19 pandemic which caused closing down of all teaching institutions across the globe, making more than one billion children sit at home. **Aim:** To highlight the merits and demerits of online learning and examination methods and to give recommendations for its improvement. **Methodology:** The study population included 421 students and 220 faculty members of Fazaia Medical College along with and other private schools and colleges of Rawalpindi and Islamabad. An online survey was conducted using simple random sampling. Data was collected using separate online Google forms for students and teachers. **Results:** 71.3% of students preferred on campus classes and 23% of students did not take online classes seriously. During online exams, more than 50% students had problems with internet connection and accessing the exam content. 46% of study participants said that there were no institutional protocols and they felt stressed due to this. More than 50% teachers preferred taking an online class from home and 25% of them thought that they were not competent enough to take online classes. **Conclusion:** The main challenges for students were lack of institutional protocols, non-availability of electronic gadgets, slow internet connection during exams and poor accessibility to online exam content. For teachers; their lack of proper training for conduction of online classes and examinations and non-serious attitude of students were the main issues

Key words: Online, Teaching, Learning, Challenges, Merits and De-Merits

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INTRODUCTION

The COVID-19 outbreak occurred in Wuhan, China on December 31st, 2019¹. World health organization (WHO) declared this disease as a global emergency on February 1st, 2020. Later, on February 12th, WHO formally declared the virus as COVID-19 and the outbreak was proclaimed as 'pandemic' on March 11th, 2020²

The countries all over the world have adopted social-distancing policies to prevent the spread of disease. This not only limited daily activities but also forced people to work from home in all employment sectors. The COVID-19 is tragedy of mammoth portion that affected global education², socio-economic activities of many countries and pushed them further downhill to achieve the sustainable development goals, SDG4 “*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*”³. This situation enforced many educational institutions around the world to switch to online teaching methods. The academic institutes of Pakistan are no exception to this global pedagogical revolution⁴.

In the recent years, technological revolution has opened various gates for distant education and online learning. While many developed countries have properly

established networks that allow them to cope with the current world scenarios. However, developing or under developing countries still suffer from basic technological needs. Pakistan lies under the umbrella of developing countries; it still requires improvements for developing proper distant learning mechanisms for its students. In Pakistan, there is only 36.86 percent population who accessed broadband internet based on a 2019 report of Pakistan Telecommunication Authority⁵. Pakistan’s online learning face many logistical problems which includes secure electricity, strong internet connection, lack of digital devices and cyber security awareness⁵. The lack of investment in the technology results in poor internet bandwidth and connectivity that leads to poor quality video-audio and login related problems. Hence students find online learning to be tedious and unstable⁶. This affected education of millions of students; causing disturbance in both their short-term and long-term development. Especially rural schools and low-income students suffered greatly by this lockdown. In order to achieve efficient learning fairness is important factor among all children.

The study of literature showed that online or distant learning problems could be categorized in terms of faculty, students and the content. This paper focused on problems

faced by faculty and students; therefore, our main concern was to discuss them.

There were four main phases where faculty faces challenges during online classes: design, comfort, deliverables and the follow-up⁷. Firstly, during the design phase faculty must pay attention towards the class material to make it interesting, keeping students engaged and consider the ways how students gain maximum knowledge. Secondly, one of the reasons for faculty not feeling comfortable in teaching online is the lack of online educational training. Faculty members had no prior experience of teaching online neither have any training and IT support, so they find it quite challenging. Elderly faculty members gain less advantage from online education due to reason of technophobia⁸. Thirdly, faculty challenge during lecture delivery is inability to translate relevant materials into the online medium. Most of the institutions have poor infrastructure and do not have learning management system with a dedicated information technology (IT) department for faculty training, which in turn hinders the faculty ability in the development and delivery of the online content effectively. Lastly, in follow-up phase there is problem of storage, access and the dissemination of contents⁹.

So far, the challenges reported in online education includes problems related to use of tools of technology, time management, student's communication, assessment, lack of personal interface. Also, online education may not be impartial in terms of quality of teaching and accessibility¹⁰.

There are some studies that shed light on obstacles faced by students in online learning during pandemic, one such study reported the adverse effect on student's mood and wellness behaviors which were caused by isolation, health/economic conditions and uncertainties, although stress levels remained unaffected. Lack of

technology skills, poor internet service, high internet rates, anxiety, depression, restricted interaction between students and unfavorable learning environment of home significantly disrupt the learning experience of students. Study also highlighted that online learning setting fails to fulfill the requirement of hands-on training courses¹¹.

This global catastrophe can be turned into opportunity to rejuvenate our educational system. Through our research we attempt to highlight the challenges faced by faculty members and students during online classes. We hope the information obtained from this research will help the government and the educational institutions/sectors in devising strategies to strengthen the online academic environment and to overcome the challenges.

METHODOLOGY

This is a descriptive cross-sectional survey which included 411 students and 220 faculty members of Fazaia Medical College along with other private schools and colleges of Rawalpindi and Islamabad. The survey was conducted using simple random sampling with aim to explore the challenges related to online learning and teaching and to propose and recommend new ideas for the success of online mode of learning during a crisis-like situation.

Data was collected using separate online Google forms. The Google forms consisted of two sections. Section I had questions regarding the challenges faced by faculty and students. Section II asked for suggestions to overcome the challenges and improve the existing online teaching/examinations. There were a total of twelve questions for students and ten questions for the faculty, based on multiple choice and likert scale from 1-5 with 1 being the lowest and 5 as the highest measure. The forms were distributed to the study population in second week of January, 2022 after taking written consent from the

participants and parents (in case of children less than 18 years of age). Permission was

RESULTS

Online challenges for students

Majority of the study participants (36.7%) were students of middle school and almost equal number (35.5) were residents of Islamabad. Table 1 also shows that most of the participants (95.9%) were day scholar.

When asked about availability of technical facilities, 352 (85.6%) were having laptop, 17(4.1%) were having smart phones while 42(10.2%) had no gadget to attend an online class. Similarly, large proportion of participants 358 (87.1%) had access to good bandwidth internet facility.

Likewise, 352 (85.6%) participants replied that they were provided with a clear time table for online classes. Half of study population, 207 (50.4%) were aware of the institutional protocols to tackle technical issues faced during online classes or examination, however, 189 (46.0%) told that there are no such protocols while only 15 (3.6%) were not sure. Out of those who were unaware of such protocols, 113 (59.7%) accepted that it stressed them out.

Figure 1 shows that 166 (40.4%) of participants always reported to their institute, if they have issues in taking online class while 37 (9.0) never reported them.

When asked about their satisfaction level on scale of 1-5 regarding understanding of technical issues by institute and quality of online lecture, mean score were 3.4 ± 1.1 and 3.1 ± 1.3 respectively.

It was found that 94(22.9%) of students do not take online class seriously and more than two third (71.3%) found on campus class as most effective method of teaching. Majority of the students 282 (68.6%) appeared in some form of online exams and 228 (55.0%) encountered problems sometimes while an additional 40 (9.7%) faced problems in every online exams as shown in Table 2.

also taken from IRB, FMC.

Those who encountered problems in online exams were asked about its types. Most of them 129 (31.4%) highlighted the technical issues including internet connection and accessing the exam content issues. Some 38 (9.2%) faced exam content related issues for example understanding questions, inappropriate space, difficulty in drawing figures as shown in Table 3.

Table 4 highlights various suggestions proposed by students to improve online sessions. Provision of uninterrupted internet connection and proper training were the two most common suggestions.

Online challenges for Teachers

Total 220 teachers from various educational institute of Islamabad participated in the study. Out of 220, 89(40.5%) of them taught science subjects. Figure 1 shows more than half (54.55%) were primary school teachers while only 45.46% taught higher secondary and above classes.

Table 1 shows that most of the teachers encountered problems during online class and exams. Only 13 (5.9%) and 35 (15.9%) were not facing any problems while conducting online class and exams respectively.

While inquiring about the core challenges of online teaching, conduct of online exams, providing task differentiation and introduction of new learning content were identified as major core challenges by 69 (31.4%), 53 (24.1%) , 33 (15%) of participants respectively. Other challenges highlighted were time management and recording online lectures and providing feedback.

On asking particularly about students related issues during online teaching, connectivity issues, non-responsive and non-serious attitude were three main concerns identified

by 86(39.1%), 75 (34.1%) and 39 (17.7%) teachers respectively.

Most of them (162) were taking online classes form both places, at home and on campus, but 112 (50.9%) and 75 (34.0%) thought that taking online classes more comfortably at home and at both places respectively. While only 32 (14.5%) identified campus as most comfortable place for online teaching.

Almost half of the participants (49.1%) perceived that they adapted the online teaching challenges quickly and another 64 (29.1 %) thought that they adapted the same challenges very quickly during Covid-19 Pandemic period. Results of this study revealed that 56 (25.5%) of participants did not think of themselves as competent

enough to take up all challenges of online teaching and vice versa.

when asking about the suggestions to improve the online teaching, 132 (60 %) of teachers demanded for administrative support and proper training regarding how to conduct an online session and respond the challenges faced during these sessions. Out of the total, 66 (30.0%) were in favor of availability of uninterrupted internet connection, while another 66 (30.0%) suggested for students training and their behavior counseling to take online classes seriously. However, 36 (16.36%) teachers recommended keeping student's microphone and cameras on during online class to ensure their active participation.

Table 1: Socio-demographic characteristics of the participants

Characteristics	Frequency (n)	Percentage (%)
Study Class		
Grade 5-7	151	36.7
O-levels	105	25.5
A-levels	12	2.9
Undergraduate	45	10.9
Others	98	23.8
Total	411	
Residence		
Islamabad	146	35.5
Rawalpindi	108	26.3
Others	157	38.2
Living place		
Day scholar	394	95.9
Hostelite	17	4.1

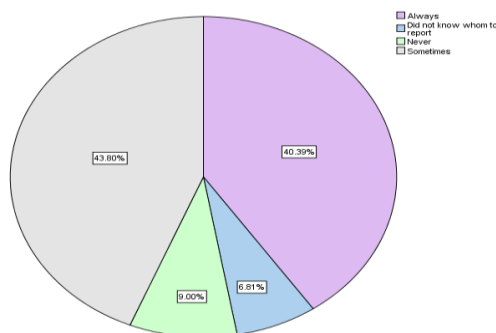


Figure 1: reporting technical issues of online session to institution

Figure 1: Reporting technical issues of online sessions to the institution

Table 2: Perception of students regarding online classes

Characteristics	Frequency (n)	Percentage (%)
Taking online class serious		
No	94	22.9
Sometimes	02	0.5
Yes	315	76.6
Most effective method of teaching		
On campus		
Online	293	71.3
Both	28	6.8
	90	21.9
often wait for teacher in online class		
Always	44	10.7
Never	101	24.6
Sometimes	266	64.7
Concepts become clear in allotted time slot		
Always	183	44.5
Never	22	5.4
Sometimes	206	50.1
Recorded proceedings of class uploaded		
Always		
Never	129	31.4
Sometimes	101	24.6
	181	44.0
Recorded proceedings are beneficial		
No	134	32.6
Yes	277	67.4
Have you appeared in any online exams		
Yes	282	68.6
No	129	31.4
Encounter problem during online exams		
Always	40	9.7
Never	145	35.3
Sometimes	228	55.0

Table 3: Types of problems encountered during online exams

Characteristics	Frequency (n)	Percentage (%)
None	145	35.3
Technical	129	31.4
Exam content related	38	9.2
Invigilator associated	15	3.6
Time management	49	11.9
Typing speed	35	8.5

Table 4: suggestions to resolve the issues related to online sessions

Characteristics	Frequency (n)	Percentage (%)
Provision of uninterrupted internet connection	148	36.0
Extend duration of session	45	10.9
Timely notification and lecture upload	45	10.9
On-campus class	87	21.2
Alternate interesting method of teaching	40	9.7
Training of lecturer and students	46	11.2

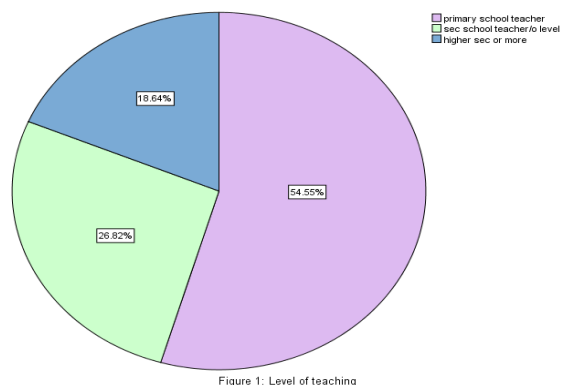


Figure 2: Level of teaching

Table 5: Proportion of teachers encounter problems during online class and exams

	Always n (%)	Never n (%)	Sometimes n (%)
Encounter problems during online class	15 (6.8)	13 (5.9)	192 (87.3)
Encounter problems during online exams	31 (14.1)	35 (15.9)	154 (70.0)

Table 6: Administrative support provided to the teachers for online teaching

	Yes n (%)	No n (%)	May be n (%)	I don't know n (%)
Were you given proper training regarding computer technology?	166 (75.5)	42 (19.1)	4 (1.8)	8 (3.6)
Were you given clear instructions on what to do if faced with technical issues before or during classes or examinations?	173 (78.6)	33 (15.0)	4 (1.8)	10 (4.5)
Were there any proper and well-explained protocols by the institutions if you weren't able to join due to technical issues?	147 (66.8)	52 (23.6)	4 (1.8)	17 (7.7)
Were you provided with the opportunities to develop your digital competence?	165 (75.0)	40 (18.2)	4 (1.8)	11 (5.0)

DISCUSSION

There are multiple challenges which the students and the faculty members could potentially face during an online class, for example, technical difficulties; which includes internet connectivity, device compatibility and software issues. Moreover, distractions at home, difficulty in engaging and interaction, lack of structure and accountability, assessment and

proctoring challenges, isolation and limited interaction, time management and balancing responsibilities, access to resources and materials, difficulty in replicating hands-on learning experiences and lastly mental health and wellbeing concerns.

The traditional concept of classroom learning has been gradually replaced by online teaching since the year 2020 when the world witnessed COVID-19 pandemic

which caused closing down of all teaching institutions across the globe, making more than one billion children sit at home. Globally, every country was in a different phase of the pandemic, and was trying its best to adapt and adopt new educational tools and technologies so that the educational process continues in a smooth and effective manner^{12,13}.

In the United states, online education was already on the rise even before the start of the current pandemic¹⁴. In India, many online learning platforms were already in place, for example MOOCs¹⁵. However, there were specific in-person sessions as well and examinations were always conducted on campus. The speed of the pandemic and the closure of schools were so fast that it was difficult to come up with a solution with all facilities. With this sudden shift away from the classroom in many parts of the globe, some were wondering whether the adoption of online learning during lockdown will impart quality education or not and how such a shift would impact the educational institutions. The teachers and students must have faced many obstacles/challenges, with some being quite problematic; therefore, it was important to discuss the issues with an aim to give suggestions for improvement.

Advantages of online classes: These may include the following: 1. flexibility in terms of time and location: students can attend classes from anywhere and at any time, as long as they have an internet connection. 2. Reduced costs: students may save money on transportation and housing costs associated with traditional in-person classes. 3. Increased accessibility: online classes can make medical education more accessible to individuals who may have difficulty attending traditional in-person classes, such as those with disabilities or those living in rural areas. 4. Self-paced learning: students

can progress through material at their own pace, allowing for individualized learning.

Disadvantages of online classes: 1. Limited interaction and collaboration: students may miss out on the social and collaborative aspects of in-person classes, which can be important for both learning and building relationships with classmates. 2. Technical difficulties: online classes can be disrupted by technical issues such as internet connection problems or software glitches. 3. Reduced hands-on experience: online classes may not provide the same level of hands-on experience as traditional in-person classes, which can be important for certain types of medical training. 4. Reduced accountability: students may have less accountability and structure in an online learning environment which can lead to procrastination and poor time management. Keeping in mind the results of the present study, which included teachers and students from well-established private institutions of Rawalpindi and Islamabad, who belonged to upper and upper middle socio-economic strata, almost ten percent of students did not possess any personal gadget to take an online class. In order to cater for this problem, schools may issue low-cost learning technologies such as laptops or tablets. A study conducted in Thailand in 2016 had given the same suggestion even before the COVID 19 pandemic. They had suggested that this provision would help the low-middle income nations to bridge the digital divide and will also take care of the unequal standards of education¹⁶.

In the present study almost half of the study population of students felt stressed out due to lack of institutional protocols for online learning. Similar results were observed in a study carried out in Lebanon by Fawaz et al in 2021. They observed that online learning resulted in increase of stress, anxiety and depression among students¹⁷.

During online examinations, the main issue for the students was the unstable internet connection and accessing the exam content. The teachers also had difficulty in ensuring fair examinations as it was difficult for them to prevent cheating, besides dealing with the non-serious attitude of the students. Similar problems were highlighted in a study conducted in Middle East by Guangul et al in 2020, where they identified non-serious attitude of students, problems of internet and cheating during exams as main issues of online exams¹⁸.

Recommendations and limitations

Institutional protocols regarding online classes should be in place. This should include availability of good bandwidth internet, provision of low cost laptops, and proper timetable of online classes and proper training of both students and teachers by the IT department of the institution. Moreover, behavioral and psychological counseling of students is essential to assist them in becoming responsible and to help them in addressing issues like stress, anxiety and depression secondary to online education.

It is also recommended that teaching institutions should conduct online classes at least once a week on a routine basis so that both students and teachers remain familiar with the process and are not fearful in case it is required to be done during a time of crisis. The government schools and the schools in the underprivileged areas could not be included due to paucity of time and non-availability of resources.

CONCLUSION

In the present study it was observed that despite having good access to internet around ten percent of the study population did not have access to either a laptop or a smart phone, therefore it was difficult for them to attend online classes. Moreover, the lack of institutional protocols, in case of any technical issues, made most of the students stressed out.

Consent to Participate: written and verbal consent was taken from subjects and next of kin

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