Ensuring Excellence: Quality Assurance Practices of Online Teaching and Learning at Higher Education Level in Pakistan

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Abstract

The purpose of this study was to assess the current quality assurance mechanisms and practices for online teaching at the higher education level in Pakistan. The study was conducted on 214 higher education level private and public universities that have offered online education during COVID-19. The quantitative research approach was used to carry out this study. All the students from public and private universities were considered the population of the study. A multi-stage sampling technique was applied to select the sample from private and public universities in ICT and four provinces: Punjab, KPK, Sindh, and Baluchistan of Pakistan. The self-develop questionnaire based on a five-point Likert scale was administered to collect the data. Data were collected through multiple means such as personal visits to universities and online Google Forms. Descriptive data analysis techniques were used to analyze the data. Findings revealed that instructors facilitated learners to ensure the quality of teaching. Learners also reported that the instructors provided a detailed course overview and material to engage and facilitate the learners. However, expanding access to more diverse materials and ensuring compatibility across devices is needed.

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Introduction

The rise of online learning has developed the education system by providing extraordinary opportunities for students to access quality education irrespective of their geographical barriers (Arifeen, 2023). During the COVID-19 pandemic, educational institutions worldwide had to integrate online platforms to ensure swift continuity of education. In Pakistan, higher education institutions had to rapidly shift to online methods for teaching and learning (Yasmin, 2022). This change presented challenges and opportunities, especially regarding the quality of online education and its effect on students' learning experiences (Singh et al., 2022). Over the past few years, higher education in Pakistan has seen remarkable changes, especially with the rise of online teaching methods. As universities and colleges aim to embrace the digital era and offer more accessible learning options, online teaching has become more common. This move has influenced how educational material is delivered and altered how students learn and achieve results (Brođanac & Novak, 2023).

Understanding the complexities of ensuring online teaching quality is essential in the context of higher education in Pakistan to ensure the successful implementation of online learning initiatives. The quality of online education in higher education is influenced by several factors in Pakistan, including the pedagogical approaches used, support from technology, the competence of instructors, and student engagement. Therefore, this research aims to investigate the effects of the quality of online teaching on the learning experiences of students. The effectiveness of online teaching is crucial in influencing students' academic achievements and satisfaction with their educational journey. As students engage in virtual learning, they rely on strong communication, precise guidelines, and interactive materials to improve participation and comprehension of their studies.

Instructors' flexibility in using digital tools and providing stimulating lessons significantly affects how students view the quality of their education. Ensuring high-quality online teaching is essential for student engagement and perceptions in the educational process. Therefore, it is crucial to analyze the elements that lead to effective online teaching practices and how they impact students in higher education settings in Pakistan. By comprehending the factors that affect online teaching quality and its effects on student experiences, we can improve the educational standards in the nation.

This study offers insights into the connection between online teaching quality and the experiences of Pakistan's higher education students. After reviewing existing literature, empirical studies, and qualitative data

collection methods, the aim is to shed light on this essential aspect of online education. The ultimate goal is to drive continuous improvement and innovation in virtual learning, benefiting students and educators. Quality assurance in online education poses a significant challenge for students in higher education institutions, especially in developing countries like Pakistan. Many educational institutions in these regions are genuinely worried about this issue. The main goal of this research study was to evaluate the current quality assurance processes and tactics used for online instruction in the higher education sector of Pakistan.

Literature Review

Online education has been present in the global education system for quite some time and has been implemented in different ways and to varying extents. Over time, online and distance education has considerably increased in popularity. Some have contended that online education has established itself and will continue to be a significant educational method because of its numerous advantages. Numerous research projects have evaluated the effectiveness of online instruction in Pakistani universities. A study by Ali et al. (2020) highlighted that the significance of instructor feedback, course design, and technology integration in improving the quality of online teaching cannot be overstated. Students' engagement, effectiveness, and meaningful learning experience are crucially influenced by these three elements when it comes to online courses. By incorporating constructive feedback, designing courses that are engaging and interactive, and effectively integrating technology into the learning environment, educators can create a more dynamic and successful online teaching experience. Similarly, Khan et al. (2020) emphasized the importance of teacher proficiency and communication abilities in providing efficient online education.

Facilitating students and instructors within the institution is crucial in online education and impacts its overall quality. Studies indicated that organizational policies influence the satisfaction of instructors, and the decisions made by the organization can impact the quality of instruction. Additionally, during crises, effective communication from university officials plays a crucial role in keeping students and faculty informed, motivated, and positive. Existing literature also suggests that instructors depend on institutional support and resources in online settings to establish student-centered learning environments. Teachers believe teamwork, instruction, and organizational support are crucial for successful teaching. Nonetheless, it is crucial to acknowledge that the training given to instructors might not always match their requirements or be inappropriate

for the situation. The combined effect of these challenges can directly or indirectly impact students' satisfaction with online teaching and learning procedures. (Kundi et al., 2010).

In an online course, instructors' actions significantly impact students' satisfaction. Farooq et al. (2020) found that while students may have different perceptions of traditional and online classes, they focus on mastering the course by engaging in meaningful learning experiences. Several factors directly affect student satisfaction with course content: communication with the teacher, effective use of learning tools, and the teacher's demonstration style. Students have expressed that timely and constructive feedback on course activities is beneficial for studying in online environments. Moreover, the accessibility of instructors and how quickly they respond can significantly improve how students perceive the value of online courses. Adnan (2020) highlighted that students emphasized the significance of face-to-face interaction with teachers for effective learning, which was challenging during online learning.

Improving the online teaching environment demands an understanding of students' online learning experiences. Research by Ahmed et al. (2018) explored Students' opinions of online learning in Pakistani higher education, highlighting obstacles relating to connectivity, resource availability, and participation levels. Additionally, a study by Malik et al. (2021) highlighted that Student motivation and self-regulation influence their online learning experiences. However, the effectiveness of online course design relies on technology, infrastructure, instructional design, and standards, but the faculty teaching online courses significantly influence the courses' success and student learning. Kibaru (2018) highlighted that instructors play a pivotal role in leading the transformation when educational institutions transition to online learning or academic programs offer online classes. They must reconsider what they are teaching and how to teach it, evaluate student progress, and facilitate learning in the online format, which demands a fundamental change in approach. Creating and effectively delivering an online course generally demands a tremendous amount of time compared to what is typically required for an in-person course.

In Pakistan, the popularity of online education is on the rise, even though various challenges need to be addressed, such as the digital gap, technical issues, and educational worries. However, there are chances to enhance the standard of online teaching through teacher training, upgraded technology systems, and student assistance (Ghayyur & Mirza, 2021). The government should provide specialized education courses with qualified instructors to help these students. Students have raised concerns regarding

the absence of conversations about each other's accomplishments and traits. Additionally, internet connectivity difficulties impact the use of alternative learning methods. One potential solution is to enhance the speed of internet packages accessible to students. To address this issue, it is suggested that governments make affordable internet access options available to students and that telecommunication companies support students. Furthermore, students have expressed worries about their data privacy when using their laptops and computers at home, which could be vulnerable to third-party breaches. Therefore, universities must educate students about data privacy and provide software to protect their data (Luxatia, 2020).

The faculty lacks the technical and teaching abilities to transition to the online platform and the motivation and support required to invest time in developing and delivering online courses. Additionally, they lack support for academic and administrative procedures while shifting to online instruction (Kebritchi et al., 2017). The success of online education in a higher education institution (HEI) dramatically relies on the support provided to faculty, especially those with limited online teaching experience. According to Garrett et al. (2019), the top priorities for all HEIs include faculty development and training, along with resources for instructional design and faculty support. However, such training and support adequacy varies widely among HEIs and contexts. Other forms of institutional support also play crucial roles in the success of online instructions. Despite several studies calling for such support, there is a lack of organized knowledge regarding the instructional services HEIs should offer to ensure high-quality online teaching

Objective of the Study

The objective of this study was to assess the existing quality assurance mechanisms and practices of online instruction in Pakistan at the higher education level.

Methodology
Research Design
The quantitative research approach was applied with descriptive research method to conduct this study.
Population and Sample of the Study
A total of 214 public and private sector universities in Pakistan offered online education during COVID-19. The students of those public and private universities were considered the population of the study. A multi-stage sampling technique was used to select the study sample. Initially,

10% of private and public universities from Islamabad and four provinces (Punjab, KPK, Sindh, and Baluchistan) were selected as the study sample. In the second stage, the proportionate stratified sampling technique was used to select the students from the selected universities of Islamabad, Punjab, KPK, Sindh, and Baluchistan as sample.

Research Instrument

A self-developed questionnaire based on a five-point Likert scale (with options from strongly agreed to strongly disagreed) was used to collect data from the selected sample. The questionnaire consisted of two parts: first part of the questionnaire consisted of demographic information, and second part was based on close-ended statements under the nine major quality assurance indicators (course overview, Assessment of Pupil Learning, student interaction and Community, Instructional Materials and Resources, Facilitation and Instruction, Accessibility and Universal Design, Mobile Design Readiness, Technology for Teaching and Learning, Course Summary and Wrap-up) adopted from "Quality Online Learning and Teaching (QOLT)" developed by California State University (2017). The questionnaire was validated by incorporating the experts' opinions, and Cronbach's Alpha coefficient was applied to check the reliability of the questionnaire. The calculated Cronbach's Alpha coefficient reliability was 0.817, which indicates the appropriateness of the questionnaire for further data collection purposes.

Data Collection and Data Analysis

Data was collected through multiple means, such as personal visits to universities and sharing an online Google form. Descriptive Statistical Analysis was used for data analysis, and the means score was calculated to draw the results.

Findings

Data was analyzed by administering PLS-SEM according to the proposed hypotheses in this research study.

Table 01
Quality assurance indicators

Quality Assurance Indicators	Strongly Agree (SA) %	Agree (A) %	Neutral (N) %	Disagree (DA) %	Strongly Disagree (SDA) %	Mean Score
Course Overview	37.8%	48.1%	9.5%	3.4%	1.3%	4.06
Assessment of Pupil Learning	36.9%	48.5%	11.3%	4.1%	2.1%	3.98

Quality Assurance Indicators	Strongly Agree (SA) %	Agree (A) %	Neutral (N) %	Disagree (DA) %	Strongly Disagree (SDA) %	Mean Score
Student Interaction & Community	48.2%	39.5%	6.5%	4.6%	1.2%	4.10
Instructional Materials & Resources	37.4%	45.4%	12.9%	3.4%	1.3%	4.07
Facilitation & Instruction	43.4%	38.9%	12.7%	4.2%	0.5%	4.06
Accessibility & Universal Design	44.4%	36.5%	14.8%	2.8%	1.5%	4.10
Mobile Design Readiness	34.0%	40.0%	16.1%	6.6%	3.1%	3.97
Technology for Teaching & Learning	40.4%	39.0%	16.0%	3.2%	1.4%	4.02
Course Summary & Wrap-up	39.7%	43.8%	12.8%	3.2%	0.6%	4.07

Table 01 depicted that the majority of the students strongly agreed that the course overview was provided to them at the start of the online courses. Courses clearly outlined the learning objectives and grading policy. Various assessment methods were used to track the progress of online learners. Teachers consistently offered timely feedback to students throughout the semester. Students were given opportunities to self-assess their progress. Online assessment strategies were more intricate as compared to traditional methods. Majority of the respondents agreed that their teachers encouraged them to develop a sense of community and interaction; teachers provided different opportunities for their students to introduce themselves and interact with others. Teachers allowed students to contact him/her during office hours through different platforms. Likewise, students strongly agreed that learners were provided with helpful learning online materials and other related resources. They were introduced to several open learning options for self-directed study including YouTube recorded lectures, SlideShare, PowerPoint, online discussion groups, blogs, and journals. All of the learning resources and supporting materials included explicit references. Results also illustrated that the teacher facilitated and guided online learning. The teacher delivered information on efficient online learning practices. The teacher informed students about the prerequisite knowledge and competencies

required to complete the course. Instructors' online instructional tactics assisted students in understanding the course topics. Open educational materials were more effective in developing concepts than traditional course content, and well-organized educational material promoted conversation and allowed students to share their knowledge on pertinent topics.

A large number of students agreed that they had access to course materials in several formats (audio, video, word, PPT, PDF). Moreover, students reported that their understanding and proficiency in the subject had improved due to the accessibility of the different open learning resources. According to most students, when they used tablets or mobile devices in class, they have become more engaged with the learning material and the lecture. They felt comfortable receiving comments and grades/marks on a mobile device. Teachers sent pre-class discussion questions via text, WhatsApp, and Messenger. Their mobile devices were capable of accessing various learning websites and resources. The technical support help desk aided learners when they encounter technical issues while using the LMS.

According to majority of the students, access to free educational resources was provided to them, and collaborative learning activities such as engaging with other course members via online conferencing or video chat were encouraged. The teachers used a range of tools for online classes to enhance learning (Learning Management System (LMS), Google Classroom, Prezi, video conferencing, and SlideShare, among others). Respondents also agreed that teachers always wrapped up the lectures and courses by answering the students' queries and planning exercises to conclude the lecture. Students' overall experience with online courses was satisfactory. On the other hand, online assessments represented the information that students learnt online. At the end, teachers commented students on their overall learning progress and semester experience. In contradiction, the evaluation process was not satisfactory but transparent.

All the obtained mean scores fall within the 3.41-4.20 range, which indicates an overall high level of agreement with the quality of online instruction. The highest-rated categories (4.10) are Student Interaction and community and Accessibility and Universal Design, suggesting strong support for online collaboration and ease of access to resources. The lowest-rated category (3.97) is Mobile Design Readiness, indicating that mobile-based learning tools could be improved. Since no mean score falls below 3.41, there is no indication of a neutral or negative perception among respondents related to quality indicators.

Discussion

In Pakistan, despite the establishment of numerous public and private universities, the quality of research and instruction has consistently fallen behind that of other countries such as India and Iran. The current state of higher education can be attributed to various factors, including the quality of teachers, students, and facilities and prolonged neglect of education by previous governments. As higher education institutions introduce online/distance education programs, they should provide training for current staff, including administrative, instructional, and support personnel. Additionally, they should establish new roles to oversee and assist online learning. According to Saleem et al. (2022), the quality of online teaching and learning depends on the university's support, instructors' support and motivational factors. However, the situational factors negatively influenced the quality of teaching and the relationship between instructors' support and motivational factors. Likewise, Ramirez-Hurtado et al. (2021) reported that universities need to prioritize the features to enhance the quality of online instruction, such as the integration of technological decisions and collaborative learning practices between teachers, students, administration staff and services. Studies also conclude that highly effective factors to enhance online education, such as relevancy between instructional design and students learning, delivery of content, adequate assistance and guidance provided by faculty and instructors to students, interactive participation of students, and the contingency plan to deal with unexpected challenges of online learning platforms (Bao, 2020).

Luxatia (2020) highlighted in his research that attending classes online created challenges for the learners. These issues stem from learners' struggles with time management, inability to communicate with professors directly, disinterest in attending classes, and adjusting to online learning. The students found the shift from face-to-face to online training challenging. This is a massive challenge because most countries lack the resources to deal with unexpected natural disasters. The difficulty of using internet platforms for pupils who are deaf, hard of hearing, or have special needs was also brought up by the students.

Benning and Davis (2023) studied graduate students' evaluation and perception of online instructions. The study highlights the effectiveness of online instruction in fostering student-faculty interaction, active learning, and prompt feedback. It emphasizes using platforms like LMS, Google Meet, and WhatsApp so that students can stay informed while maintaining privacy. The public and private universities have different resources and infrastructure capacities, leading them to utilize various teaching

techniques and learning systems, resulting in diverse outcomes in teaching and learning nationwide. Consequently, it is crucial for higher education institutions and universities under the supervision of HEC to create protocols and operational instructions, enabling them to promptly address similar crises in the future. This involves assessing appropriate infrastructure, facilities, and training opportunities for educators. Each institution should establish its policies, protocols, guidelines, and emergency plans based on its capabilities while ensuring alignment with the directives and guidelines provided by relevant government bodies for uniformity. The teaching and learning approaches are being implemented in all universities and higher education institutions.

Conclusion

The study concluded that students have satisfactory agreement on the quality of online instruction. The majority of students acknowledged that their courses were well-structured, with clear learning objectives, grading policies, and a variety of assessment methods to track progress. Teachers played a crucial role in facilitating online learning by providing timely feedback, guiding students, and offering diverse learning resources, including open educational materials and multiple content formats. The study also highlights the effectiveness of student interaction and community-building in online courses, with teachers encouraging collaboration and engagement through various platforms. Despite the positive reception, mobile design readiness received the lowest rating, suggesting that mobile-based learning tools could be improved to enhance accessibility and engagement. Additionally, while the evaluation process was found to be transparent, it was not entirely satisfactory to students. Nonetheless, the results reflect a high level of satisfaction with online instructional quality. These findings emphasize the need for continuous improvements in mobile learning tools and evaluation methods to enhance the online learning experience further.

It is recommended that teachers may send frequent reminders regarding the course structure and evaluation criteria to ensure that students stay on track with the course objectives throughout the semester. Furthermore, more engaging methods of communicating the objectives (e.g., multimedia tools or course webinars) may boost student comprehension. Students appreciated timely feedback. Instructors should not only provide timely feedback but also ensure it is specific and constructive. Incorporating peer feedback or automated systems for continuous assessments may foster ongoing improvement. Additionally, providing students more opportunities to reflect on the feedback will enhance their

learning experience. Students found shared resources valuable, but expanding access to more diverse materials and ensuring compatibility across devices is needed. Instructors may provide a broader range of learning materials, such as simulations or interactive tools, and ensure that all resources are accessible on various devices (smartphones, tablets). Although most students were comfortable using technology, some still faced challenges with technical issues. Institutions may offer continuous technical support, including training for students and instructors on effectively using the Learning Management System (LMS) and other digital tools. Regular troubleshooting sessions should be provided. Students found online assessments more intricate than traditional methods, but a broader variety of assessments could improve learning outcomes. Instructors may diversify assessment methods (e.g., quizzes, discussions, peer reviews) to cater to different learning styles and ensure alignment with course objectives. Frequent communication promoted active learning, but additional interactive activities could enhance engagement. Instructors may incorporate live Q&A sessions, group discussions, quizzes, and real-time multimedia content to increase student participation and foster active learning.

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