

## EXPLORING THE CHALLENGES AND EFFECTIVE PRACTICES IN ONLINE ASSESSMENT DURING COVID-19 PANDEMIC OUTBREAK IN PAKISTAN; A QUALITATIVE STUDY

Israr Ahmed<sup>1</sup>, Aqsa Batool\*<sup>2</sup>, Bushra Arshad<sup>3</sup>, Muhammad Shair Afgan<sup>4</sup>

Govt. Degree College of Special Education, Multan, Punjab, Pakistan<sup>1</sup>, PhD Scholar, Department of Applied Psychology, Bahauddin Zakarya University, Multan, Pakistan<sup>2</sup>, Department of Psychology, Institute of Southern Punjab, Pakistan<sup>3</sup>, M.Phil Rural Sociology, *Agriculture University Faisalabad, Pakistan*<sup>4</sup>.

**Corresponding Author:** \*<sup>2</sup>Email: [aqsa.psychologist@gmail.com](mailto:aqsa.psychologist@gmail.com)

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### ABSTRACT

The current study is aimed at exploring the key challenges in online assessment and effective practices in online assessment during COVID-19 in Pakistan. A qualitative study using semi-structured interviews was conducted by the researcher with students and teachers to get insight into the issues faced by them and the ways adopted by them to avoid or confront those problems and to identify some effective practices. This qualitative study involved 69 people, including teachers (25) and students (44) from various faculties and departments of Bahauddin Zakariya University Multan, Pakistan, by using a convenient sampling technique. All the interviews were recorded and transcribed for analysis. The collected data were then analyzed using thematic analysis techniques. The key findings of the study explored that, due to a lack of infrastructure for online assessment, teachers are facing inefficiency and the unsuitability of online assessment, and reluctantly, they have to face difficulties in dealing with plagiarized material as major challenges. On the other hand, students are facing challenges related to affordability, technical failures, and cheating issues in online assessment due to a lack of infrastructure in online education. This study also explored effective practices such as the open-book exam strategy, mandatory measures for online assessment, digital assessment, and developing infrastructure and training for teachers and students to cope with challenges faced during online assessment.

**Keywords:** Online assessment, effective practices, Covid-19

### INTRODUCTION

Assessment and education are so interlinked that it is hard to imagine the existence of one in the absence of the other (Mohamadi, 2020). Assessment in both forms, either assessment for learning or assessment of learning, is the core of the educational process (Khairil & Mokshein, 2018). Covid-19 pandemic is responsible for this compulsory shift of conventional education system to online education system across the globe. Online education is a consequence of the long journey travelled by “distance learning” by using interactive technologies, radio and television and postal system as tools available for communication those times (Kentnor, 2015). With the invention of world-wide-web and internet comes

the era of online learning, eliminating the inconvenience of travel time and spreading education to remote locations.

As to Pakistani education system, we could not find significant examples of online teaching and assessment in Pakistan and even if some of the modern institutions would have been using such virtual system of teaching and assessment, most of the educational institutions had not experienced such novel and modern system of education (Adnan & Anwar, 2020). In December 2019, Covid-19 was discovered in Wuhan (Huang et al. 2020). Person-to-person transference was reported by the results of the clinical analysis Covid-19 (Li et al. 2020). Analyzing

the acuteness and quick global spread of corona virus, it was declared as pandemic (WHO, 2020).

This sudden conversion of education system from conventional setting to online caused a lot of problems for many teachers (Joshi, Vinay & Bhaskar, 2020). The problems like students' and teachers' harsh experience of online teaching evolved because of unavailability of infrastructure and inconvenience of performing educational activities at home (Zhang et al., 2020). This happened in the middle of the academic year (2019-2020), all the universities had to shift suddenly towards online learning due to Covid-19 (Lederman, 2020).

It was not easy to convert from conventional to online learning mode in a short time. Multiple challenges and complications come with such a rapid conversion (Crawford et al., 2020). Already available technical resources were adopted by educational institutions across the globe, as nobody knows when to get rid of this pandemic completely, and academic experts were forced by Covid-19 to consider the online learning as the best possible choice to resume the educational activities minimizing the risks of infection (Kaur, 2020). Even with several advantages of online learning, it is still questioned in the terms of effectiveness and efficacy among teachers and researchers (McPherson & Bacow, 2015). The implication of online learning has been significantly operative in developed countries (Basilaia & Kvavadze, 2020). Most of the teaching, learning and even clerical activities in educational institutes in Pakistan are dealt manually (Salam et al., 2017). Teachers and learners in rural and remote areas are deficient in fast, affordable and reliable internet connections to continue online education in Pakistan (Wains & Mahmood, 2008).

Pace, Pettit, & Barker, (2020) named the current circumstances regarding education globally as "crisis learning". To cope with these educational crisis, academic organizations should meliorate curriculum and ensure the use of digital teaching methods in parallel with curriculum (Toquero, 2020). In Pakistan, because of unavailability of enough resources for higher education (Abbas, Ahmed, Khalid, & Yasmeen, 2017), even in digital ages, there were few universities which could start online education immediately after the pandemic outbreak.

This huge transition came with a lot of challenges. There may be two major types of challenges faced by students and teachers 1) internal factors like readiness, adoption and adaption to the change 2) external factors like infrastructure and the facilities. Gratz and Looney (2020) conducted a study which uncovered the teachers' readiness and reluctance to adopt emergent and unescapable online pedagogical activities resulting in time management for lecture preparation, teachers' deficiencies in online teaching skills and course content not supported by online teaching and learning. Likewise, Arora and Srinivasan (2020) explored the problems like lack of interest, lack of awareness, network issues, less interaction, attendance issues and lack of training as major issues for the teachers in online pedagogical activities. For a successful online learning, infrastructure is mandatory to be established well. It requires devices (mobile phones, tablets & computers), fast internet connections and a capacious living apartments where several family members could be able to perform their teaching and learning activities separately (Siegler, 2020)

Kaup, Jain and Shivalli (2020) also discovered problems regarding technology, student engagement and lack of teacher training in online education system during pandemic outbreak of Covid-19. Similarly, Verma, Campbell, Melville, and Park (2020) also notified that most of the teachers related to physical educational practices lack training of virtual teaching and learning process. During online classes, students behave inadequately by posting irrelevant comments, playing games, eating, making noise and playing music during the class (Punit, 2020). Teachers also complaint against working from home environment as it does not fit in educational setting. Cheating, academic misbehavior and plagiarism are reported as major problems during online assessment (Abubakar & Adeshola, 2019; Mella et al., 2018; Dermo, 2009; Mushtaque et al., 2021). In order to follow social distancing measures, the school, college and university campuses were forced to shut down around the globe (Toquero, 2020). Obviously, this sudden and overnight transition from the environment of conservative face-to-face education to virtual and online education environment had resulted in several challenges and difficulties (Crawford, et al., 2020). Higher education institutions have started assessing

students' online learning. For a fair online assessment, there must be some appropriate online assessment strategy. Fiseha, Adeel, Khalit and Khidhir, (2020) proposed a variety of online assessment strategies available to evaluate online learning of students. These online assessment strategies are categorized into two groups as (1) online proctored exams and (2) alternatives to online proctored exams. There was less work done on efficiency and efficacy of online learning on a large scale (McPherson & Bacow, 2015). Lack of interaction, low attendance, lack of interest, lack of awareness, lack of training and network problems are reported in the study conducted by Arora and Srinivasan (2020). Similarly, Kaup, Jain, Shivalli, Pandey and Kaup, (2020) reported students' engagement, system failure, bandwidth issues, lack of technology and training of teachers in online assessment during Covid-19 crises along with poor or no infrastructure such as laptops, microphones and internet. Trust issues emerge when students do not see their fellows, and assume that their fellows would be cheating and the proctor would not be able to detect that because many conventional teachers are new and unexperienced to teach online (Gülbahar & Adnan, 2020). Moreover, the ability of the teachers to successfully teach online and the content to be taught online did not completely match the digital ways of teaching and instructional priorities (Liguori & Winkler, 2020; Sarfraz et al., 2023). In the same line, Verma et al. (2020) advocate that many institutions were going short of trained teachers to conduct online classes remotely and the other faced trouble to accept the instant switch to online education. Teachers' lack of technical assistance and lack of control over class resulted in several malpractices such as eating and playing games, posting bad comments through, fake users, making noise and playing music (Punit, 2020). Lack of online teaching skills and shortage of time to prepare online lessons are the challenges on the other hand (Gratz and Looney, 2020; Hassan et al., 2022).

The challenges and problems do not end up here, there might be several other challenges faced by the students and teachers and effective practices to solve these problems which need to be uncovered and explored by conducting research. So, a few studies have been conducted on the challenges and effective practices in conducting online assessment during

Covid-19. This study aimed at exploring the challenges and problems faced during online assessment and it will provide useful and effective practices to avoid or solve those problems as well

### **SIGNIFICANCE OF THE STUDY**

Like all other fields of life, Covid-19 pandemic has struck academic sector on a larger scale as well. Haphazardness created by this novel and inevitable situation put all the education related personnel in randomness. In the developing countries like Pakistan, education system paused initially just after the outbreak of this pandemic. This sudden transition from on-campus to online education system has caused great abruption in teaching and learning process. Online system of education came with a lot of technological applicability all of a sudden, requiring students and teachers to start online educational activities to move forward academically. There were teachers and students who never used any technological software or application for online studies. In spite of all this, there was another problem that which of the available software to use and which of them may suit their studies exactly. This qualitative study is important for the teachers and students related to online learning as it will help them highlight and document the challenges and problems faced during online assessment and it will provide useful and effective practices to avoid or solve those problems as well.

### **RESEARCH QUESTIONS**

On the basis of research questions, following research questions were designed:

- 1) What are the challenges faced by university teachers and students during online assessment?
- 2) What are the effective practices highlighted by the university teachers and students to avoid/tackle the challenges faced during online assessment?

### **RESEARCH METHODOLOGY**

#### **Procedure and Sampling**

This qualitative study was planned to explore the challenges and effective practices in online assessment during COVID-19 pandemic outbreak. The main purpose of the study was to get insight of the teachers and students of Bahauddin Zakariya

University Multan regarding challenges and effective practices in online assessment as a result of overnight conversion from conventional to online education system. Semi-structured interviews were conducted by the researcher with students and teachers to get insight of the issues faced by them and the ways adopted by them to avoid or confront those problems and to identify some effective practices. This qualitative study involved 69 persons including teachers (25) and students (44) from various faculties and departments of Bahauddin Zakariya University Multan by using convenient sampling technique. All the interviews were recorded and transcribed in view of analysis. Collected data were then analyzed by using thematic analysis technique.

### **RESEARCH INSTRUMENT**

Two interview protocols were developed to collect data from teachers and students. These interview protocols were designed by researcher with the help of literature to maximize the reliability of results. Interviews were conducted with 44 students and 25 teachers from different departments, from different faculties of BZU, Multan. The interview protocol used for teachers contained nine open ended questions and sub-questions regarding difficulties faced during online teaching and online assessment of students' achievements, and possible solutions for these problems in this virtual system of education/ The interview protocol used for students contained eleven open ended questions and few sub-questions for each main question to explore the challenges and issues of learning and assessment faced by them during quarantined at home and effective practices to meet those challenges.

The sample questions of teachers' interview protocol are the following:

- *What kind of communication problems do you face during online teaching and assessment?*
- *How do you tackle with the problem if you face system failure or technical issue during exam?*

The sample questions of students' interview protocol are the following:

- *Which particular challenges or difficulties are you facing during online class/assessment?*
- *How do you resolve if you have any query/issue/problem during online exam?*

### **DATA COLLECTION**

Data were collected from the teachers and students after obtaining their consent to record the interview verbatim. Before starting the interviews, information was provided to the interviewees related to the research project and the importance of the study was also shared with them. Data were collected only from those who were willing to share their experiences. The variety among the student participants was ensured as they belonged to different departments and different faculties ranging from twenty to twenty-five years of age. Most of them were in their last semesters and a few other ones. As only the last semester students were present at the campus, most of the recorded interviews are face-to-face but, to ensure variety among sample, very few interviews were recorded via phone call to give raise to the voices of the students stayed at home due to implemented policy of university in view of Covid-19 protocols. The interviews were of 15-25 minutes in length. As to teacher interviewees, they were associated with different faculties and departments as well. They were serving on different positions from lecturer to professor and even head of department with 5-30 years of teaching experiences.

### **ETHICAL CONSIDERATION**

During data collection, all the ethical issues were taken into consideration. Informed consent was obtained from different heads of department before collecting data from the students. The interviews were recorded after gaining permission from the interviewee with the option share or hide any kind of personal information and to withdraw at any time and even without explaining the reason. Researcher assured the respondents about the confidentiality of their responses and personal information.

### **DATA ANALYSIS AND RESULTS**

The study was conducted to explore the challenges and effective practices in online assessment during Covid-19 pandemic outbreak. Thematic analysis technique was applied to analyze data. Initially, the data was transcribed and then researcher gone through the interview transcripts to get familiar with data. After getting conversant with the transcribed data, the initial codes were identified. Having done with coding, the researcher compiled the similar codes together and sorted out the emergent themes. After

reviewing, each theme was named and presented in a cohesive manner aligned with the nature of the interview questions. Lastly, each theme was reported with the help of interview fragments along with calculated frequencies and percentages. The following section will be presenting the results of teachers' interview:

**DEMOGRAPHIC INFORMATION OF THE PARTICIPANTS**

Data was collected from the teachers of Bahauddin Zakariya University, Multan. The teachers belonged to different faculties and the data was collected from both male and female teachers. Their qualification ranged from M. Phil to Postdoc and their teaching experiences ranged between five to thirty years.

**Key Challenges in Teachers' Online Teaching and Assessment Experience**

Teachers were asked about the key challenges in online assessment. Following themes were identified by the researcher from the responses provided by the teachers.

**Table 01**

Identified themes	Frequency of codes	Percentages of themes
Difficulties in interactive teaching	29	20.57%
Socio-economic status of students hindering effective teaching	17	12.05%
Difficulties in shifting to online education	33	23.40%
Lack of infrastructure	26	18.44%
Technology facilitation in teaching during pandemic	21	14.90%
Difficulties in fair assessment	15	10.64%
<b>Total</b>	<b>141</b>	<b>100%</b>

Table shows that 141 codes were identified in relation to interview data. In view of data reduction and better presentation of results, similar codes were merged together, finally all the codes were presented in the form of six comprehensive themes. For comprehensive presentation of analysis, researcher calculated the percentages of each theme. For difficulties in shifting to online education, the highest

percentage (23.40%) was calculated and the lowest (10.64%) percentage was obtained.

**Difficulties in Interactive Teaching**

In the view of difficulties in interactive teaching, (20.57%) occurrences were identified. Teachers reported multiple factors affecting the efficiency of online teaching. Home environment, low participation level and one-way communication are among the factors highlighted by teachers. This can be confirmed through the following interview fragments:

A participant said:

*“There are so many problems in online teaching. The participation of the students is very limited. If the students are not willing to participate in the class, the teacher can do nothing.” (T-06)*

Another interviewee said:

*“But in online system we lack eye contact with them. It is a blind teaching. Because of the uncomfortable and non-supporting atmosphere at home, students do not ask question.” (T-12)*

**Socio-economic Status of Students Hindering Effective Teaching**

After analysis, (12.05%) occurrences were obtained for socio-economic status of students hindering effective teaching. Research participants claimed that socio-economic status of students plays a pivotal role in online learning. Unavailability of technological gadgets and uncomfortable learning atmosphere at home are affecting online learning. Following interview chunks can be viewed for confirmation:

An interviewee reported:

*“The biggest reason for this is that the students belonging to different backgrounds. Not all the students are*

*enjoying the availability of the facilities and gadgets for online system of education.” (T-15)*

Another participant narrated:

*“Most of the students are not economically sound, they live in small houses. During lecture, they face continuous noise from family members like everybody is talking behind them and they can hardly focus on listening the lecture. It is not easy to understand the lecture.” (T-12)*

#### **Difficulties in Shifting to Online Education**

For difficulties in shifting to online education, (23.40%) occurrences were identified by researcher. Teachers have reported several malfunctions in online education. After confronting readiness issues, teachers found novel assessment complicated and claimed it to be unfit and unsuitable for some fields.

Following quotations are presented for verification:

A teachers commented:

*“Online system does not fit for science faculties. As in our case of chemical sciences, there are chemical equations, derivations and mechanisms which need physical settings to understand. Online system is not so equipped for and not suitable for such kind of studies.” (T-03)*

Another participant reported:

*“The students and teachers are not well aware of the system and the operational technology used in online system. Yes, if*

*we have to have long time and we have to go on with this system and technology, we will definitely master it.” (T-04)*

#### **Lack of Infrastructure**

In relation to lack of infrastructure, (18.44%) occurrences were discovered by the researcher. Interviewees highlighted the difficulties in online teaching due to lack of provision of required infrastructure. Unavailability of compatible gadgets, lack of technological support and inaccessibility of proper LMS are depriving teachers and students of having better academic experiences. Given interview quotations advocate the theme:

A participant said:

*“As far as teaching is concerned, there are so many problems in online teaching. First of all, our technical support is not very good. The system which was adopted by the university was not fully functional.” (T-06)*

Another participant highlighted:

*“We are jumping from one tool to the other experimenting and searching for the best way to teach online. No online platform is as efficient as the physical classroom is. In mathematics, we have a direct link among teacher, student, marker and the white board. Online educations do not suit us.” (T-05)*

#### **Technology Facilitation in Teaching During Pandemic**

Researcher identified (14.90%) occurrences in the view of technology facilitation in teaching during pandemic. Teachers acknowledged the technology for assisting students in remote teaching while

quarantined. They remarked that technology not only provided them with novel teaching experiences but also prohibited teaching and learning to shut down completely during lockdown. Given interview excerpts can be referred in this view:

A teacher commented:

*“Online teaching experience is very good. It was something new and very exciting. All the teachers are learning from this online teaching. Recording video lectures and delivering online lectures is quite exciting experience.”* (T-16)

Another teacher stated:

*“My experience is quite good in online system. By the teaching point of view, we are using various means like Google classroom, Zoom and WhatsApp.”* (T-09)

#### Difficulties in Fair Assessment

In the view of difficulties in fair assessment (10.64%) occurrences were derived. Several deficiencies are indicated by the teachers in online assessment. Substandard security parameters, students’ dishonesty during exams and lack of online proctoring are compromising the integrity of online assessment. Following interview fragments can be consulted for confirmation:

A teacher reported:

*“Online assessment experience is bad because students mostly are dishonest. Whatever we do, all the answer sheets are the same. We have no invigilation system. In spite of making open-book exam, the students share each and every solution.”* (T-16)

Another teacher added:

*“But as far as assessment is concerned, it is not going that well. Because whatever type of question it is, students are able to find the way to cheat and consult other students and use unfair means to produce answers to the questions.”* (T-25)

#### Demographic Information of Students

The researcher collected data from the students of Bahauddin Zakariya University, Multan. Students belonged to different faculties and their semesters ranged from three to five. The participants belonged to BS and MA/MSc. programs. The ages of the participants ranged from 20 to 25.

#### Challenges in Online Learning and Assessment

The participants were asked to share challenges faced during online learning and assessment. Researcher identified following themes from the data provided.

**Table 2**

Identified themes	Frequency of codes	Percentage of themes
Inefficiencies in online learning	39	28.26%
Lack of infrastructure	41	29.71%
Difficulties in interactive learning	17	12.32%
Deficiencies in online assessment	19	13.77%
Difficulties in class participation	22	15.94%
Total	138	100%

Table depicts that researcher obtained 138 codes from the interview data for third question of students’ interview data. For better presentation, after merging the similar codes together the data was reduced to five concrete themes. Percentages for each theme were calculated by researcher for better presentation of analysis. The figure 4.9 given below, presents the comparative percentages of all the themes. Lack of infrastructure attains the highest (29.71%)

percentage and difficulties in interactive learning owns the lowest (12.32%).

#### **Lack of Infrastructure**

In relation to lack of infrastructure, (29.71%) occurrences were discovered by researcher. Students have stated that online system is lacking required infrastructure. All the students do not possess compatible gadgets and not even avail fast and reliable internet connectivity. The inefficiency of LMS was the other issue reported by students in online learning. Given interview quotations advocate the theme:

An interviewee said:

*“Yes, of course. Our department developed that LMS. It was suffering from the problem of data connectivity. They were unable to manage the server well. It was unable to provide data connection because of sudden and numerous connection requests by the students and teachers and collapsed.” (S-12)*

Another student shared:

*“Problem is the deficiency of infrastructure for the students as all the students do not have smart phones and tablets or laptops to carry on their studies. Having no infrastructure creates several difficulties.” (S-05).*

#### **Difficulties in Interactive Learning**

Researcher identified (12.32%) occurrences in the view of difficulties in interactive learning. While learning online, students have highlighted that there are no engaging factors in online learning as teachers and students are not putting their efforts for interactive teaching. There are mostly offline lectures and no live interaction between teachers and

students. Given interview excerpts can be referred in this view:

A participant remarked:

*“Teacher was also unable to engage the class. Lectures were boring and not effective. Students were becoming lenient because of teacher’s irresponsible attitude.” (S-08)*

Another interviewee highlighted:

*“Some teachers advised us to take lecture from YouTube, that was also disturbing. Only few teachers were cooperative. Some teachers were non serious that they provided us the topic via WhatsApp groups, and asked us to search them on YouTube. In short they did not take online classes.” (S-43)*

#### **Inefficiencies in Online Learning**

For inefficiencies in online learning (28.26%) occurrences were identified by the researcher. Students involved in online learning have commented that there are a lot of deficiencies in online learning as it lacks two-way communication, contradiction between content and the medium and lack of simultaneous teaching and learning. Following quotations are presented for verification:

A student articulated:

*“The very first problem was the communication gap. We were unable to ask questions related to our studies. Our study requires discussion for better preparation which we missed.” (S-26)*

Another student added:





*“There was no fix timing for our lectures. Teachers used to share audio lectures when they are free and we used to listen to that when we are free. There was no simultaneous teaching and learning to encourage questioning during online classes.” (S-40)*

**Deficiencies in Online Assessment**

In the view of deficiencies in online assessment, (13.77%) occurrences were derived. The students have highlighted the malpractices in online assessment. The shortage of time, preparing and uploading scanned copies of answer sheets and dealing with the problems related to internet and bandwidth problems are among the main challenges for the students in online assessment. This can be confirmed through the following interview fragments:

An interviewee stated:

*“The time for submission of paper was not enough. Sometimes there were internet connection problems, sometimes bandwidth problems, sometimes there was shortage of time to prepare PDF and sometimes the file size was larger than the allowed one.” (S-31)*

Another participant narrated:

*“I personally got not better results in online system. Generally, most of the students stay benefitted by the online education system in the terms of results. Low and medium achiever students benefitted*

*more than the high achiever students in online academic system.” (S-34)*

**Classroom Participation**

Interviewees were asked to verbalize how they participated in online classroom activities. Following themes were derived after analyzing the data provided by interviewees:

**Table 3**

Identified themes	Frequency of codes	Percentages of themes
Difficulties in classroom participation	78	83.87%
Opportunities for classroom participation	15	16.13%
Total	93	100%

Table shows that 93 codes were identified in relation to classroom participation. In view of data reduction similar codes were merged together to form two comprehensive themes. For better presentation of analysis, researcher calculated the percentages of both theme. Difficulties in classroom participation possesses the highest (83.87%) and opportunities for classroom participation attains the lowest (16.13%) percentages among the themes for classroom participation.

**Difficulties in Classroom Participation**

Researcher identified (83.87%) occurrences in the view of difficulties in classroom participation. Students involved in online learning reported that there were problems related to participation in online class. They shared that there have not been live online classes to participate in. If there were, students didn’t take interest to take part in class activities. Given interview excerpts can be referred in this view:

Another student narrated:

*“For class activities, there must be live classes. How can you ask question while listening to an audio?” (S-11)*

Another participant added:

*“There were not any kind of extra activity.*

*The only priority was completion of syllabus. There was one-way communication. It was overall teacher-centered class.” (S-08)*

### Opportunities for Classroom Participation

After analysis, (16.13%) occurrences were obtained for opportunities for classroom participation. While learning online, students have highlighted that there have not been frequent classroom activities. They shared that only few assignments and presentation were assigned to the students to participate in online classes. Following interview chunks can be consulted for confirmation:

An interviewee told:

*“There were not too much activities in online classes. I think only the assignment was the activity we performed during online class.” (S-31)*

Another interviewee shared:

*“There have been some topics assigned by the teachers to every student and then we had to prepare those topics and send them a written assignment.” (S-23)*

### Effective Practices in Online Assessment

#### Applying Open-Book Exam Strategy

For applying open-book exam strategy, (36.36%) occurrences were identified by the researcher. The teachers shared the way they adopted against cheating in online assessment. They stated to implement the best possible way to refrain students from cheating by developing exploratory and analytical kind of questions for online assessment. Following quotations are presented for verification:

An instructor articulated:

*“Students should be asked question in such a way that they should be able to present their own point of view instead of one absolute*

*answer, then it is possible to differentiate ability of different students.” (T-23)*

Another teacher stated:

*“What we did is, we set the papers which were applied in nature. Students have to analyses and then they have to write on the paper.” (T-09)*

### Digital Online Assessment

After analysis, (29.73%) occurrences were obtained for digital online assessment. Online assessment has been reported to have multiple inefficiencies, as stated by several teachers dealing with it. They have expressed the need for making improvements in online assessment by posing some effective practices to tackle inefficiencies such as lack of control, lack of online proctoring and lack of digital assessment tools, etc. Following interview chunks can be consulted for confirmation:

A teacher commented:

*“What I want to do to ensure qualitative assessment is that teacher must conduct assessment in the MCQs form but it must be digital.” (T-24)*

Another participant told:

*“But for online assessment, there should be some system like MCQs for different students appearing at the same time and they should answer within the limited time, in few seconds, for example. If we make corrections in online assessment, many things will be corrected automatically.” (T-16)*

Another interviewee added:

*“Exams can be conducted here in the*



*department as I have already mentioned. The deficiencies can be covered by interviewing the students online.” (T-13)*

### Handling with Students’ Malpractices

For need for handling with students’ malpractices, (24.65%) occurrences were identified by the researcher. The teachers involved in online teaching and assessment have criticized various misconducts of the students related to online learning and assessment. To meliorate the quality of online learning and assessment, teachers have advocated particular activities and behaviours to be adopted by the students. Following quotations are presented for verification:

Another instructor articulated:

*“As per students, they must show their interest in studies, interact with the teachers and participate in the class. Furthermore, they must focus the moralities while online assessment. They must work hard in studies in order to prevent cheating in online exams.” (T-19)*

Another teacher added:

*“First of all they are seeking the degrees. They do not want to learn. If they make changes in their behaviors related to learning and assessment, then we can expect a major shift towards success.” (T-06)*

### Accommodating the Deficiencies

In relation to accommodating the deficiencies, (43.75%) occurrences were discovered by the researcher. Students highlighted that they have faced several challenges such as poor internet connectivity,

interactive learning and infrastructure while learning online. They stated that they tried to solve their problems but there were some which were the unsolvable and they just compromised with those challenges. Given interview quotations advocate this theme:

Another student narrated:

*“We never paid attention towards the one-way passive mode of teaching and learning. We knew about the practices to be done in the online assessment, we did not bother ourselves. As we compromised our learning, we compromised again in assessment too.” (S-40)*

Another participant verbalized:

*“Teachers behaved very well in this regard and they are quite lenient with the students. Nobody was ready for this sudden transition, that’s why I think everybody started compromising with each other in learning and assessment.” (S-21)*

### Developing Better Infrastructure for Effective Assessment

In relation to developing better infrastructure for online teaching and assessment, (55.07%) occurrences were discovered by researcher. The prevailing circumstances in view of online teaching and learning is not favourable and ideal. They have required economic, suitable and enriched infrastructure to meet insufficiencies in online teaching and assessment. Given interview quotations advocate the theme:

An interviewee remarked:

*“If you have resources, you may be able to get rid of every kind of problem. If government*



*takes an initiative to provide technological gadgets and cheaper internet packages to the students, there may be some improvements.”*  
(T-22)

Another teacher added:

*“There must be better infrastructure. In our case, the LMS must be improved in appropriateness.”* (T-14)

### **Training of Teachers**

Researcher identified (43.71%) occurrences in the view of training of teachers. The students involved in online learning proposed some ideas for the teachers. They commented that teachers must be trained with reference to online teaching and they must involve students in interactive learning. Further they suggested that teachers must learn to operate system software to take a better control over class. Given interview excerpts can be referred in this view:

Another participant shared:

*“Teachers must be trained to use LMS and control the class online from a distance. Students must be bound to a system. There must be some compulsion on the students to attend the classes regularly.”*  
(S-40)

An interviewee said:

*“There must be a well-developed system giving control to teachers. Afterward, teachers must be trained to operate the system efficiently.”* (S-29)

### **Students Should be Trained for Online Learning and Assessment**

In relation to students should be trained for online learning, (25.42%) occurrences were discovered by the researcher. Students gave suggestions for the

betterment of their attitude towards learning. They remarked that students must be serious towards their academics and play a responsible role for learning online. Given interview quotations advocate the theme:

A student verbalized:

*“There is a need to improve mental level of the students to reduce cheating like activities. We should take these things seriously, because if they become habitual, it will be difficult to get rid of them.”* (S-28)

Another student told:

*“There is a need to improve students’ attitude towards online learning and assessment. They will learn only when they will play a responsible role in online assessment.”* (S-05)

### **DISCUSSION**

The present study was aimed at exploring the challenges and effective practices in online assessment during Covid-19 pandemic outbreak. The study found that teachers and students faced difficulties in shifting from conventional to online education. This is in line with the results of Zhang et al., (2020), Adnan, Anwar and Ahmed (2020). they found that sudden shift from conventional to online teaching and learning was troublesome for teachers and students. They stated that it was a harsh experience for teachers and students to adopt online education because of unavailability of infrastructure and inconvenience of performing educational activities at home (Mushtaque et al., 2022). This findings of this research highlighted that teachers need training to deal with online teaching and to learn operative technology used in online teaching. This is consistence with the study results of Mahesh (2020) and Azevedo et al., (2020), they found that the well-trained teachers are much confident and productive in online teaching and assessment than the teachers

who are untrained in the terms of online teaching and assessment. The current study explored that teachers are not ready for online teaching, were feeling difficulties in conducting synchronous online class and to engage students in learning process due to a lack of proper infrastructure (Hassan, Malik, et al., 2022). This is in accordance with the findings of Gülbahar and Adnan (2020); Arora and Srinivasan (2020), they found that the problems such as a lack of interaction, low attendance and a lack of interest of students are the drawbacks of a lack of teachers' training and unavailability of appropriate infrastructure. The present study found that online education is not suitable for all the subjects as there is a contradiction between the teaching mode and the content of few subjects being taught online. This confirms the study results of Gratz and Looney (2020), they explored that the online teaching platforms, teachers' online teaching skills and the online teaching content are not parallel to each other and all the subjects are not feasible to teach and assess online (Zhao et al., 2022).

The study identified that students were confronting the unavailability of reliable and consistent internet connection, supportive bandwidth and shortage of technological gadgets to avail online learning during Covid-19 pandemic outbreak. This is in accordance with the results of Kaup, et al (2020); they have identified that Covid-19 crises came up along with poor internet, system failure, bandwidth issues, a lack of technological support and poor or no infrastructure such as laptops, microphones and internet. This study revealed that in the absence of online proctoring, students have been involved in cheating during online assessment. This is in line with the findings of Fiseha et al., (2020); Abubakar and Adeshola, (2019); Mellar et al (2018), they identified that teachers report students' cheating, academic misbehavior and plagiarism in un-proctored online assessment and there is a need to take preventive measures and secondary plan for online assessment.

### RECOMMENDATIONS

The sudden imposition of online education across the world caused haphazardness among the higher education institutions especially those which have never been to online academic practices. In a developing country like Pakistan, because of

shortages of funds for education, it was difficult to deploy online education overnight. There is a need to develop infrastructure and to train teachers and students for online learning and assessment. Here we put forward some recommendations for consideration:

It is suggested for the teachers to use interactive teaching strategies while teaching online to make learning interesting and to involve students in learning process. It is suggested for the teachers to utilize some online assessment software and to employ the possible online proctoring in online assessment. It is to recommend higher education institutions to develop a better private learning management system to teach and assess students online, instead of utilizing already available busy teaching tools to produce quality learning. It is to suggest higher education institutions to conduct seminars and training sessions for teachers and students in the view of online teaching, learning and assessment.

### CONCLUSION

The major purpose of this study was to explore the challenges and effective practices in online assessment during Covid-19 pandemic outbreak. The key findings of the study explored that due to a lack of infrastructure for online assessment, teachers are facing inefficiency and unsuitability of online assessment and they have to face difficulties in dealing with plagiarized material as major challenges. On the other hand, students are facing the challenges related to affordability, technical failures and cheating issues in online assessment due to a lack of infrastructure in online education. This study also explored the effective practices such as open-book exam strategy, mandatory measures for online assessment, digital assessment, developing infrastructure and training of teachers and students, to cope with challenges faced during online assessment.

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