

Threats and Difficulties in Education During the COVID-19 Pandemic and their Effect on Students' Online Education

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Abstract

The current study aimed to investigate the educational challenges and threats faced during the COVID-19 pandemic and their impact on students' online learning. This research was descriptive. Data were collected through a survey method conducted by the researcher herself. The population included students enrolled at the University of Education, Faisalabad Campus, at the BS, Master's, and MPhil levels. A total of 213 students participated in the study, with thirty-one (69) male students and 144 female students. Seventy-nine (79) students were from the BS program, seventy (70) from Master's classes, and fifty-four (54) from the MPhil program. The study employed a self-developed instrument, the Students' Performance and Online Learning Challenges Survey (SPOLCS). Data analysis involved frequency analysis and t-tests. The findings indicated that respondents expressed significant concerns regarding security threats during online learning. The overall mean suggested that respondents generally hold a positive attitude towards the online learning system.

Keywords: Educational challenges, COVID-19 pandemic, Online learning

Introduction

At the end of 2019, the SARS-CoV-2 virus gave rise to the COVID-19 virus, which spreads swiftly. It was first identified in December 2019 in Wuhan, China, and is presently quickly spreading to other nations. On March 11, 2020, the World Health Organization (WHO) designated COVID-19 to be a pandemic. The first two cases of COVID-19 in Pakistan were confirmed by the Federal Health Ministry in Islamabad and Karachi on 26 February 2020

(Saqlain et al., 2020). Pakistani authorities have closed all educational institutions (Ali, 2020). According to the Federal Government of Pakistan, the HEC issued orders to advanced education foundations to commence planning for online distance learning for students until the COVID-19 emergency remains unchanged (Ali, 2020).

Internet learning can be powerful in carefully developed nations (Basilaia & Kvavadze, 2020). Nonetheless, in Pakistan, a significant portion of learning and teaching, as well as regulatory activities of educational institutions, are conducted physically (Salam, 2017). This is due to the lack of internet adaptation, particularly for the marginalized communities of Pakistan (Wains & Mahmood, 2008).

The conditions are extraordinary; they are not typical for usual advanced learning situations, as some may argue, but instead represent emergency learning (Pace, et al., 2020). There is a stronger need for educational institutions to improve their curricula and prioritize the use of new teaching techniques and methods (Toquero, 2020). Social connections and activities also revolve around educational institutions. Many children and young people would lose out on important social interaction activities for learning and development if educational activities are suspended. This is an important topic to solve since students, especially underprivileged children and young adults, need to continue studying, especially when they are affected by school closures. While temporary closure of educational institutions due to crises is not new, the global scale and rapid spread of modern educational insecurity are sadly unprecedented and, if sustained, could cause psychological distress and hopelessness at various levels (McCarthy, 2020).

Although we recognize that ICT appropriation is unavoidable in higher education, due to the limited budget for higher education in Pakistan (Abbas et al., 2017), no dedicated funds are allocated for the latest advancements and ICT initiatives in the education sector (Kayani, 2005). Shortly after the closure of educational institutions nationwide, all accredited higher education establishments in Pakistan were advised to implement e-learning and management systems to conduct online classes (Ali, 2020).

During the public extended spring period, most children, youth, and institutions paused examinations and activities; the reopening of various schools has been delayed, and many individuals have been isolated at home (Wang, 2020). In what ways do academics find work or progress during the COVID-19 pandemic? During this time, how are students admitted to universities?

Statement of the Problem

Global education is under serious danger, and there is a severe crisis in education. Almost 80% of enrolled students worldwide are impacted by this. The fact that so many children go to school yet lack the basic life skills is causing a worldwide learning crisis. The majority of kids, young people, and even teachers had a number of barriers during the COVID-19 epidemic while studying online, including difficulty with computer literacy, technical difficulties, time management, and a lack of enthusiasm. The constraints of standardized testing, juggling a variety of learning requirements, and a lack of preparation time were issues for teachers. Thus, the purpose of the present research is to investigate the hazards and difficulties to education during the COVID-19 epidemic and how they affect students' online learning.

Objective of the study

The main objectives of this study were:

1. To examine the educational challenges and threats during the COVID-19 pandemic.
2. To investigate the impact of online learning during COVID-19 on students' performance.
3. To examine how much education faces challenges during the pandemic in the online learning environment.

Research Questions

The following were the research questions:

1. What are the educational challenges and threats during the COVID-19 pandemic?
2. How does online learning during COVID-19 impact students' performance?
3. To what extent is education facing problems during the pandemic in the online learning environment?
4. What are university students' perceptions about online learning during COVID-19?
5. What is the need for online learning during the COVID-19 pandemic?
6. What is the effectiveness of online learning in Pakistan for higher education students?

Significance of the study

Both teachers and students will benefit from this research. It will be crucial for comprehending the threats and difficulties facing students' education during the COVID-19 pandemic and how they should employ various tactics to get past those obstacles. Additionally, it will assist teachers in resolving issues that students encounter and academic administrators in taking proactive measures to advance regulations that govern students' online education throughout the COVID-19 pandemic.

Review of Related Literature

Globally, the coronavirus outbreak had a detrimental effect on educational activities. Worldwide school closures were a result of the COVID-19 pandemic's impact on educational systems (Wikipedia, 2020b). Academic endeavors and professional goals were severely disrupted. Many nations have closed schools in an attempt to limit the COVID-19 virus as part of international efforts to tackle it. The United Nations Educational, Scientific and Cultural Organization (UNESCO) reports that more than half of the world's student population was impacted by the statewide closures that were enacted in more than 100 countries (UNESCO, 2020a). One of the people who first opposed the idea, Prime Minister Boris Johnson of Britain, eventually acknowledged that "closing schools could put further downward pressure on the curve of the coronavirus." Nigeria, Ghana, Senegal, South Africa, China, Kazakhstan, Ethiopia, Honduras, India, Japan, Iran, the United States, France, Spain, Italy, North and South Korea, Lebanon, Vietnam, Thailand, Germany, and South Korea are just a few of the nations that have closed their schools because of the coronavirus. The interruptions caused by school closures have a substantial social, educational, and financial impact on people in all areas, but they have a particularly negative effect on vulnerable persons and their families (UNESCO, 2020b). If a more dependable COVID-19 remedy is not discovered quickly, the disease's propagation may continue, causing the disruption in the education sector to endure longer than

anticipated. "The global scope and velocity of the disruption in education caused by COVID-19 is unparalleled and, if postponed, may jeopardize the right to education," UNESCO said. Without a doubt, abrupt school closures may cause major problems for society, parents, teachers, and kids. Students' academic performance and interest may suffer as a result. Ineffective student engagement can result in passivity, which can lead to low academic performance, a loss of enthusiasm in learning, and young involvement in criminal activities. In the twenty-first century, innovation is an essential component of education. The increasing use of innovation in training has shifted educators' strategies from the traditional approach, which often positioned them as mere dispensers of information, to a more flexible approach where they act more as facilitators, coaches, and motivators to encourage students to participate and learn (Onyema & Deborah, 2019). Innovation supports a wide range of methodologies, such as distributed learning, machine learning, ubiquitous learning, deep learning, mixed learning, virtual learning, remote learning, blended learning, mobile learning, and cooperative and collaborative learning. Since most sectors of education are changing, the shift to online learning presents a challenge for educational institutions that engage with students. The use of appropriate educational technologies enhances access to learning resources like Massive Open Online Courses (MOOCs) and various learning modalities to address the needs of diverse students (Onyema et al., 2019).

Online education includes a variety of online teaching and learning activities that are conducted via the use of state-of-the-art tools and platforms. For online learning to be successful, students need to have access to technology, instructional software, digital abilities, and stable internet connections. Online education platforms play a major role in supporting inclusive education and web-based learning. Distance learning and the advancement of digital technologies that enable the efficient and dependable distribution of lectures, virtual classroom sessions, and other educational materials and activities over the internet form the basis of online education (Onlineeducation.com, 2020). Numerous online learning systems and tools facilitate remote learning, especially during emergencies like the coronavirus pandemic. These platforms and technologies include GoToMeeting.com, YouTube.com, Udemy.com, Google Hangouts, Blackboard.com, Google Classroom, Coursera.org, Whatsapp.com, Skype.com, Zoom (zoom.us), and Memory.com.

The coronavirus pandemic has forced many children to learn and study at home. This is not a new trend, since the home has long been a center for informal schooling. Home learning is rapidly taking over as the new standard for students. According to the Education Task (2020), most college students prefer to study in the comfort of their own homes since they can typically obtain all they need without getting up from their chairs. However, receiving formal education from home may be very difficult for many teachers, students, and parents, especially in less developed countries where access to, availability of, and usage of technology in the classroom are not guaranteed. Learning from home may be challenging due to a number of factors, including the cost of online education, poor computer proficiency, disruptions, erratic power supply, network issues, and accessibility issues.

Research Design

The nature of this study was descriptive. To gather information from the respondents, the researchers employed a survey approach.

Delimitation of the Study

The current study was conducted on the campus of the University of Education in Faisalabad.

Population

The study's population consisted of BS, MA, and MPhil students registered at the University of Education, Faisalabad Campus.

Sample of Study

Ten academic fields from the University of Education's Faisalabad campus were selected for the research. A total of 213 students participated. Of these, 144 were female students and 31 (69) were male students. 98 of them were from the Bachelor of Science program. There were seventy (70) students enrolled in Master's programs. There were fifty-four (54) from MPhil courses. There were 116 students from the Education department as well. Of them, nine (9) were from Botany classes, twenty (20) were from Mathematics classes, fifty-four (54) were from English classes, seventy-eight (78) were from Chemistry classes, and the remaining pupils were from Zoology classes. The research participants' demographic details were also documented. Twenty-five people participated in open-ended telephone interviews. The researcher carried out the initial small-scale pilot tests.

Research Instrument

A self-made instrument called the Students' Performance and Online Learning Challenges Survey (SPOLCS) was used. Information was gathered using a range of methods. In this research, questionnaire methodologies were used. The data was gathered using a variety of methods, including questionnaires, phone interviews, and online surveys. A University of Education supervisor assisted in creating the survey, which included questions about online education and its impact on students' academic achievement during the COVID-19 pandemic.

Reliability of the Instrument

The instrument's overall dependability was determined to be .873. This suggests that the tool has outstanding dependability for carrying out investigations. In terms of validity and reliability, the research instrument's correctness, consistency, and pilot testing are crucial components of research technique. The questionnaire had 53 items.

Results**Table 1: Comparison of Male and Female Learners' Opinions on Security Threats**

Indicator	Gender	N	Mean	Std. D.	t-value	P
Security Threats	Male	69	3.56	.889	.224	.823
	Female	144	3.53	.882		

Table 1 compares the opinions of male and female online learners on security-related topics using the t-test. It shows that when it came to security issues, there were no discernible differences between male and female online learners. It was evident that both groups had similar opinions on the security threats in an online learning environment. The mean achievement scores for males (M = 3.56, SD = .889) and females (M = 3.53, SD = .882), $t(111) = .224$, were provided for the security hazards indicator. It was confirmed that male and

female online learners see security threats differently.

Table 2: Comparison of Opinions of Male and Female Teachers about the Learners' Attitude

Indicator	Gender	N	Mean	Std. D.	t-value	P
Learning Attitude	Male	69	3.87	.826	.220	.826
	Female	144	3.84	.820		

The results of a t-test comparing the opinions of male and female online learners on an online learning system are shown in Table 2. The results demonstrate that there was no discernible difference in the opinions of male and female pupils. It was clear that both groups had similar views on how to approach learning in an online setting. The mean achievement scores for males and females on the learning attitude exam were $M = 3.87$, $SD = .826$ and $M = 3.84$, $SD = .820$, respectively, with $t(111) = .224$. The hypothesis that looked at the attitudes of online learners who were male and female was accepted.

Table 3: Comparison of Opinions of Male and Female Teachers about the Infrastructure Challenges

Indicator	Gender	N	Mean	Std. D.	t-value	p
Infrastructure Challenges	Male	69	4.03	.606	-.140	.889
	Female	144	4.04	.624		

Table 3 demonstrates how a t-test was used to compare the views of male and female online learners about infrastructure concerns in an online learning system. It shows that when it came to the infrastructural challenges, there were no discernible differences between male and female online learners. It was clear that both groups had similar opinions on the challenges posed by the design of an online learning system. The mean achievement scores of males ($M = 4.03$, $SD = .606$) and females ($M = 4.04$, $SD = .624$), $t(111) = -.140$, demonstrate similar perspectives on the infrastructure concerns. The hypothesis that examined how men and women perceived the challenges posed by the infrastructure was accepted.

Table 4: Comparison of Opinions of Males and females Teachers about the Home Environment

Indicator	Gender	N	Mean	Std. D.	t-value	P
Home Environment	Male	69	3.86	.744	.144	.886
	Female	144	3.88	.805		

A t-test was used to examine how male and female online learners perceived the home environment in an online learning system (Table 4). It shows that men's and women's perceptions of their houses were not significantly different. It was evident that the two groups' opinions of the home environment in an online learning environment were similar. The mean achievement scores of males ($M = 3.86$, $SD = .744$) and females ($M = 3.88$, $SD = .805$), $t(111) = .144$, indicate the home environment. The theory that examined the attitudes of male and female online learners toward their houses was accepted.

Table 5: Comparison of Male and Female Teachers' Opinions on Knowledge-Based Challenges

Indicator	Gender	N	Mean	Std. D.	t-value	P
Knowledge based Challenges	Male	69	4.00	.789	1.063	.289
	Female	144	3.87	.827		

Table 5 demonstrates how a t-test was used to compare the views of male and female online learners about knowledge-based barriers in an online learning system. It shows that there was no appreciable difference in these challenges between online learners who were male and those who were female. It was clear that both groups had the same opinions on the knowledge-based problems in an online learning system. The mean achievement scores for men (M = 4.00, SD = .789) and women (M = 3.87, SD = .827) match the responses on the knowledge-based difficulties indicator ($t(111) = 1.063$). The hypothesis that examined the perceptions of these challenges by male and female online learners was accepted.

Table 6: Comparison of Male and Female Teachers' Opinions on Students' Performance

Indicator	Gender	N	Mean	Std. D.	t-value	p
Students' Performance	Male	69	3.75	.771	.916	.361
	Female	144	3.64	.780		

A t-test was used to evaluate how male and female online learners perceived students' achievement in an online learning system (Table 6). It shows that the performance of male and female online learners does not differ significantly. Regarding how well students did in the online learning environment, it was evident that both groups had similar opinions. The mean achievement scores for males (M = 3.75, SD = .771) and females (M = 3.64, SD = .780), $t(111) = .916$, respectively, reveal their perceptions of the students' performance. It was accepted to examine how male and female online learners viewed pupils' performance.

Table 7: Comparison of Opinions of Males and females Teachers about the Learning Difficulties

Indicator	Gender	N	Mean	Std. D.	t-value	P
Learning difficulties	Male	69	3.97	.945	1.021	.308
	Female	144	3.84	.887		

As shown in Table 7, a t-test was used to compare the opinions of male and female online learners on learning difficulties in an online system. It shows that there were no noticeable differences in the attitudes of male and female students about learning difficulties. It became clear that the two groups had a similar awareness of the difficulties involved with online learning. The mean achievement scores for males (M = 3.97, SD = .945) and girls (M = 3.84, SD = .887) on the learning difficulties test were $t(111) = 1.021$. The hypothesis comparing the perspectives of male and female online learners on learning problems was accepted.

Table 8: Comparison of Male and Female Teachers' Opinions about the Campus

Indicator	Gender	N	Mean	Std. D.	t-value	P
On-Campus Comparison	Male	69	3.75	.711	.761	.448
	Female	144	3.67	.711		

Table 8 demonstrates how the t-test was used to compare the views of male and female online learners about on-campus and online learning approaches. It indicates that men and females

did not significantly differ in these systems. It was clear that the opinions of the two groups about on-campus and online education were similar. The mean achievement scores for males (M = 3.75, SD =.711) and females (M = 3.67, SD =.711), $t(111) = .761$, indicate opinions on the on-campus and online learning systems. Comparing the opinions of male and female online learners on different sites was decided upon.

Table 9: Comparison of Opinions of Male and Female Teachers on Work Quality

Indicator	Gender	N	Mean	Std. D.	t-value	P
Work quality	Male	69	3.43	.107	-.781	.436
	Female	144	3.55	.101		

The opinions of male and female online learners about the quality of work in an online learning system were compared using the t-test (see table 9). It shows that there was no appreciable difference between male and female learners' work quality in the online learning system. Both groups' opinions about the quality of work in an online learning environment were clearly in agreement. The mean achievement scores for men and women (M = 3.43, SD =.107 and M = 3.55, SD =.101), respectively, indicate how students feel about the quality of their work in the virtual classroom ($t(111) = -.781$). It was decided to compare the views of male and female online learners on the quality of work in an online learning environment.

Table 10: Comparison of Male and Female Teachers' Opinions on Workload

Indicator	Gender	N	Mean	Std. D.	t-value	P
Work quantity	Male	69	3.40	.103	-.749	.455
	Female	144	3.51	.103		

A t-test was used to examine how male and female online learners perceived the workload in an online learning system (Table 10). The results show that male and female students do not significantly differ in the amount of work they complete in the system. It was evident that the views of the two groups about on-campus and online education were similar. M = 3.40, SD =.103 for males and M = 3.51, SD =.103 for females were the mean achievement scores for the workload indicator in an online learning system, with $t(111) = -.749$. Comparing the opinions of male and female online learners on the workload in an online learning environment was decided upon.

Findings

There were no discernible differences between the male and female online learners' perspectives on several facets of online learning, according to the t-test results. Males and females had comparable thoughts on every variable that was assessed, including security risks, learner attitudes, infrastructure obstacles, home environment, knowledge-based challenges, student performance, learning difficulties, on-campus vs. online learning, work quality, and work quantity.

Discussion

The findings of this study show that gender does not significantly affect online learners' perceptions in various aspects of online learning. These results match several earlier studies suggesting that male and female learners experience similar challenges and share similar views in online learning environments. For instance, Barak, Watted, and Haick's (2016) study

revealed no discernible gender disparities in online learners' satisfaction and engagement. This lends credence to the notion that gender has little impact on online learning experiences. Similarly, findings by Ally (2008) indicate that factors such as learner motivation, technological challenges, and course content significantly affect both genders, while gender itself has little impact on how learners engage with online learning environments. In contrast, some studies have suggested that although both genders may share similar perceptions, differences could emerge in specific contexts, such as learner preferences for communication methods or feedback styles (Gikandi, Morrow, & Davis, 2011).

Furthermore, the absence of notable gender differences in perceiving security threats, learning difficulties, and knowledge-based challenges reinforces previous research by Seok, Kinsell, and DaCosta (2010), which found that both male and female learners are equally affected by technological and instructional barriers in online education. This suggests that universal approaches, rather than gender-specific ones, are more effective in addressing the issues faced by learners in an online setting.

The consistent views across genders in these areas also match the work of Martin, Sunley, and Turner (2017), who highlighted that student experiences in online learning are influenced by structural and pedagogical factors rather than gender. Therefore, upgrading infrastructure, learning resources, and course design to cater to all learners is essential for improving online education.

Recommendations

1. Online learning platforms should focus on enhancing infrastructure and resources to support all learners, regardless of gender.
2. Further research could explore other factors, such as learner motivation and engagement, influencing online learning outcomes.
3. Course designs should focus on accessibility and inclusivity, providing equal experiences for male and female learners.
4. Institutions should provide additional support to address technological challenges faced by all learners in online environments.
5. Future research could explore gender-specific preferences for online education communication methods and feedback styles.

References

1. Abbas, W., Ahmed, M., Khalid, R., & Yasmeen, T. (2017). Analyzing the factors that can limit the acceptability to introduce new specializations in higher education institutions. *International Journal of Educational Management*.
2. Ali, N. U. (2020, April 2). Students disappointed with online teaching system amid COVID-19. Retrieved from Daily Times: <https://dailytimes.com.pk/587446/students-disappointed-with-online-teaching-system-amid-covid-19/>
3. Ally, M. (2008). *Foundations of educational theory for online learning*. In T. Anderson (Ed.), *The theory and practice of online learning* (pp. 15–44). Athabasca University Press.
4. Barak, M., Watted, A., & Haick, H. (2016). *Motivation to learn in online learning environments: The role of gender, age, and prior knowledge*. *Education and Information Technologies*, 21(2), 393–406. <https://doi.org/10.1007/s10639-014-9319-7>
5. Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-

- 2 coronavirus (Covid-19) pandemic in Georgia. *Pedagogical Research*, 5(4), 1-9.
6. Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). *Online formative assessment in higher education: A review of the literature*. *Computers & Education*, 57(4), 2333–2351. <https://doi.org/10.1016/j.compedu.2011.06.004>
 7. Martin, F., Sunley, R., & Turner, D. (2017). *Understanding student engagement in online learning environments*. *Journal of Educational Technology & Society*, 20(2), 122–133.
 8. McCarthy, K. (2020, March 7). The global impact of coronavirus on education. Retrieved from *ABC News*: <https://abcnews.go.com/International/global-impact-coronaviruseducation/story>.
 9. Onyema, E. M. (2019). Integration of Emerging Technologies in Teaching and Learning Process in Nigeria: the challenges. *Central Asian Journal of Mathematical Theory and Computer Sciences*, 1(August), 1. 35-39.
 10. Onyema, E. M., & Deborah, E. C. (2019). Potentials of Mobile Technologies in Enhancing the Effectiveness of Inquiry-based learning. *International Journal of Education (IJE)*, 2(1), 1–25.
 11. Pace, C., Pettit, S. K., & Barker, K. S. (2020). Best practices in middle level guaranteeing: Strategies, tips and resources amidst COVID-19. *Becoming: Journal of the Georgia Association for Middle Level Education*, 31(1), 2.
 12. Salam, S., Jianqiu, Z., Pathan, Z. H., & Lei, W. (2017, December). Strategic barriers in the effective integration of ICT in the public schools of Pakistan. In *Proceedings of the 2017 International Conference on Computer Science and Artificial Intelligence* (pp. 169-172).
 13. Saqlain, M., Munir, M. M., Ahmed, A., Tahir, A. H., & Kamran, S. (2020). Is Pakistan prepared to tackle the coronavirus epidemic? *Drugs & Therapy Perspectives*, 1-2.
 14. Seok, S., Kinsell, T., & DaCosta, B. (2010). *The effectiveness of online learning in elementary education*. *The Journal of Educational Research*, 103(4), 274–285. <https://doi.org/10.1080/00220670903383091>
 15. UNESCO (2020). Covid-19 Impact on Education Data. COVID-19 Education Disruption and Response. The United Nations Educational, Scientific and Cultural Organization, UNESCO. Paris, France.
 16. UNESCO. (2020, March 30). COVID-19 Webinar: A new world for teachers, education’s frontline workers. Marrë nga <https://en.unesco.org/news/covid-19-webinar-new-worldteachers-educations-frontline-workers>
 17. UNESCO. 2020. United Nations Educational, Scientific and Cultural Organization. COVID19 educational disruption and response. UNESCO, Paris, France.
 18. Wains, S. I., & Mahmood, W. (2008, October). Integrating m-learning with e-learning. In *Proceedings of the 9th ACM SIGITE Conference on Information Technology Education* (pp. 31-38).
 19. WHO. (2020b). World Health Organization. WHO Director-General’s opening remarks at the media briefing on COVID-19 - 11 March 2020. World Health Organization, Geneva, Switzerland.
 20. WHO. 2020a. World Health Organization. Novel Coronavirus (2019-nCoV): Situation report - 1. 21 January 2020. 1st Ed. Geneva, Switzerland: World Health Organization. 5 p.
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