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A Post Covid-19 Assessment of University Teachers' Experiences of Online Teaching

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Abstract

The massive lockdown prompted widespread concern and affected education worldwide during COVID19 pandemic. Universities in the majority of countries were closed as well, and teaching was shifted on online mode to ensure continuity of educational process. This condition expedited online teaching acceptance, forcing educational stakeholders to embrace this mode as an alternate choice. The extensive use of online teaching and learning has resulted in a substantial shift in education around the world. This transformation, however, has posed larger issues for developing countries, such as Pakistan, where impediments for both instructors and students are more obvious. Therefore, the main objective of this study was to identify the perceived impediments to online teaching that university teachers experienced. A quantitative survey research design was adopted to investigate the teachers' experiences. An online survey was administered and total 160 teachers belong to different faculties at the University of Sargodha. To draw significant insights, chi square and multiple regression analysis was used. The study's findings revealed numerous important limitations encountered by teachers in the field of online teaching, such as insufficient faculty training for online instruction and assessment, technophobia, and lack of resources. In the light of these results, it was concluded that countering these impediments, in case of facing Covid-19 pandemic like situation, requires a holistic approach that includes both theoretical principles and practical support systems, like, improving teachers training programs and providing enough IT resources for successful online teaching process.

Keywords: Post Covid-19, Online teaching, Attitude, Teachers' training program, Pakistan, University**.**

1. Introduction

The COVID-19 pandemic had a significant impact on the education sector, resulting in the suspension of in-person classroom teaching in all over the world. Having the limited understanding of the disease at that time and the absence of effective treatments or vaccines, educational

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institutions prioritized the safety of their students and teachers (Hussain & Irshad, 2021). In response to these circumstances, many institutions swiftly transitioned to online learning, which involved the use of digital platforms, web-based tools, and internet-based resources as the primary means of delivering educational content. Educators were compelled to adapt rapidly and devise innovative online learning experiences in order to compensate for the loss of traditional classroom instruction (Baticulon et al., 2021). Similarly, in Pakistan, the utilization of information and communication technology (ICT) was recommended to engage students in active learning. The emergence of the COVID-19 pandemic and the subsequent shift to online teaching in Pakistan represented relatively recent developments. Similar to the medical system's inability to cope with the health crisis, the educational system was ill-equipped to adopt technology and to meet the demands of online teaching. Although the transition was unfamiliar to students, it presented even greater challenges for teachers who had to venture into uncharted territory to replace the centuries-old traditional teaching methods in Pakistan with new technologies (Said et al. 2020). This abrupt change in educational practices intensified the demand on institutions to produce favorable learning outcomes for students, further increasing the pressure on them. Teachers made their utmost effort to persist in teaching students during the pandemic, but they faced various obstacles in remote teaching and struggled to effectively engage students in interactive activities. As a result, it is imperative to re-evaluate the professional development of teachers in Pakistan concerning online teaching to address this pressing concern (Akram et al. 2021). Correspondingly, previous research indicated that faculty members have a pessimistic outlook regarding their proficiency in using technology for online learning, with many expressing negative attitudes towards it (Batool et al. 2020). Similarly, in Macedonia, a considerable number of teachers were hesitant to adopt e-learning as a replacement for traditional teaching methods. The obstacles perceived by faculty in adopting online education, as reported in another study, included interpersonal, institutional, training and technology, and cost-benefit analysis barriers. Teachers were compelled to restructure their teaching methodologies and courses to align with online learning requirements, lead to a rise in their workload. They had to devoted their efforts not only to course development but also to improving their technical skills and expertise (Adwan & Smedley, 2012).

During COVID-19 pandemic, despite their financial strength, the western world did not adequately support the developing countries with technological advancements. This raised concerns about the impact of the pandemic on the academic landscape in Pakistan, leading the Higher Education Commission (HEC) and universities to adopt online teaching methods and move away from traditional approaches (Mumtaz et al., 2021). In online mode of teaching, teachers were of the view that communicating and assessing isolated students posed significant challenges for them. Additionally, some teachers developed a fear of technology, which prevented them from fully utilizing online learning systems. Moreover, some teachers were reluctant to embrace this paradigm shift (Ishtaiwa, 2006). The lack of instant response, along with the inability of teachers to evaluate students' comprehension during virtual lectures, presents a challenge (Qiu & McDougall, 2013). Moreover, students were inclined to have shorter attention spans and exhibited negative attitudes towards the online learning environment (Noreen & Kazim, 2021). These concerns were further compounded by reports from teachers indicating that students may engage in misconduct, such as accessing online resources during assessments (Sahito et al. 2022). Students opted to turn off their video during online classes to avoid distractions from their family members due to the noise or playing games in the background. In such situation, it could be difficult for students to concentrate on their studies.

when they were surrounded by familiar home surroundings. Additionally, teachers might find it challenging to engage with students when their microphones are turned off, leaving teachers with a black screen to address for prolonged periods (Lau et al. 2020).

In another study conducted by Duncan & Young (2009), significant challenges in online learning, including establishing connections between teachers and students and fostering interactions among students were highlighted. Creating a productive learning environment that promotes deep learning, knowledge creation, and shared meaning-making requires a focus on building connections and encouraging dialogue among students, a detailed frameworks and ample opportunities for interaction are obligatory to facilitate this process. Further, these challenges can be mitigated by providing clear instructions, regular communication, interactive schedules, and user-friendly technology formats (Swan, 2017). Moreover, a survey involving over 300 teachers revealed that the primary difficulties they face in online teaching are a lack of resources and limited knowledge of appropriate pedagogy. To address these challenges, the strategies include incorporating kinesthetic activities, self-directed projects, open-ended tasks, real-world examples, and group assignments to engage students were recommended (Sentance & Csizmadia, 2017).

A successful online learning environments require teachers to restructure their roles, responsibilities, and practices. Understanding the dynamics of online learning environments, perceptions, and utilizing technology effectively are crucial for overcoming barriers and promoting a thriving learning environment. While, student readiness in adapting to technological demands and pedagogical practices is also essential (Vonderwell & Savery, 2004). For this transition to online teaching requires teachers to acquire new skills and knowledge. Redesigning course materials, increasing teacher presence, fostering a sense of community, and promoting inclusivity are effective strategies for successful online teaching (Garcia & Maness, 2019).

The role of online course designers and teachers is to select and adapt appropriate educational exercises, provide assessment, feedback, and promote reflective practices. Building trust and a sense of security in the online community is vital for encouraging student participation and allowing them to ask questions and share their thoughts (Irshad *et al.,* 2021. Students leading discussion groups enhances their engagement, motivation, and satisfaction (Anderson, 2004).

However, students may also experience anxiety and frustration due to communication breakdowns and technical difficulties. To enhance online learning experiences, instructional design concerns, teacher and student preparation, and communication practices need to be addressed (Hara, 2000). Though, teachers can alleviate students' technical frustrations and encourage interaction among students, but online learning require changes in teachers' professional roles and work patterns. Adequate time, resources, and support can help the teachers adapt to the online learning environment (Singh et al., 2005). The success of online learning particularly in developing countries relies on various critical factors, including improving essential technology knowledge and skills, enhancing the quality of learning content, providing computer training, motivating students to engage with online learning systems, and ensuring adequate support from the university (Bhuasiri et al., 2012). In addition, the assessment design is crucial to ensure proper evaluation of online learning activities, and timely and useful feedback is highly valued by students (Gul *et al.,* 2021). Effective time management and reliable technology and technical support services are essential for a thriving online

learning environment (Alexander, 2001). When designing and implementing online learning courses, several factors need to be considered, such as teachers' attitudes towards technology, teaching style, course content, design, accessibility, infrastructure, support services, computer competency, and fostering interactive collaboration among students (Selim, 2007).

2. Problem statement

The COVID-19 pandemic derived universities to quickly transit to online teaching, resulting in unique experiences and challenges for university faculty. However, a limited understanding of the difficulties they encountered in this context. Therefore, the purpose of this study is to assess these experiences in order to get useful insights. The findings will be used to create effective support systems and strategies for improving the online teaching experience and ensuring high-quality education delivery in post Covid times.

3. Rationale of the study

Pakistan being a developed have had a difficult time adjusting to this sudden and transformative change in the educational landscape. With the closure of educational institutions and the requirement for social distancing, online learning emerged as the most practical option, posing several challenges for both students and teachers. This study highlighted a thorough understanding of the major difficulties that instructors faced when using the e-learning system during Covid-19. By addressing these challenges in post Covid, the study seeks to evaluate the teachers' attitude towards online mode of teaching which may improve teachers' online teaching expertise to provide students with high-quality instruction. Understanding these challenges may enable the development of appropriate measures and support systems for teachers' online teaching practices if the world encounters the Covid-19 like pandemic. By putting these changes into practice, the provision of high-quality education may be upheld and maintained, even in circumstances calling for transitions or hybrid approaches.

1.4. Research Hypotheses

To study challenges pertaining to online teaching experienced by university lecturers following research hypotheses were developed.

H 01: There is no association between the technical trainings offer by the university and teachers' attitude towards the online teaching.

H 02: The variables faculty training, assessment, technophobia, non-supportive environment, resources & assistance, & non-pedagogical skills significantly determine the attitude towards the online teaching.

4. Methodology

To achieve the research objective, a cross-sectional field survey was used. Due to the COVID-19 pandemic, all teachers in Punjab were engaged in online teaching, resulting in a homogeneous population. Therefore, this study was conducted on the university of Sargodha and the all teachers were included as the sample of the study. A total 160 teachers from three distinct faculties were filled the questionnaire. A scale based quantitative questionnaire was developed and a 5 points Likert scale was adopted to measure the perceptions about the difficulties that teachers faced during online mode of teaching. For summarizing and analysis,

descriptive statistics, cross-tabulation, and regression analysis approaches were applied.

5. Results and Discussion

Following is given the frequency distribution of the respondents of the study in table 1.

Table 1

Frequency Distribution of Respondents (teachers) regarding demographic variables

Factors	Category	Frequency	Percentage
Gender	Male	94	58.8
	Female	66	41.3
Age	26-35	102	63.75
	46-55	42	26.3
	36-45	24	7.5
	56 and older	4	2.5
Qualifications	MPhil	116	72.5
	PhD	44	27.5
Teaching experience in years	2-6 years	66	41.25
	7-11 years	62	38.75
	12-16 years	32	20.0
Residence	Urban	130	81.3
	Rural	30	18.8

The socio-demographic characteristics of respondents (university teachers) are shown in the table above. The survey included 160 teachers, with 58.8% being male and 41.3% being female. 63.75% of teachers were between the ages of 26 and 35, 26.3% were between the ages of 36 and 45, 7.5% were between the ages of 46 and 55, and 2.5% were aged 56 and over. Post-graduate master's (MPhil) and PhD qualifications were held by 77.6% of teachers and 27.5% of teachers, respectively. 41.25% of teachers had teaching experience ranging from 2 to 6 years, 38.75% had experience ranging from 7 to 11 years, and 20.0% had experience ranging from 12 to 16 years. There were 81.3% of instructors who have their residences in the city and 18.8% were living in rural areas

i. Hypothesis II

H 01: There is no association between the technical trainings offer by the university and teachers' attitude towards the online teaching.

To test this hypothesis, chi-square test of association was computed with the variables "inclination towards the online mode of teaching" and "ICT Training provided by the

university" in the table2.

Table 2

Chi-Square results for analyzing the association between online teaching and ICT Training

(Online Teaching)	ICT Training		
	Yes (%age)	No (%age)	Total (%age)
Yes	42	48	90
	26.25%	30%	56.3%
No	30	40	70
	18.75%	25%	43.8%
Total	72	88	160
(%age)	45%	55%	100.0%
Online teaching* ICT training	χ^2= 16.953	p<0.001	

The above table depicts the relationship between online teaching and ICT training. Data revealed that 72 of the 160 teachers had ICT training, while 88 did not, indicating that they had not received any type of ICT education prior to teaching online. The Chi-square statistic χ^2=16.953 examines the association between online education and technical training. The p value indicates the outcome is statistically significant. The link between online instruction and ICT training does not happen by chance, showing that the two variables have a meaningful relationship, and so the null hypothesis is rejected. This implies that online instruction and ICT training are linked, and the pattern found in the contingency table is not due to random chance.

ii. Hypothesis II

Null Hypothesis: The variables faculty training, assessment, technophobia, non-supportive environment, resources & assistance, & non-pedagogical skills don't significantly determine the attitude towards the online teaching.

Alternative Hypothesis: The variables faculty training, assessment, technophobia, non-supportive environment, resources & assistance, & non-pedagogical skills significantly determine the attitude towards the online teaching.

To test the hypothesis 2, a multiple regression analysis was run with the variables "faculty training", "assessment", "technophobia", "non-supportive environment", "resources & assistance", & "non-pedagogical skills" as the independent variables and the "the attitude towards the online teaching" as the dependent variable in the table 3.

Table 3

Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t
	B	Std. Error	Beta	
(Constant)	3.161	.573		5.521***
Faculty Training	.204	.097	.231	2.100*
Online Assessment	.551	.111	.490	4.962***
Technophobia	-.258	.089	-.314	-2.917**
Non supportive environment	-.292	.091	-.342	3.214**
Online Pedagogy skills	.231	.104	.243	2.214*
Resources & Assistance	.329	.088	.389	3.725***
R	.833			
R2	.694			
F	4.532		p= 0.000	

Dependent Variable: Attitude towards the online teaching

*p<0.05, ** p<0.01 & ***p<0.001

Multiple regression analysis technique was used to determine the variable that determine significantly the attitude towards online teaching among the university teachers. Table presents the R value, which indicates the simple correlation coefficient, is 0.833 as indicated in the R column. This suggests that the variables are highly correlated whereas the R2 value in this analysis is 0.69, indicating that the included independent variables (Faculty training, Assessment, Technophobia, non-supportive environment, and online pedagogy skills) account for about 69% of the overall variation in online teaching. In ANOVA test, the p-value of less than 0.05 ($p < 0.05$) indicates statistical significance $\{F(7, 152) = 4.532, p < 0.001\}$. This implies that the whole regression model has a considerable and meaningful ability to predict the outcome variable "attitude towards online teaching". Whereas Regression coefficients are a statistical measure used to calculate the average functional connection between variables. It also determines how dependent one variable is on another(s). Whereas the sign of the linear regression coefficient reflects the direction of the link between an independent variable and a dependent variable. A positive coefficient indicates that increasing the value of the independent variable increases the value of the dependent variable, whereas a negative coefficient indicates that increasing the value of the independent variable decreases the value of the dependent variable.

Regression coefficients indicate that a significant positive regression values for faculty training (B= .204*) were found in this model which shows a positive effect on online teaching.

A unit increases in faculty training leads to a 0.204 unit rise in online teaching attitude among university teachers. Similarly, a significant positive regression values for online assessment (B= .551***) were found in this model which shows a positive effect on online teaching. A unit increase in assessment leads to a 0.551 unit rise in online teaching attitude among university teachers. However, significant negative regression values for technophobia (B= -.258**) was found in this model which shows a negative effect on online teaching. One unit increase in technophobia reduces 0.258 units of online teaching attitude among the university teachers. Similarly, non-supportive environment (B= -.292**) were found significantly negatively predictor of the on online teaching. A unit decrease in non-supportive environment leads to a .292 unit decrease in online teaching attitude among university teachers.

Further, a significant positive regression values for online pedagogy skills (B= .231*) were found in this model which shows a positive effect on online teaching. one unit increase in online pedagogy skills leads to a .231 unit rise in online teaching attitude among university teachers. Similarly, a significant positive regression values for online pedagogy skills (B= .329***) were found in this model which shows a positive effect on online teaching. A unit increase in resources and assistances leads to a .329 unit rise in online teaching attitude among university teachers.

Hence, variables such as faculty training, assessment, technophobia, a non-supportive environment, resources and assistance, and non-pedagogical abilities have a significant and substantial impact on attitudes towards online teaching.

6. Discussion

The purpose of this study was to assess university teachers' experiences regarding online mode of teaching, a post-Covid analysis of the situation. The results showed that the majority of teachers had no prior ICT training before teaching online, which caused them to be hesitant while instructing and there was a significant association between inclination towards online teaching and ICT training. Faculty members faced a variety of personal hurdles when teaching in an online learning setting, including a lack of training, expertise, skills, role models, and time. Attitudinal barriers i.e., such as a lack of trust in technology, a reluctance to engage with technology, and a lack of concern for student access, are also prevalent. Faculty members, on the other hand, were more likely to develop a positive attitude towards learning management systems (LMS), if they receive adequate guidance, personal or group assistance, and specialized instructions. Aligning technological and organizational issues with the needs of students and faculty is a challenging but critical endeavor in order to fully leverage the benefits of online education (Johnson et al., 2022).

For university administrators, it is essential to evaluate and enhance technical support services to ensure accessibility and improve the overall experience of both students and teachers, thereby enhancing the effectiveness of online classes. College and university management should prioritize the establishment of a well-structured and user-friendly online learning environment that is accessible to all individuals without imposing financial burdens on students and teachers Additionally, providing adequate technological training to teachers on effective methods of conducting online classes and assessments is crucial, as it serves as a prerequisite for the successful implementation of online education (Nambiar, 2020).

Furthermore, regression analysis revealed that faculty training, assessment, technophobia, a non-supportive environment, resources and assistance, and non-pedagogical skills all

significantly influence attitudes towards online teaching. This outcome is consistent with survey data from a study on computer-assisted language education during the COVID-19 pandemic conducted by Khatoon et al. (2021), which revealed many challenges experienced by teachers. These challenges include a lack of resources, a lack of theoretically based coursework, a lack of access to electricity, insufficient technical training, a lack of interest among senior teachers in learning or utilizing computers, and insufficient time allocation for computer-assisted instruction. Furthermore, teachers encountered challenges owing to inadequate infrastructure, such as a lack of properly equipped/configured laptops, dependable internet connectivity, and functional microphones, which limit their capacity to provide education effectively. Connectivity issues, system failures, bandwidth constraints, and other similar issues during online sessions worsen teachers' troubles, which are exacerbated by the absence of technical assistance accessible to handle these issues. These hurdles were in line with the study conducted by Joshy & Vinay (2020).

Similarly results highlighted the significant effect of professional development opportunities centered on online teaching and blended learning on the effective adoption of online mode of teaching. An et al. (2021) also emphasized the necessity of being prepared to move to online learning efficiently, when necessary, as well as offering interesting and relevant learning experiences in an online setting.

7. Conclusion

Global and local economies have undergone enormous transformations, resulting in a considerable change that will give rise to innovative and diverse opportunities after the COVID-19 pandemic. As a result, there is a chance that new models for finance, governance, student support, and teaching practices will be implemented quickly. The goal of this study was to shed light on the key impediments that teachers faced, urging them to analyze their teaching approaches in order to improve their efficacy. In the field of distant learning and teaching, insufficient access to resources and individuals appears as a significant impediment. Furthermore, the survey results showed that the most important barriers were frequently caused by individuals' apprehension or resistance to the numerous adjustments that are required at both the personal and organizational levels. These issues, along with a lack of support for students' and teachers' changing roles, frequently stymie progress in online education. Additional constraints occur from assessment complexity, which include evaluating students' online work as well as recognizing, appreciating, and supporting faculty members, particularly in terms of faculty training while adapting to and developing online learning settings.

Addressing these concerns, for effective transition from traditional teaching methods to online teaching methods, teachers must be trained with various teaching styles and acquire new skills. They need to carefully evaluate every aspect of the course structure, including planning activities, selecting resources, and scheduling, which requires a significant number of resources. After addressing the essential elements of course design such as course objectives, competencies, assessment requirements, and teaching methods, faculty must consider the challenges they may face while developing online programs (Keengwe & Kidd, 2010).

The results of this study also provide the significant insights to administration, allowing them to make informed decisions on policy, training programs, compensation considerations, and the facilitation of certain sorts of online courses to support faculty growth.

8. Recommendations

Teachers must consider both the psycho-pedagogical theoretical reasons that guide the process and the technology and organizational assistance used to optimize the teaching process in online courses. This study emphasizes the need of instructors and institutions adopting a holistic approach to online teaching that prioritizes both theoretical ideas and practical support mechanisms. In addition, to facilitate self-efficacy beliefs in students, teachers should provide timely and constructive feedback, preferably through frequent emails. To capture students' interest, teachers must design online courses with authentic problem-based activities (Artino & Ioannou 2008). Additionally, teachers must foster reflective participation by encouraging students to challenge assumptions and clarify misconceptions. In an online learning environment, written language plays a critical role in teaching practice. Therefore, teachers must consider the course's structure, evaluation, and interaction components while creating it in digital format. As many traditional classroom norms are not applicable in online settings, teachers must plan more explicitly and be more transparent. They should view themselves as facilitators rather than being only the providers of courses (Anderson et al. 2001).

Further, collaborative or consecutive efforts between educators and technological businesses and companies are required to promote a transformational shift towards personalized and engaging technology-enabled learning. The use of artificial intelligence, which can give round-the-clock support and direction, is a critical component in this endeavor. Furthermore, Artificial Intelligence (AI) tools can aid in the curation of relevant resources as well as the prompt notification to student advisers and faculty members when a student faces challenges or falls behind in their progress.

Significant improvements in student retention and completion rates can be accomplished by combining the knowledge of highly competent teachers, effective instructional design, AI-powered technology platforms, and a systematic approach to novel evaluation. Thus far, modest use of these technologies has proved their potential to drive considerable gains in educational performance.

9. Limitations and Future prospects

With the limitations in resources and time, this study was confined to the University of Sargodha as its focus. Nevertheless, it is crucial to acknowledge the future research prospects of encompassing other public universities. Extending the research scope to multiple public sector universities would enable a comprehensive analysis of the challenges faced by teachers, taking into account the potential variations among different educational settings. Moreover, this expanded approach would provide valuable insights into the support mechanisms implemented by university administrations, shedding light on potential differences or similarities.

The current study was limited in its focus to a public sector university. However, it is advisable for future research endeavors to broaden their scope by incorporating private sector universities Incorporating private sector universities would yield invaluable insights into the unique challenges faced by these institutions and shed light on the potential support provided by their respective university administrations. By encompassing a diverse range of universities from both public and private sectors, a more comprehensive understanding of the challenges and support systems within the higher education landscape can be attained. This broader perspective would enable researchers to gain deeper insights into the dynamics and complexities of the educational environment, encompassing both public and private sectors.

Lastly, the current study employed a quantitative methodology to assess the experiences of teachers, focusing on the challenges they face. However, it is advisable for future research to consider incorporating qualitative methodologies as well. By utilizing qualitative approaches, researchers can gather in-depth insights into the experiences of teachers, providing a richer understanding of their perspectives, attitudes, and the nuances of the challenges they encounter. The inclusion of qualitative methods would complement the quantitative findings and offer a more comprehensive exploration of the subject matter.

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