



ANALYZE THE NATURE OF THE PARADIGM SHIFT TO E-LEARNING AT THE HIGHER EDUCATION AMID COVID-19 IN BALOCHISTAN

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ABSTRACT

Paradigm shifts in the sense of online education have been obviously observed in COVID-19 around the world, particularly in Pakistan, in universities. The emergence of forced pandemics for forced educational institutions on physical platforms in favor of the safety of students and all other employees. However, it is not only given educational facilities, but other non-governmental facilities in the same way as the globe. This research purposes analyze the nature of the paradigm shift to e-learning at the higher education amid COVID-19 in Balochistan. It was quantitative study. The nature of the study was descriptive and survey type. The targeted population was overall students who are pursuing their BS program at the Universities of Makran Division i.e. Panjgur, Turbat and Gwadar. Convenience sampling was used as a sampling technique. By applying linear interpolation, the proportionate increase was calculated, resulting in an estimated sample size of 360. Data was collected from university students engaged in online learning during the COVID-19 pandemic. A total of 360 students were selected to participate in the study, and their responses were gathered through structured questionnaire. These questionnaires were designed to assess key aspects of online learning, including learner interaction and the perceived quality of education in an online module. The questionnaires were scrutinized for errors and omissions, ambiguity, and relevance. The reliability was calculated through SPSS (Version, 26). After finalizing and pilot testing from 5 faculty members out of 30, the questionnaire was distributed among respondents for collecting data. After their feedback and reviews, the questionnaires were improved. The data was obtained through questionnaires was interpreted and analyzed by using, Chi-square, percentage, and mean.

Keywords: *Paradigm Shift, E-Learning, Covid-19, Higher Education*

Introduction

The first case of COVID-19 was reported in China in December 2019 and has since been reported in other countries in Malaysia, Canada, the Middle East, Africa, Africa, Africa, Latin, and other countries in America and South Africa, comprising the United States, Vietnam, Singapore, Australia, Nepal, Europe, and then Germany, Finland, Italy. On 31st July, 2020, COVID-19 blowout to 217 countries and region, associating it to closely 17.1 million experienced cases. The United States has since confirmed 9.15 million cases, 3.31 million cases in Europe, 2 million cases in Southeast Asia, 1.53 million cases in Eastern Mediterranean, 0.75 million cases in Africa, and 0.31 million cases in the western Pacific Ocean. Furthermore, to going to various prevailing health problems and concerns, the COVID-19 pandemic has created disturbances in society and the economy. For the last hundred years of the pandemic, e.g., the Bobbynie Plague, Spanish smoke bullet, SRAS, Ebola, and Influenza A (H1N1) have been liable for substantial changes in geopolitical and causal situations, reviewing the laws of immigration, travel, urbanization, trade and technology. A few months after the novel coronavirus pandemic (Covid-19), it has become vibrant that the crisis and various of its



significances for all levels have been in recent years, and therefore have an eternal impact on our lives. The problems made by COVID-19 affect each and every one of us in some extent. Most regions affected by the pandemic have been capable to slow the spread of coronavirus with changing degrees of achievement, mainly with bans on public measures and gatherings, employment closures, restrictions on local and international transport, restrictions on testing and contacts, and training closures. Physical closures of educational facilities for example schools and universities have confirmed to be an effective way to diminish the blowout of the virus, but this has poses several problems for students, teachers, and their families, friends, employers, and hence society and the world economy. Developing nations like Pakistan have not removed the damaging effects of the Covvi-19 pandemic.

On 26th February, 2020, first two COVID-19 cases were registered in Karachi and Islamabad, that has necessitated the possibility for the government and policy makers to device short-term policy to safeguard and protect the health of the people as far as COVID-19 is concerned and as well as, ensure the continuity of educational activities at any level, where COVID-19 put a stalemate in each and every activity of life (Saqlain et al., 2020).

According to Al Amri & Marey-Pérez, (2020), global education has experienced dramatic change in three fundamental ways after Covid 19. There was how people were educated, the innovation in education with new solutions, and the digital divide that resulted in a change in education. He also teaches key life skills that will be required in the future to manage with the world by backup technical education (Soni, 2021) (Soni, 2021). Therefore, study into the paradigm changes to electronic training in Pakistan universities began in a while after the pandemic (Mukhtar et al., 2020). So, this study investigates provinces where coronavirus (Covid-19) has had a main influence on almost all sector of Pakistan's economic life by developing a South Asian region, and its economy depend on agriculture and foreign lending. On the other hand, the Pakistani government be able to be given according to the quick reply that comprises delivery as presentations of the COVID-19 reduction launch campaign executed on international travel management, limitations on the working of trade markets (Zahra-Malik, 2020).

Owing to this, Pakistan immediately started to respond to online education facilities in remote areas. The announcement of higher education institutions reached its intent to accept the challenge of online education in the circumstance (Yousafzai, 2020). Whereas most of the universities started their online classes without being much prepared and having no proper experience. Thus, in Pakistanis, online education is in early childhood and is not incorporated into the higher education system (Ameen et al., 2020). Throughout the pandemic, Pakistan experienced life-threatening deficiency and variation (Yousfzai, 2020; Nasir, 2020; Silvia, 2019). Several regions and areas still absence technology and internet objects (Digital Rights Foundation, 2020). The areas of Haibert Pakhtunhwi, Gilgit-Baltistan and Belujistan suffer from inadequate internet objects (Malik, 2020). Several studies have presented the problems of online education in developing nations for example Pakistan (Mallizar et al., 2020; Basilaia & Kvavadze, 2020; Muhammad Adnan & Kainat Anwar, 2020). Thus, online education needs a lot of attention and assessment to make it dynamic if the pandemic continues for a long time.

The Ministry of Higher Education delivered directions to regulate study at all higher education institutions to conclude regulations for the teaching and evaluation of courses online (Anwar et al., 2021). Muhammad and Kainat (2020) revealed that, around 10,000 university students removed to online learning in Pakistan during COVID-19. Education contributes about 2.3% of the GDP of Pakistan (Yousafzai, 2020). During the pandemic, there was a measured movement in the direction of online education as a means of supporting the educational

calendar. Therefore, this study pursues to examine this movement. To the best of the academic's knowledge, there have been many literatures that have investigated into COVID-19 and education problems in Pakistan but a few in Balochistan which need examination. The study dedicated mainly on the paradigm shift to online education about student opportunities and challenges in a university situation.

Problem Statement

Pakistan is a developing country, where most of the institutions are lacking technically trained staff; it is therefore, the smooth running of online courses is difficult to carry on. Hence, to introduce blended, distance, and online learning, there is a dire need to create more awareness and accessibility towards e-learning among the staff so that they can keep an eye on their student's progress (Alexa, Avasilcai, Pislaru, Bujor, Avram, & Lucescu, 2022). Furthermore, it is challenging for many students to access the Internet, as various areas of Pakistan in general, and Balochistan, in particular, have limited access to the Internet or electricity. This, in turn, leads to problems in attending online class sessions; poor Internet connection is making e-learning difficult for students (Sharma, 2020). Developed countries with technologically advanced management and resources have innovative, modern, and advanced e-learning systems that allow them to stay up to date and keep the learning flow more active than underdeveloped countries (Mukhtar et al., 2020). But in Pakistan, e-learning is still in its infancy and pretty new for many institutions. Having started as a paradigm shift to online learning, the government requires further investment to overcome online issues and challenges (Haleem, Javaid, Qadri, & Suman, 2022).

Scope of the Study

The scope of this study encompasses a comprehensive exploration of the paradigm shift to online education in higher education institutions in Balochistan following the COVID-19 pandemic. It focuses on the various aspects of online learning, including geographic, academic, technological, socio-economic, temporal, policy, and stakeholder dimensions. By addressing these areas, the study provides a holistic understanding of the challenges and opportunities posed by online education in a developing region. The following sections present an in-depth analysis of the study's scope across these seven domains.

Review of the Literature

Based on Martin and Furiv (2020), the shift to online education can be seen as a paradigm shift, with new means of thinking, understanding, and instructing developing from old-dated teaching methods into online curriculum implementation. Depending on the effectiveness of online curriculum implementation across several institutions in the nation, all higher education institutions have chances to continue access to the online platform (Eickelmann & Gerick, 2020; Huber & Helm, 2020). To enable effective teaching and learning through online curriculum delivery, conventional universities and colleges might have to retrain their instructors and also reassess staffing requirements to increase the effectiveness of online education (Maringe, 2020). With students studying from home in the different educational framework, it becomes critical to reevaluate our teaching techniques and the principles of lifetime learning to assurance quality education and unbiased access to knowledge for learners from several social and economic backgrounds. Considering the idea of a paradigm shift that is critical in this study, the transformations in educational systems global noticeable a significant milestone in providing education at higher education institutions in the post-COVID-19 period.

Another reason obviously persuading a shift in educational paradigms is that the pandemic requires institutions to reassess and rearrange assessment systems, along with the



implementation of work-integrated learning and other hands-on experiences in a simulated format. Almonacid-Fierro et al. (2021) stated that, “the COVID-19 pandemic has directed to an important transformation in education systems during 2020, affecting the teacher training developments in higher education” (p. 72). These apparently impossible problems observed here are definitely key factors in transforming our approaches to knowledge, thought, and existence within the realm of higher education. The transformation of evaluation methods in universities to an innovative format is a defining feature of the contemporary educational paradigm, mainly when the leading narrative of Artificial Intelligence (AI) or the 4th Industrial Revolution (4IR) in education is intensely recognized. Lecturers might turn to AI for evaluating, measuring, and monitoring students' performance. Therefore, the quick and compulsory changes caused by the pandemic in South African universities act as a transformation in the educational framework.

Predictions of exchanging educational paradigms after COVID-19 are complete by the observation that higher education institutions face responsibilities of using alternative training, training and research methods that are intensified by ambiguity about what will be the future. Given that national institutions endure to save college years in the context of the virus, ritual standards and traditions cannot continue as normal. Traditional university employees and students were essential to recognize multifaceted and vigorous skills in teaching and learning and distance education teachers within the framework of a novel paradigm (Mavundla & Mgutshini, 2021).

Millions of people globally now have diverse access to education due to the corona virus, which the WHO supposed to be a pandemic. There are initial educational changes that introduce much-needed improvement. There have been momentous changes in the education sector, and there will possibly be more in the near future. E-learning is being used to tutor children nationwide through online school programs and daily lessons (Roy, 2020; Sharma, 2020; Srinivasan, 2020). A highest number of children, families, and teachers have been pretentious as schools around the world struggle with a health catastrophe. With the hourly deviations in reply to this international health crisis, universities around the world are making extreme modifications in a short span of time, superficially overnight, from traditional face-to-face course content to online content. According to UNESCO, more than 160 nations have closed schools international, distressing millions of children and youth. This paradigm change has the possible to affect how campus life develops in the future (Broz, 2020; Colledgepond, 2020). Professional education may suffer a fundamental change as a result of COVID-19. The use of digital platforms to teach has become progressively popular (Chomal & Saini, 2013). Among the selections presented by top educational institutions to increase the skills of present and potential students are virtual master classes and interactive sessions, free entrance to international courses and databases, career mentoring, and counseling service (Sharma, 2020). Many universities have been leading the charge in the shift to online learning over the past some decades. These comprise Ohio State University (since 2008), the University of Illinois-Chicago (since 2007), and the University of Florida (since 2001). These universities have mostly delivered their celebrated unit and mortar campus situations with a small number of supplemental online courses to a few thousand students, whereas other institutions use online learning platforms like Course to offer online courses, specializations, and degrees. Conversely, due to preventive measures taken by governments and schools in current months, universities and colleges have closed their doors and declared policies to switch to online/remote learning using digital platforms like online learning management systems, email,



and video conferences. This has occurred on a much different scale and at a much quicker pace (Bhat, 2020).

When we go back in time, we never fully return to business as normal after experiencing such important changes. Brick-and-mortar retail was changed by the internet and online shopping; the banking and mortgage industries were permanently altered by Lehman Brothers' bankruptcy; and air travel was perpetually altered by 9/11. The opportunity to transition to a 100% in-person learning engagement is becoming more and more constrained as the world around us changes and time seems to pass more quickly. Teachers and students have welcomed online learning because they are unable to travel to campus because to COVID-19. This transition to online learning has turned out to be a time and speed shift as well as a place shift (Singh & Mishra, 2017). It enables individuals to learn both at their own location and at their own speed. We have perceived some abrupt and significant changes at institutions in the last few months alone. These temporary changes may have significant long-term effects on how we design learning situations in the future. Along with addressing the up-to-date issue, we must give our universities the freedom to plan for the longstanding goal of changing the higher education landscape and expecting a more integrated learning situation in the future (Collepond, 2020). This should be a accurate paradigm shift in higher education that could change its course for upcoming generations if we yield the greatest practices, which we have well-educated from institutions that have effectually executed combined learning programs, and use the information base within our university system to rise the effect for our upcoming generations of employees (Sharma, 2020).

The COVID-19 pandemic further underscored the importance of digital literacy, as students and teachers were forced to adapt to remote learning almost overnight. Studies show that students with high digital literacy levels were more adaptable and experienced fewer disruptions during the transition to online learning (Khan et al., 2021). Conversely, students with limited digital skills faced significant challenges in accessing learning materials, participating in virtual discussions, and submitting assignments through digital platforms (Zhao et al., 2022). This divide highlights the urgent need for digital literacy initiatives at institutional and policy levels. Universities and educational institutions have implemented various strategies to bridge the digital literacy gap. Many institutions offer digital skills training programs, online tutorials, and digital competency assessments to help students and faculty improve their proficiency in using educational technologies (Beetham & Sharpe, 2019). Additionally, integrating digital literacy into curricula ensures that students develop these skills as part of their academic journey. Gamification, microlearning, and AI-driven personalized learning paths are emerging trends that enhance digital literacy by making learning more interactive, engaging, and adaptive to individual needs (Tang & Chaw, 2019).

Beyond academia, digital literacy is essential for career readiness and workforce integration. Employers increasingly seek candidates with strong digital problem-solving skills, data literacy, and the ability to collaborate using digital tools (Siddiq et al., 2016). Graduates who possess advanced digital competencies have greater employment opportunities and adaptability in rapidly evolving digital workplaces. Therefore, higher education institutions must align their digital literacy programs with industry expectations to equip students with future-proof skills (Castañeda et al., 2018).

In conclusion, digital literacy and competency are foundational pillars of successful online education. Students and educators must develop technical, informational, communicative, and ethical digital skills to effectively engage in digital learning environments. However, disparities in digital literacy remain a challenge, requiring targeted interventions such as training

programs, curriculum integration, and institutional support. As the digital landscape continues to evolve, educational institutions must prioritize digital literacy development to ensure equitable access, effective learning, and workforce readiness.

Research Methodology

It was quantitative study. The nature of the study was descriptive and survey type. The targeted population was overall students who are pursuing their BS program at the Universities of Makran Division i.e. Panjgur, Turbat and Gwadar. *Convenience sampling* was used as a sampling technique. By applying linear interpolation, the proportionate increase was calculated, resulting in an estimated sample size of 360. Data was collected from university students engaged in online learning during the COVID-19 pandemic. A total of 360 students were selected to participate in the study, and their responses were gathered through structured questionnaire. These questionnaires were designed to assess key aspects of online learning, including learner interaction and the perceived quality of education in an online module. The questionnaires were scrutinized for errors and omissions, ambiguity, and relevance. The reliability was calculated through SPSS (Version, 26). After finalizing and pilot testing from 5 faculty members out of 30, the questionnaire was distributed among respondents for collecting data. After their feedback and reviews, the questionnaires were improved. The data was obtained through questionnaires was interpreted and analyzed by using, Chi-square, percentage, and mean. The data was analyzed by adding up all the respondents against SD, D, N, A, and SA after multiplying the original response by their perspective weightage i.e. 1,2,3,4, and 5. The midpoint of the scale was three percentage points.

Results

Table 1 Students' Perceptions of Feedback in Online Classes

Statement	SDA (%)	DA (%)	NS (%)	A (%)	SA (%)	Mean	χ^2	p-value
During online classes, I was given adequate feedback about my performance.	7.0	20.2	1.8	27.8	43.1	3.80	178.86	.000
I used online feedback to improve my assignments.	8.9	0.9	10.7	67.9	11.6	3.72	480.39	.000
Online feedback provided direction for improvement.	9.5	27.2	4.9	22.6	35.8	3.48	105.77	.000
I am more interested in online courses now than when I started.	7.0	12.5	9.8	53.8	16.8	3.61	242.34	.000

The data indicates that a majority of respondents (71%) agreed that they received adequate feedback during online classes. The high mean score ($M = 3.80$) and significant p-value ($p < .001$) suggest strong agreement. Similarly, 79% of students reported using feedback to improve their assignments, indicating effective utilization of feedback mechanisms.

Figure 1: Distribution of Responses for Feedback-Related Statements

The bar chart below visually represents the distribution of responses for each feedback-related statement, enhancing clarity and engagement by highlighting the variance in student perceptions.

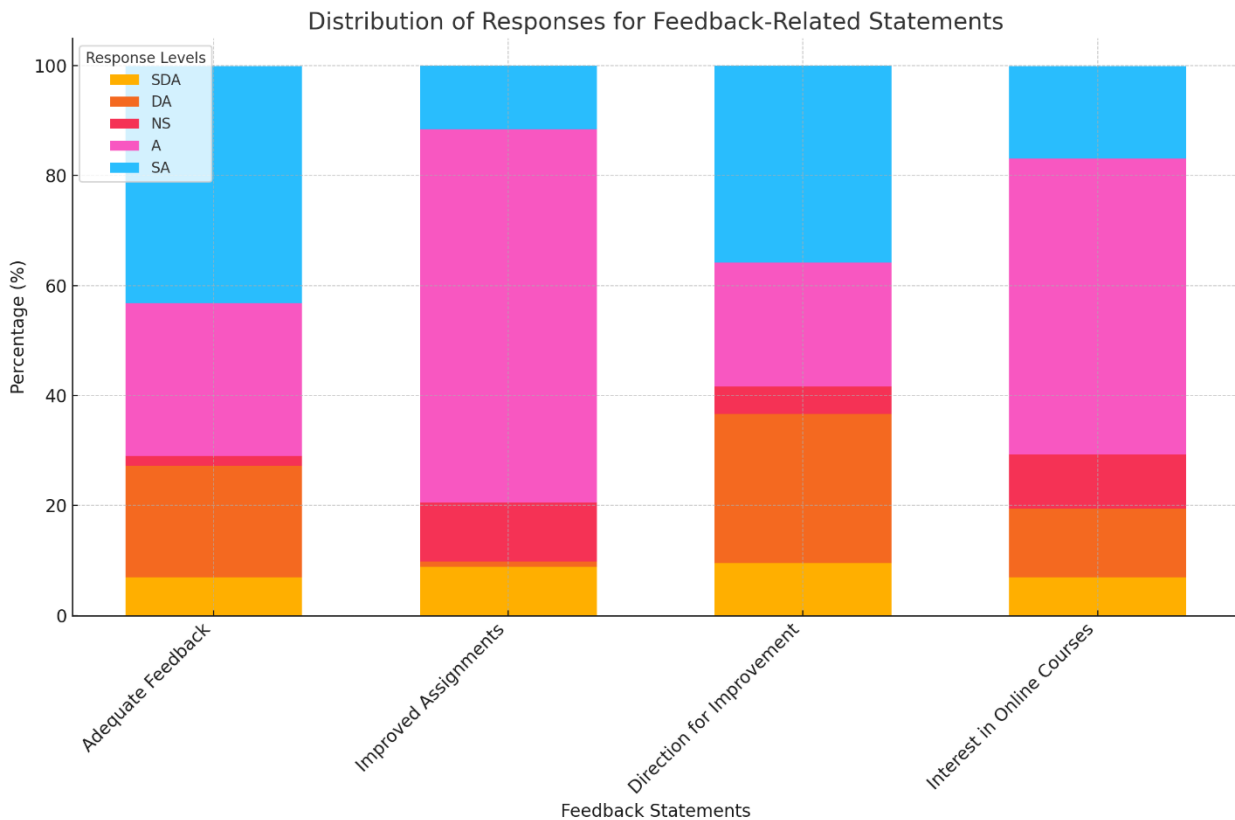


Table 2 Comparison of Support and Motivation Levels Across Gender

Gender	High Support (%)	Moderate Support (%)	Low Support (%)	High Motivation (%)	Moderate Motivation (%)	Low Motivation (%)
Male	70	20	10	65	25	10
Female	75	18	7	72	22	6

The comparison of support and motivation levels across gender reveals that female students reported slightly higher levels of both support (75%), and motivation (72%) compared to their male counterparts (70% and 65%, respectively). This suggests that while both genders experienced considerable support and motivation in online learning environments, female students showed a marginally more positive perception.

Table 2 University-wise Comparison of Feedback Perception

University	Adequate Feedback (%)	Used Feedback for Improvement (%)	Direction for Improvement (%)
Makran University	70	78	68
Turbat University	75	80	72
Gwadar University	65	72	60

The research revealed Turbat University students reported adequate feedback frequency at the highest level (75%) than Makran (70%) and Gwadar (65%). Research indicates that 80% of

Turbat students used feedback for improvement purposes whereas faculty at both Makran (78%) and Gwadar (72%) also implemented this practice. Among the educational institutions studied Gwadar University recorded the least satisfactory levels of timely and effective feedback distribution thus indicating a requirement for structured feedback systems.

Table 3 University-Wise Comparison of Support and Motivation

University	High Support (%)	Moderate Support (%)	Low Support (%)	High Motivation (%)	Moderate Motivation (%)	Low Motivation (%)
Makran University	72	20	8	70	22	8
Turbat University	75	18	7	74	20	6
Gwadar University	68	22	10	66	24	10

Turbat University students showed the most support and motivational levels at 75% and 74% whereas Gwadar students registered the lowest numbers at 68% and 66%. The percentage of students with minimal support at Gwadar reached 10% together with 10% who showed low motivational levels which highlights a lack of proper academic counseling and student engagement support programs.

Table 4 University-wise Comparison of Access to Information and Resources

University	Online Readings Supported Learning (%)	Adequate Learning Resources (%)	Sufficient Information Provided (%)
Makran University	75	70	80
Turbat University	78	73	82
Gwadar University	68	65	74

The students of Turbat University obtained the highest rates of online reading material (78%) and educational resources (73%) in comparison to Gwadar University students who had the lowest access rates (68% and 65% respectively). A similar percentage of 82% assessed their study information was sufficient at Turbat University compared to the percentages of 80% at Makran University and 74% at Gwadar University. Gwadar University needs to invest more into digital infrastructure along with academic resources to fulfill its academic needs.

Conclusion

The paradigm shift to online learning has created both opportunities and challenges for higher education in Balochistan. While it has facilitated continued education during the pandemic, it has also exposed significant gaps in infrastructure, instructional design, and student support systems. Speaking about these problems is critical to improving the quality and accessibility of online education.



Recommendations

1. Develop student support services to address technological and psychological challenges.
2. Formulate guidelines for standardized online assessments to ensure fairness and reliability.
3. Investigate the psychological effects of prolonged online learning on students' well-being.
4. Implement policies to subsidize internet costs and provide devices to underprivileged students.

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