

8. Experiences of Online University Examinations: A Case of Nepal

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Abstract

Higher authorities' traditional thinking, negligence, and negative attitude are the key obstacles to Nepal's online education and examination system. This paper aims to report on the university examiners' and examinees' experiences with online examinations after the outbreak of the COVID-19 crisis in Nepal. It analyzes how they managed online examinations with their limited skills, applications, and resources of ICT. Based on qualitative research, it employed semi-structured interviews to collect primary data from purposively selected university teachers, students, and administrative staff. This paper reports that university teachers and administrative staff worked hard to conduct the online examinations, and students managed to face them. Nepal's findings suggest that the formation of appropriate policy and its practical implementation to establish suitable web-based systems, servers, applications, advanced ICT infrastructure, and capacity development of human resources could ease the quality management of online examinations in higher education.

Keywords

Challenges, COVID-19 crisis, higher education, ICT, online examination

Introduction

Many universities worldwide have been updating their educational practices, and the emergence of the COVID-19 crisis forced most higher educational institutions to adopt new methods of teaching-learning and examination. After the lockdown, university colleges adapted online modes of examinations, which brought the opportunity to improve the quality of education with the integration of digital tools (George, 2020). Despite various challenges, online modes of examination have become popular assessment methods for educational institutions (Kedra & Kaltsidis, 2020). Students have gained higher academic achievements in online assessments than in traditional physical hall examinations (Ilgaz & Afacan Adanir, 2019; Myrsky & Joutsenvirta, 2015). Completing computer-based tests and practical testing of skills, knowledge, and understanding has lessened the teachers' burden of facilitating students' learning assessment (Alea et al., 2020). However, there are still many challenging questions and

suspensions behind the effectiveness of online assessment practices (Faudy et al., 2021).

Online learning has grown its popularity, leading to more widespread utilization of online examination to become a preferred assessment method (Butler-Henderson & Crawford, 2020). The appropriate use of online learning programs and processes has brought various benefits such as flexibility and saving time and money for learners (Myyry & Joutsenvirta, 2015). However, the shift to online teaching raised challenges such as the management of ICT infrastructure and appropriate software for educational institutions to organize examinations and ensure students' progress (Kedra & Kaltsidis, 2020). Electronic assessment tools lessen the burden on teachers and facilities to conduct examinations purposefully. Computer-based examinations can promote more effective testing of skills, knowledge, and understanding (Afacan Adanir et al., 2020). The technology-based assessment provides opportunities to measure complex forms of knowledge and reasoning that are impossible to engage and assess through traditional methods (Alea et al., 2020).

The implementation of online examination has been supported by ICT-related educational policies formulated earlier and during the crisis. *ICT Master Plan (2013-2017)* affirms the extensive use of ICT in educational institutions, including higher education, to contribute to access to the quality of education for all in Nepal (Ministry of Education, 2013). Different ICT policies have envisioned the integration of ICT in educational sectors from schools to universities aiming to maintain quality teaching-learning and research activities in Nepal (Ministry of Information and Communication, 2015). The Government of Nepal has issued the guideline to facilitate students' learning through alternative means to continue educational activities during lockdown (Ministry of Education Science and Technology, 2020), ultimately contributing to the initiation of the online mode of examinations. However, there is limited research on online examinations in the universities of Nepal. In this context, this study has attempted to explore the experiences of the university teachers, students, and administrative staff who practiced this mode of examination in Nepal during the COVID-19 crisis.

Design and Management of Web-based Systems

Web-based online examination systems have come into practice in higher education, and the rapid integration of ICT is under the pressure of the COVID-19 crisis. Many studies (Abdullah et al., 2020; Al-Hawari et al., 2019; Jiang et al., 2019) have suggested that online examination can be a better alternative mode during the crisis like COVID-19. In their research on web-based examination systems in Turkey, Bulent and colleagues (2016) investigated how online examinations saved the students' time and expenditure and enhanced their evaluation process. Likewise, research in China (Jiang et al., 2019) reported that integrated web-based systems

supported the management of online examinations conveniently. In their study on the values of interface design in different countries, Karim and Shukur (2016) reported that the proper design of online examinations supported students in enhancing their exam efficiency. However, in their previous study Fask, Englander, and Wang (2014) investigated the higher possibility of cheating in un-proctored online examinations.

Al-Hawari et al. (2019), in their research in Jordan, reported integrated and secured web-based examination management systems as user-friendly, consistent, readily available, proficient, and fast since it integrates different languages with rich text editors and supports the instructors to ease their burdensome task. In their research, Abdullah et al. (2021) reported that online examinations with software solutions could save the administrators time managing the exam. Likewise, in their study in India, Dwivedi and colleagues (2021) investigated the design and implementation of automatic question paper generation and retrieval systems that supported the instant availability of valid sets of question papers for online examinations. However, in their research, Malik and colleagues (2021) found the risk of maintaining the confidentiality of sensitive data and the possibility of intrusion and impersonation in this mode of examination. Similarly, in a case study in Nepal, Khadka and colleagues (2020) stated the difficulty of managing a skilled workforce by systematically conducting online and alternative examinations.

Experiencing Online Examination

The shift from traditional physical to online mode of examination can be observed, bringing new experiences among the teachers and administrative staff who conduct the tests and the students who face the examinations. For example, in a study in Finland, Myyry and Joutsenvirta (2015) reported that the students focused their attention on changing their learning strategies to cope with the online pattern of examinations which they perceived as quite different than traditional hall examinations. Similarly, in a study in the USA, Milone and colleagues (2017) investigated that the teachers found the proctored method more beneficial in measuring the students' knowledge in the online mode of examinations. In their study in Turkey, Bahar and Asil (2018) reported that students demanded teachers' technical support and guidance for e-assessment. Similarly, Mellar and colleagues (2018) argued that teachers could discourage cheating and plagiarism in online examinations by installing plagiarism-checking applications. Likewise, Ilgaz and Afacan Adanır (2019) reported that despite facing multiple challenges and difficulties, mainly due to poor performing devices and time consumption in the case of Mathematics, the majority of the students found online examinations reliable and effective.

Investigating the e-authenticity of online examinations in different universities in Europe, Okada, Whitelock, Holmes, and Edwards (2019) found that students are aware of avoiding cheating and plagiarism in online assessments

to make them valid and standard. However, in their study in Jordan, Elsalem and colleagues (2021) found the majority of the students experiencing online examinations as inconvenient mainly because of inappropriate question patterns, insufficient technical support, and lack of adequate technical skills. Similarly, in their study in Nepal, Rana and colleagues (2021) reported the challenge in the practical implementation of ICT and educational policy for enhancing quality education and preparing skilled human resources.

Research Design and Procedures

As a qualitative study conducted to investigate the university teachers, students, and administrative staff's experiences of online examination in Nepal during the COVID-19 crisis, this study employed online semi-structured interviews to collect qualitative information, as suggested by Cohen and colleagues (2018). Systematic documentary analysis has been carried out to identify research gaps, theorize ideas, and analyze the collected data. Based on the concept of Denzin & Lincoln (2017), participants were selected purposively from three universities in Nepal that initiated online examinations since the pandemic. Six teachers (two from each university), fifteen students (five from each university), and six administrative staff (two from each university) were selected based on their voluntary participation.

The data concerning how the participants experienced online examination in their involvement to manage or participate were analyzed by employing thematic analysis based on the idea of Creswell & Creswell (2018). Taking their prior consent, the participants were interviewed on multiple occasions, and the interviews were audio-recorded, transcribed, and coded. Concept-driven coding was manually completed to generate the thematic ideas, such as the initial online examination practice, opportunities, and challenges. As suggested by Smith and colleagues (2009), interpretive phenomenological analysis was used to analyze the identified common themes precisely, emphasizing the participants' personal experiences. Research ethics and anonymity was maintained using pseudonyms.

Results

The analysis of qualitative data obtained through the interviews with twenty-seven participants (six teachers, fifteen students, and six administrative staff) has identified specific ideas. The following themes offer a systematic analysis of the obtained data.

Initiation of Online Examination

The interviews with the participants revealed that most of the teachers, students, and administrative staff appreciated their universities for

conducting online examinations during the COVID-19 crisis when physical hall examinations were impossible. The majority of the students reported that despite initial nervousness and confusion, they attended their online examinations with their teachers' guidance and the support of YouTube videos, particularly in receiving questions, making pdf files of the answer sheets, and submitting them. For example, Salina, a student in MA third semester at Makalu University, said:

I was excited to attend the online exam sitting at my home instead of the hall. We were also encouraged to attend the new modality of the exam by our teachers' instructions and orientations.

Salina's comment clearly showed how their teachers' support encouraged them to participate in online examinations in the initial days with limited technological skills.

The role of the university teachers and administrative staff remained important while conducting those examinations. Most teachers narrated how they prepared for online examinations in rush hours. For example, Rakesh, a teacher at Pathivara University, said:

When our university decided to conduct online examinations, we began working with limited knowledge and skills. I participated in the orientation program organized for the teachers, students, and even administrative staff. It was essential for us to manage the examinations effectively at our university during the pandemic.

His expression gave a much clearer picture of the hard work and dedication of the teachers to conduct the online examinations effectively. They had limited technological infrastructure, technical skills, and no previous experience in online examinations. The majority of the administrative staff reported that although they conducted an online examination, they took it as a burden as it was time-consuming and expensive. They iterated that the hall examination is better than the online examination. For example, Bijaya, administrative staff at Pathivara University, said:

We prepare question sets and send them to the campuses to conduct hall exams. Later we collect the answer sheets, examine them, and publish the results. It does not burden us. We are habitual with this. However, online examinations need different patterns of questions, other modalities of distribution, and a collection of answer sheets.

His comments revealed the initial complexities of online examinations at the universities of Nepal, although they had to conduct them during the COVID-19 crisis. The continuous lockdown for many months and the obligation of conducting online examinations regularly somehow developed their habit in it.

Opportunity to develop ICT skills

The majority of the teachers shared their experiences of developing their ICT skills, such as operating various devices and applications and utilizing COVID-19 as an opportunity to switch from the conventional mode of examination to online. They stated how YouTube videos, Google, and the ICT experts supported them in obtaining new skills. For example, Shivashankar, a teacher at Makalu University, said:

Sometimes crisis forces us to learn better and upgrade our knowledge and skills. I learned to operate Google Classroom for uploading the questions and downloading students' answers during the crisis, although I was under massive pressure during that examination period. I got the opportunity to develop my technical skills to properly manage and conduct the examination. It would be easier for me if I had extensive training in operating advanced tools like Google Forms and Moodle.

His comment provided a more precise picture that online examination needs a greater degree of ICT skills. Basic ICT skills do not work in online examinations, and the teachers need to have appropriate training. A minority of the teachers who already had knowledge of conducting online teaching and learning, short assessment, and Moodle-based quizzes reported that they already had the proper ICT skills that supported them in conducting online examinations. They iterated that they showed two types of online examinations: one is Google Classroom systems. They send the question via email and receive the answer paper within the limited time of four hours. The other is by using Moodle, in which the examination board uploads research-based questions such as writing a research article within the allocated time. After writing the essay, the students submit it online. For example,

We had a routine to organize hall examinations at the end of each semester. However, it became impossible during the COVID-19 pandemic, and we had to adopt online examinations as an alternative. It remained helpful during the crisis. (Pawan, a teacher at Namche University)

The majority of the students reported that they developed their skills to receive question papers, submit the answer sheets and manage the alternative internet for the online examination.

Pawan's comment indicates that the regular online assessment and examination practice makes this mode easy to handle. In a further conversation, he said that this mode of examination becomes easier to conduct at the higher level than the lower. For example, Prabha, MA first semester student at Makalu University, said:

Before COVID-19, neither we had the online examination experience nor thought about it. When the crisis took place, we were perplexed for many months. Finally, our university decided to go in this mode. We faced our examinations sitting in our homes. This new practice gave us new learning.

Prabha's commentary replicates that despite the initial confusion and difficulties, the students developed new skills and got habituated to the online mode of examinations. However, some teachers, students, and administrative staff shared their experience that conducting a fully online examination mode needs advanced ICT and infrastructure development. They argued that in the existing context of developing and underdeveloped countries like Nepal, a mixed approach could be adopted for educational practices during the crisis. For example,

The hybrid model of examinations is appropriate in the context of Nepal at present, where there is a poor network, inefficient workforce, and lack of knowledge of technology. (Tanka, a teacher at Namche University)

If we follow both online and offline in a mixed modality, we can have better educational practices in our country. We can replace the traditional teaching and examination practice using technology and prepare slowly for modern techniques. (Jamuna, MPhil second semester student at Namche University)

In my experience, we are still not fully capable of online examinations. We do not have advanced technology and a skillful workforce. So, it is better to adopt a mixed pattern such as a home-take examination. (Jagadish, administrative staff at Makalu University).

Their comments indicate the relevance of the blended mode of examination in the existing scenario of Nepal, as many universities still have to upgrade basic ICT facilities, manage a skillful workforce, and equip the students with the necessary technology. However, all of them accepted that COVID-19 brought the opportunity to commence new educational practices in their universities.

Barriers

The majority of the participants reported various challenges they faced while involved in online examinations during the pandemic. They said that inadequate internet facilities and intermittent electricity remained the central problem of inadequately managing the examinations. For example,

I missed the answer-paper submission of one subject due to my laptop's slow internet and systems problem. I informed my situation to the

teacher and later joined the hall exam appearing in the college. Some of my friends also talked about internet and electricity problems. (Gehendra, MA first semester student at Pathivara University)

I see the problem in higher authorities of many universities. They are reluctant to promote online education and examination systems. Practical implementation of Education and ICT policy would promote a reliable network, and efficient workforce for quality management of online examinations (Paban, a teacher at Namche University)

These comments indicate a lack of adequate ICT infrastructure, lack of technical skills, and appropriate monitoring as the problems in Nepali universities. It suggests that many students missed their online examinations either due to improper devices or the lack of adequate technical skills. Frequent electricity cuts created additional problems. Likewise, many rural students remained absent in their examinations due to the lack of broadband internet facilities. The majority of the teachers and administrative staff argued that establishing basic infrastructure and advanced training for the team is the prerequisite for conducting online examinations. The universities still need to upgrade their systems and facilities to manage a skillful workforce for online educational practices, including reviews and assessments. The administrative staff indicated the necessity to have the university's server and security systems. For example, Rakesh, administrative staff at Pathivara University, said:

We have felt that if we have our server and domain, we could have the opportunity to use the server and domain of our own country as a safe and secure system. Software development for Math and practical subjects is necessary.

His claim indicates that particular software can ease the management of online examinations, students' immediate evaluation, rapid publication of the result, checking plagiarism, and securing the university's data. A few students also said that they did not get the proper support from administrative staff, which resulted in multiple mistakes during the examination. For example, Kamal, an MPhil second semester student at Namche University, reported in the interview:

I informed the Administrative and IT staff about my result when I noticed the withheld information. I waited for weeks but could not find a good response from them. I informed the high level of the management team. There was nothing wrong on my part. I think the lapses were either on the part of the technology or the admin staff. With frequent inquiry, I got my result only after two months, during which I underwent unnecessary boredom.

His expression indicates that many universities still lack properly developed a mechanism for compliance hearings, immediately solving the problems and maintaining accountability. Dutiful and responsive administration can create a faithful environment in the university to appropriately manage the semester-wise online examination and timely publication of the result.

Discussion

Findings suggest that despite insufficient resources, limited technical skills, and workforce, the least number of Nepali universities conducted online examinations during the pandemic to continue the students' academic year punctually. At the same time, it became an opportunity for the teachers, students, and administrative staff to develop ICT skills and continue educational activities during the crisis. The universities, to some extent, upgraded their ICT resources which could be utilized in the future. The majority of the students learned many new skills and developed confidence to face such examinations as they successfully took part in the examinations despite various challenges and initial confusion. The university administrations developed the confidence to adapt online reviews as an alternative model. It remained influential during the crisis except in the case of laboratory subjects for which the students themselves had to be present in the lab. The finding aligns with the earlier study (Elsalem et al., 2021; Ilgaz & Afacan Adanır, 2019) that online examination is less feasible in managing lab and practical subjects.

As a new practice amid the COVID-19 crisis, managing online examinations in the universities of developing countries like Nepal generated multiple challenges. The findings suggest that reluctance of higher authorities obstructed the smooth initiation and continuity of online teaching-learning and examination practices in the universities. Lack of appropriate policy for online examinations, insufficient ICT infrastructure, unreliable internet facilities, intermittent power supply, inconvenient applications, and inexperienced human resources are the significant challenges for the universities in Nepal (Laudari & Maher, 2019; Rana et al., 2019; Rana & Rana, 2020). Although the education policy emphasized the promotion of live education supported by ICT to improve learning outcomes (Ministry of Information and Communication, 2015; Ministry of Education Science and Technology, 2019), the findings of this study revealed the lack of effective implementation of the policy. Despite many challenges, management of online examinations became possible from the coordination and commitment of teachers and administrative staff and students' cooperation. The guardians' support, particularly in managing the devices and other facilities needed for their children's online examinations, remained praiseworthy, preventing the possible postponement of the examinations for a long time. Although the administrative staff felt an additional burden to conduct online tests and less enjoyed this pattern than the traditional physical hall examinations,

they cooperated during the pandemic to make the university's decision successful. Consistent with the study of Jiang and colleagues (2022) that a large number of schools and colleges adopted a blended model of online examination during the COVID-19 pandemic to address the preferences of the students and the majority of the teachers, majority of the participants preferred mixed mode of examination, particularly in the situation that the universities did not have sufficient infrastructure and trained workforce. The findings suggest that the responsibility of the administrative staff is necessary to create a faithful environment among students, teachers, and the management teams. The success of online examinations depends upon the integration of collaboration, cooperation, readiness, accountability, and commitment among the teachers, administrative staff, and students.

Conclusion

The discussion identified online examination as an alternative modality of the traditional physical hall examination, particularly in a time of crisis when physical gathering at universities or colleges becomes impossible. As an examination conducted and faced from home, online examinations remained beneficial during COVID-19 from the perspectives of staying safe and continuing education practices. Majority of the participants' appreciation of the universities' decision to conduct online examinations during the crisis and their active participation in the management of online examinations despite various challenges replicated its potentiality in the days to come. However, their preference for physical examinations in everyday situations until the universities upgrade their ICT infrastructure, revise the syllabus and examination pattern as per the spirit of online assessment and examinations, train their teachers and administrative staff, and enable students of even remote areas with proper devices and broadband internet facilities mirrored out the need of the formulation and rigorous implementation of comprehensive online education and examination policy along with solving other existing difficulties. The formation of better online examination policies, holistic development of advanced ICT infrastructure across the country, and fostering of a positive attitude could make online examination an alternative to physical examination with more flexibility and fruitful results in the coming days, either during a crisis or in everyday situations.

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