CONSTRAINTS AND CHALLENGES OF ONLINE TEACHING DURING COVID-19

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ABSTRACT

The COVID-19 pandemic has brought significant changes in all spheres of life globally. The pandemic has adversely affected many sectors, and education is one of them. The paradigm shift of online teaching from face-to-face or conventional setup forced educators and teachers to accept these challenges and use different means of communication to deliver education to the students. As a result, traditional teaching has shifted to online. This shift has also raised various issues, constraints and challenges for the faculty members. Thus, this study aimed to determine the constraints and challenges of online teaching faced by the teachers of public sector universities during the COVID-19 pandemic. For data collection, an online survey was conducted with university teachers and a questionnaire based on five point Likert scale was used for this purpose. Descriptive statistics, correlation, and independent sample t-test were conducted for data analysis. This study provides insight into the challenges and identifies the constraints as a reference source for the university management and teachers.

Keywords: Constraints; Challenges; Online Teaching; Covid-19

INTRODUCTION

Many challanges has been orignated by the COVID-19 pandemic, the most critical one encountered by the higher education sector in Pakistan. According to the World Health Organization, COVID-19 as a pandemic caused an imperative changeover of teaching and learning from conventional to online worldwide. Globally, this pandemic has transformed the entire educational system and replaced it with online learning due to persistent covid episodes (Johnson et al., 2020).
This paradigm shift demanded an imperative obligation for teachers to use digital and virtual platforms to ensure continuous delivery. Online learning is associated with technological devices such as computers, laptops, tablets, smartphones, and internet connectivity (Dhawan, 2020).

Hodges et al. (2020) stated that effective online teaching demands efficient instructional design, planning, and development. Moreover, it also requires a resourceful support system. But all these aspects were lacking due to the urgent situation of the COVID-19 pandemic. This global change increased pressure on educational institutions to mitigate this transformation of teaching (Rodriguez-Segura et al., 2020). An unexpected shift in teaching practices and various obstacles encountered in online education, such as limited technical knowledge and teaching proficiencies. Insufficient and weak infrastructure and connectivity issues were also found (Uwezo, 2020). In China, without proper technical guidance and infrastructure, teachers delivered lectures from their confined homes during COVID-19 and the same was practiced in other countries of the world (Zhang et al., 2020).

The transition mode of online teaching was a big challenge, predominantly for developing countries like Pakistan, where along with infrastructural and financial constraints, internet accessibility and connectivity issues restrict the smooth transition of online learning. In Pakistan, higher education institutes are based on the traditional mode of education. Very few institutes are based on distance and virtual modes of learning. Notably, Allama Iqbal Open University provides distance education to the masses. Virtual University of Pakistan is another one, a leading ICT-based university that efficiently offers online distance education across the country. Therefore, these universities didn't face significant challenges during the pandemic due to their pre-established online teaching and learning systems. However, a big number, 141 public sector universities throughout Pakistan and specifically 42 public sector universities in Punjab, shifted to online teaching, which raised many constraints and challenges for the teachers of these universities as well (HEC, 2022).

LITERATURE REVIEW

The transition from conventional teaching to online methods during the Covid-19 pandemic forced institutions, teachers and students to adopt new learning mode i.e. e-learning though with limitations and complexities (Rasmitadila, 2020). This process affected teachers and students equally (Mailizar et al., 2020). Students and teachers in this transition have unavoidably encountered with various issues and complications. The institutional closure and inadequate facilities like laptop, internet at home adversaly affected the students (Apriyanti, 2020).

Poor techniqal skills and poor infrasture along with inefficient institutional strategies were the major constraints identified by O'Doherty et al. (2018). Burns (2011) mentioned the barriers to online education are a lack of support services, such as instable internet connection, absence of basic skills to study in online mode and inability of teachers skills to deliver live. Rasmitadila et al. (2020) uncovered technical obstructions, student conditioning and student participation in online education during the covid scenario.

Along with constraints, there is an imperative need to address the challenges associated with online teaching for teachers and students in higher education. It has been asserted that student-teacher interaction in online classes was lessened compared to face-to-face settings. It was also noted that students were less likely to participate in group discussion activities (Dumford & Miller, 2018). Dhawan (2020) highlighted technical issues such as login problems, dowbloading difficulties, having no idea of installing softwraes and issue in audio-visual connectivity for the online class. Furthermore, accessability and affordability of the internet were other challenges reported b authors regarding online learning.

For Norton et al. (2013), major challenges for online teaching and learning included communication barriers, interpersonal skills, training and support for both teachers and students. Shuey (2002) discussed challenges faced by instructors in higher education in online settings in assessment, evaluation, and performance activities.

Teachers generally experience heavy workloads, time limitations and excessive administrative tasks (Mercer & Gregersen, 2020). Specifically, in Covid-19, the boundaries between teaching and home were distorted when additional challenges included a lack of resources; training; and balancing work-life experienced by women (Kalsoom& Shah, 2021, in press; MacIntyre et al., 2020).

Besides technical and infrastructural constraints and challenges to online teaching, the responsibilities of professional women were also increased during Covid. The concept of work-life balance has taken differently in COVID-19 (Fodor et al., 2020). Research shows that during war times, starvations or disease epidemics increase women's responsibilities (Bradshaw, 2015; Mondal, 2014). During Covid-19, professional women faced more challenges in their work responsibilities alongside family care. At the same time, the most stressful profession is considered teaching (Gregersen, & Mercer, 2020; Johnson et al.,2005; MacIntyre).

Gender differences were also found by Wu and Cheng (2019) in their study of online learning, the study findings reported females used less behavioral strategies in online teaching than males. However, another study conducted in Pakistan reported that during Covid pandemic females proved to be more affective teachers and better communicate online as compared to the male teachers (Rafique et al., 2021).

Likewise, in Pakistan, the distinctive rise of online learning has changed education settings dramatically. During the Covid-19 pandemic, universities were directed to move educational activities to a virtual teaching mode. The Higher Education Commission of Pakistan directed all universities to initiate online classes with a well-built learning management system (LMS) to achieve maximum results (HEC Orders, 2020). Notably, The Ministry of Education and Federal Training, Pakistan (2020) identified technology-based education interventions accessibility through radio, television, Zoom, Google Classroom, and Microsoft Teams.

Besides this change of process with the virtual mode of education, it was largely a new experience for teachers in Pakistan. Teachers faced difficulties adapting to the online teaching mode due to their limited expertise in online education. It was unprecedented and unplanned, and educators and students were forced to adopt this transformed method to continue learning. However, those unfamiliar and not ready to embrace sudden online teaching and learning methods encountered certain challenges (Waqar, 2020). This urgency requires a further review of Pakistan's teacher's professional development in online teaching.

With this background, the current study aims:

- To explore teachers' perception towards online teaching practices during the COVID-19 pandemic.
- To explore the constraints of university teachers towards online teaching during the COVID-19 pandemic.
- To examine the challenges encountered in online teaching during the COVID-19 pandemic.

Scope of the Study

The study is significant as it describes the faculty's experience, constraints and challenges while shifting the teaching mode from conventional to online. The opinion of male and female

faculty members working in public sector universities was taken as this shift was new for them, and they experienced the difficulties and challenges of online teaching.

METHOD AND PROCEDURE

This study adopted the quantitative research methodology, and through a web survey, the opinions of 70 faculty members working in Lahore's public sector universities were taken. The reason for choosing the faculty of public sector universities was that these faculty members deal with a vast majority of students that belong to dispersed geographical areas of the country. Moreover, it is also a common perception that public-sector universities have fewer facilities than private-sector universities. The questionnaire link was shared with faculty members through emails, and a response rate of 53% was obtained. The tool was a self-reported measure based on a five-point Likert scale, having a Chronbach alpha of 0.74. Moreover, the reliability analysis of each scale was also done.

Table 01

Descriptive Statistics and Reliability Coefficient for perception, experience, constraints and challenges faced by faculty members in online teaching during Covid (N=70)

| Variables | K | M | SD | Range | | A |
				Actual	Potential	
Perception	2	8.21	1.034	2-10	2-10	.72
Experience	5	22.40	2.09	5-25	05-25	.74
Constraints	8	33.72	2.60	8-40	8-40	.73
Challenges	6	24.31	2.22	6-30	6-30	.75

Note. k = number of items, M=mean, SD=standard deviation, α= Cronbach's alpha

Table 01 shows the descriptive statistics, including mean, standard deviation, and actual and potential ranges. However, Cronbach's alpha was also reported for perception, experience, constraints and challenges faced by faculty in online teaching. Cronbach's alpha ranges from .72 to .75, which falls under the good range of internal consistency.
Descriptive statistics, correlation and independent sample t-test were run to find out the difference between the opinion of male and female faculty members regarding online teaching.

RESULTS

Data were obtained from 70 teachers who taught students for the first time through online learning, 49% of respondents were males and 51% were females. Most respondents (90%) belonged to public sector universities, and 10 % were from private sector universities. About 47% of the faculty participating in the research were from the Social Sciences domain, and 20% and 21% of respondents were from Natural Sciences and Arts and Humanities, respectively. A majority of 44% had 18 years of education, 24% of the respondents were PhD, and only 2 per cent had just 16 years of education. A majority (55%) had seven years, and above of teaching experience, 24% of the faculty had 4-6 years of teaching experience, whereas 20% of the respondents had 1-3 years of teaching experience in conventional mode. About 92% of respondents had personal devices like a

laptop/Personal computer, whereas 8% did not have this facility. About 78% of respondents also had high-speed internet facilities at home during covid19.

Perception, Experience, Constraints and Challenges faced by teachers in teaching through online mode

Data in table 2 shows that different dimensions of scale identified the perception, experience, constraints and challenges faced by teachers during covid while shifting towards online teaching. The tool was based on a five-point Likert scale ranging from Strongly agree to Strongly disagree. Results show that teachers narrated highly favorable responses while considering online teaching as easy, flexible, and convenient (*M=4.07, SD=.572; M=4.14. SD=.596*).

Results of the faculty members regarding their experience of online teaching show that teachers experienced more workload (*M=4.22, SD=.594*), additional responsibility to train the students regarding taking a class through online mediums (*M=4.08, SD=.696; M=4.10, SD=.593*), the more working hours disturbed their personal life (*M=4.12, SD=.657*) and overall institutional monitoring mechanisms were more strict during covid (*M=3.85, SD=.707*) however these numbers shows less pressure on the faculty as compared to the other factors that determined teachers difficult experience of teaching in a different mode.

Table 02

Descriptive Statistics of the Perception, Experience, Constraints and Challenges faced by teachers in teaching through online mode

Indicators	Mean	Standard Deviation
Perception		
Teaching through online was easy and flexible.	4.07	.572
I found online teaching convenient.	4.14	.596
Experience		
Online teaching increased working hours in a day.	4.22	.594
Additional responsibility of training of students to get familiar with online meetings was a big issue.	4.08	.696
Students' training with different software was difficult for me.	4.10	.593
Discomfort was created in work and personal life balance during online teaching.	4.12	.657
Monitoring system of institute was strict in online teaching.	3.85	.707
Constraints		
Scarcity of devices (mobile, laptop, internet device, headphones, cameras etc) was a common problem faced by students during this duration.	4.35	.614
Unstable internet connectivity was faced.	4.45	.606
Lack of suitable environment for online teaching at home (presence of children, family members) was an issue for me.	4.18	.620

I experienced lack of training on distance learning facilities and method of online teaching.	4.05	.611
I found limited technological skills/expertise, ICT knowledge for online teaching.	4.04	.575
I faced resistance from students towards online learning.	4.15	.580
I found it difficult to manage students for group task working in online teaching.	4.11	.640
Level of interaction with students in online teaching was lower than in conventional class.	4.35	.660
Challenges		
I experienced more workload in online teaching as compared to routine teaching.	4.07	.708
It required more time to prepare creative lectures (PPTs, live worksheets) for online courses/teaching.	4.27	.635
Use of video conferencing, software (Zoom, Google meet, Skype, etc) was difficult to manage for me.	3.92	.621
I found it difficult to actively participate in the online teaching.	4.02	.563
I found it difficult to have timely students 'feedback, assignments and exams in online class.	4.10	.593
I found online teaching effective.	3.91	.737

The constraints faced by respondents during teaching exhibit a significant response in the context of students' issues and involvement in teaching. A majority ($M=4.35$, $SD=.614$) of the faculty members reported that many students did not have personal laptops or internet devices at home, so it was very difficult for them to cope with the situation. An unstable internet connection was another major constraint reported by respondents ($M=4.45$, $SD=.606$). Similarly, the learning environment on both sides was not suitable due to different factors like the presence of children, noise, etc ($M=4.18$, $SD=.620$). A majority of the respondents ($M=4.05$, $SD=.611$) reported a lack of training regarding online teaching and limited IT skills ($M=4.04$, $SD=.575$) as big constraints that hindered the productivity of the faculty. Moreover, respondents reported resistance from students in online learning, another issue they faced ($M=4.15$, $SD=.580$). Faculty also found it difficult to manage group-based assignments in online education, and student-teacher interaction remained limited in online mode ($M=4.11$, $SD=.640$; $M=4.35$, $SD=.660$).

The major challenges reported by faculty were high workload ($M=4.07$, $SD=.708$), more time required to prepare lectures ($M=4.27$, $SD=.635$), difficulty in managing video conferencing with students ($M=3.92$, $SD=.621$), students feedback remained poor in online classes ($M=4.10$, $SD=.593$). However, most still perceived online teaching as effective ($M=3.91$, $SD=.737$).

Table 03

Correlation Analysis between Gender, Education, Years of Experience and Perception, Experience, Constraints and Challenges of online teaching (N = 70).

Variables	1	2	3	4	5	6	7
1. Gender		.455**	-.139	.147*	.769**	.732*	.022
2. Education			.350**	0.34	-.601	.998	.024
3. Years of teaching				.029	.354	-.054	.099
4. Perception					.700	-.150	.109
5. Experience						.575***	.531***
6. Constraints							.671***
7. Challenges							

*p<.05, **p<.01, ***p<.001*

The correlation matrix shows that gender was significantly positively associated (r = .769, p<.01) with the online teaching experience. The constraints of online teaching were also significantly associated with gender (r = .732, p<.05). Moreover, the constraints of online teaching were significantly associated with the challenges of online teaching.

Hypotheses Testing
Four hypotheses were tested using an independent sample t-test in which gender was taken as independent variables and perception, experience, constraints and challenges of faculty members were taken as dependent variables.

Table 04
  Independent Sample t-test

Variables	**Gender**	*M*	*SD*	*T*	*Sig*
Perception	Male	8.05	1.042	1.249	.268
	Female	8.36	1.018		
Experience	Male	20.32	1.804	4.139	.046
	Female	20.47	2.360		
Constraints	Male	33.61	2.335	.255	.615
	Female	33.83	2.863		
Challenges	Male	24.26	2.333	.020	.889
	Female	24.36	2.257		

P<0.05

Table 04 shows that no significant difference was found between both genders regarding their perception or opinion about the constraints and challenges of online teaching during covid19. However, the table shows a significant difference between the opinion of male and female faculty members regarding their online teaching experience. Males' and females' experiences of online teaching differ during covid19.

DISCUSSION

One of the objectives of the present research was to explore the perceptions of teachers towards online teaching practices during the COVID-19 pandemic. Data indicate that due to COVID-19, the abrupt change in the conventional teaching mode transformed into the online teaching mode. However, it was a great challenge for higher education institutions to try to mitigate this situation

through the continuous delivery of education through different resources to fulfil the educational needs of students. In this context, ICT integration with the existing system was imperative that became the main challenge for teachers in public sector universities during the covid pandemic. In this regard, the study findings suggest that teachers experienced more workload and tackled additional responsibilities by learning ICT mechanisms which was not a compulsion for them previously (Mercer & Gregersen, 2020). It also increased time consumption (Zhang et al., 2020). The second objective of the study was to explore the constraints of university teachers towards online teaching during COVID-19 pandemic. The data indicated that teachers reported several constraints of online teaching. Due to the sudden shift to online teaching, they were not familiar with this mode. Apart from teachers, students also suffered due to a lack of online gadgets and internet connectivity issues. The lack of personal devices for students created issues for the teachers to deliver their lectures efficiently as they didn't get a response from students timely because of the unavailability of laptops, personal tablets, and computers, and poor or disrupted internet. Besides these technical and substantial constraints, teachers were also not equipped with the technology to the extent that they could use this medium in a better way to deliver lectures. There is no culture of universities usually to train teachers in ICT specifically. The same findings were shared by O'Doherty et al. (2018) and Rasmitadila et al. (2020) in their studies regarding the technical barriers to online teaching. Moreover, female teachers also lacked a suitable environment as COVID burdened women more to perform professionally along with their family responsibilities (MacIntyre et al., 2020). Data also indicate that apart from these constraints, student-teacher interaction was also lesser during online teaching and evaluation of students' assessments and assignments was another issue faced by teachers.

Another major objective of the study was to examine the challenges encountered in online teaching during the COVID-19 pandemic. COVID-19 was a great challenge that has changed life patterns and affected all sectors. Teachers were bound to deliver online lectures through confined home settings where they experienced more workload in online teaching than in conventional teaching. Online teaching is time taking practice in terms of creative and innovative lecture preparation with PPTs, live worksheets etc. Another big challenge was the lack of technical skills that made it difficult for them to use new software to conduct classes and meetings with students through Zoom, Google meet and Skype (Fodor et al., 2020). However, besides all their experiences, the study's constraints and challenges revealed that most teachers perceived online teaching as effective.

CONCLUSION

The study concludes that the shift from conventional to online teaching was challenging for teachers during covid 19. The experience of online teaching was more difficult for the female faculty members as being at home, they were more engaged with family and found limited time for lecture preperation and online activities for the students. However, the constraints and challenges faced by both gender in online teaching were the same, including structural issues like poor internet connection, electricity issues and non-availability of proper devices for learning at the student end. Moreover, engaging the students in an online class and preparing them for group work was very difficult. Based on initial challenges faced by faculty, like more time required for lecture perpetration, issues in technically dealing with online classrooms like google meet and zoom, poor student engagement was found in the class.

STUDY IMPLICATIONS

This study, focusing on the constraints and challenges faced by teaching faculty while switching towards online learning during covid1-9, opens up a debate on the need to continue online education to enhance the country's literacy level. Online learning in developing countries can also serve as an important tool for change and awareness.

RECOMMENDATIONS

Public sector universities should invest in ICT infrastructure to remain effective during such a situation faced in pandemic. Universities should buy or develop Learning Management Systems and use them in traditional classrooms for the availability of study material, assignment submission and student-teacher interaction. This will help them prepare for any situation in the future.

It is suggested that teachers in conventional public sector universities may be given training for online teaching with a special focus on effective teaching and engaging students in virtual classrooms. Moreover, the study material should be prepared for both online and traditional classroom pedagogy.

Traditional universities can collaborate with Virtual University and Allama Iqbal Open University in knowledge exchange and learning the online education systems.This shift from traditional to online teaching will continue in the future and will also deal with the structural issues involved in education.

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