

## Problems with Using Online Exams in the Context of COVID-19

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### Abstract

The rapid transition of educational institutions from traditional classrooms to virtual ones brought on by the COVID-19 pandemic has resulted in a significant change in style of instruction. Accordingly, throughout the epidemic, electronic exams emerged as a vital form of assessment. Examining potential gender-based disparities in perceived difficulties, this study intends to investigate the obstacles experienced by instructors at postsecondary educational institutions. For this study, 116 teachers-49 female and 67 male-from 51 Higher Education Institutions (HEI) in West Bengal took part. The difficulties mentioned by the teachers were categorized through the use of Google Forms to gather and analyze data using six different codes. Six main difficulties were faced when conducting online tests: organizing test questions and answer sheets; conducting invigilation and evaluation; maintaining network connectivity; planning and executing the entire process; and providing equitable access to technology.

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### Introduction

Teaching and learning approaches have undergone drastic alterations as a result of the COVID-19 epidemic, which has impacted every facet of life on the planet. Over 500 million students in India have been impacted by the lockdown situation (Gupta & Tiwari, 2020). Suddenly, the students are stuck at home and unable to access regular instructional settings at their college, institution, or school. In light of the situation, academics worldwide believe that technology may contribute more directly to knowledge and practice, teaching and learning throughout the pandemic. Due to widespread school, college, and university closures, the centuries-old traditional teaching-learning system was forced to transition fairly immediately to online and digital learning environments (Martinez, 2020). Online test administration is a suitable evaluation strategy that protects students' health and safety. Many academic institutions were unable to hold exams, but promotions were made on the basis of the students' performance on past internal or half-yearly exams (Rawat, *et*

*al.*, 2021). When utilized as the exclusive means of assessment, e-examinations, on the other hand, have shown a greater potential for benefiting students during the COVID-19 outbreak. It was shown that online examination is highly relevant for formative assessment of learning as compared to summative assessment, given that authenticity, security, and flexibility are used as essential elements in the effective implementation of e-examinations (Khan *et al.*, 2021). Researchers have found that because of the sudden emergence of COVID-19, faculty members are dealing with problems and difficulties such as a lack of experience with online tutoring, lack of preparation, or lack of support from educational technology because it calls for lesson plans, various teaching resources like audio and video material, and support from technology (Bao, 2020; Sahito, Shah, & Pelser, 2022). The two main issues noted in this context are inadequate ICT proficiency and a lack of internet access (Sahito and Chachar, 2021). Since e-learning depends on the availability of ICT facilities, access to ICT resources is a

difficulty for online learning (Arthur-Nyarko and Kariuki, 2019). The assessment procedures as well as the regular classes have been transferred online. When administering online exams, the majority of teachers from various Higher Education Institutions (HEIs) faced a variety of difficulties. Even so, questions about the stakeholders' readiness might exist because the proper planning and execution of the online exam procedure are not given enough attention. As a developing nation, India might serve as an example in this area. There are other technological obstacles that India may face, like the digital divide, a slow internet connection, little bandwidth, expensive internet packages, and others. Given the uncertainties surrounding the potential recurrence of the pandemic and related emergencies, educational institutions must be ready to switch to an online or hybrid delivery model in the event of unanticipated events. Using online platforms in the educational system could become a viable alternative to the traditional teaching-learning model once the pandemic is ended. For a more efficient and fruitful method, blended or hybrid mode may be taken into consideration. In light of this, the current study sets out to investigate any difficulties instructors from various higher education institutions may have had when administering online exams.

### Online Examination during COVID-19 Outbreak

The difficulties facing Indian students taking online courses go beyond issues with technology to include issues with psychological health as well (Pandita *et al.*, 2021). Infrastructure, computers, internet connectivity, and infrastructure network maintenance are the key obstacles to participating in online education that have been noted by multiple academics (Siddiquei and Kathpal, 2021). The teachers, the organization, the learners or students, the infrastructure, the content aspects, and the motivating factors are the main components indicated for the predicted determinants. The abrupt switch from an offline to an online classroom, communication problems during the online session, lesson planning, and an appropriate teaching approach, on the other hand, provide hurdles for the teachers. The institution's problems include providing technical and multimedia support, training for teachers, a technical troubleshooting team, and online counseling sessions (Panisoara *et al.*, 2020). The ability of students to learn digitally, network stability and speed, student identification, classroom involvement, and interaction are the main difficulties that have been discovered. Instructors struggle psychologically with motivation, grading assignments closely, family support, peer assistance for mental and emotional health, and student feedback. Furthermore, technological problems are equally significant and include: digital devices; ease of use; software or e-learning tools for online instruction; network problems and internet speed (Adnan & Anwar, 2020; Bdair, 2021). Faculty and students claim that they are unable to teach and learn both clinical and practical subjects using an online learning paradigm (Mukhtar *et al.*, 2020). According to Mukhtar *et al.* (2020), there is a lack of prompt feedback, instructors are unable to evaluate their students' comprehension during virtual lectures, students exhibit intense behavior and have short attention spans when it comes to online learning, and there is a propensity for students to access online literature during evaluations. The sudden emergence of COVID-19 has left faculty members with a number of problems and challenges, including a lack of experience with online tutoring, pre-planning, or support from educational technology. These problems include the need for

lesson plans, various teaching materials, including audio and video content, and support for technology (Bao, 2020). Additionally, the Jordanian faculty survey reveals that adjusting to online learning presents difficulties, particularly for students with specific needs (Almahasees, Mohsen, and Amin, 2021). In addition, the issues of network and infrastructure, data security and privacy, and a lack of contact and motivation have been noted. Scholars have suggested many strategies to counteract the drawbacks of remote learning, such as motivating introverted students to engage and increasing their attendance in virtual classes (Rayan, 2020). In addition, the student-teacher, also known as a trainee teacher, lists frustrations with communication in Chile as well as a lack of long-term support and communication (Sepulveda-Escobar & Morrison, 2020). While under lockdown, Kapasia *et al.* According to (2020), almost 70% of students participate in online learning. Additionally, students were dealing with a range of issues including anxiety, sadness, bad internet access, and unfavorable learning environments at home. With the help of this study, Kapasia *et al.* (2020) hypothesize that children from underprivileged backgrounds require purposeful interventions in order to foster a supportive learning environment. Developing an education system in West Bengal that ensures the enhancement of young people's employability and production skills requires meticulous preparation.

### Research Question and Objectives

The following are the study questions that were posed: what digital devices are used for conducting online exams? What difficulties do instructors at postsecondary educational institutions notice while administering online exams during a pandemic? The study objectives provide a framework for the quantitative analysis when using a qualitative research approach. The study aims to investigate the perceived obstacles associated with teacher gender and to ascertain the perceived challenges that exist within the teacher gender.

### Methodology

The study used a multi-method research design with a secondary quantitative data analysis (Qaul → Quant) after qualitative research. Regardless of their academic titles (Assistant Professor, Associate Professor, or Professor), the way their institutions are managed (Central Government, State Government, Government- Sponsored, or Private), or how they are hired (Tenured, tenure tracked, or adjunct faculty), the researchers polled over 5,000 teachers at higher education institutions. The study employed a transformative sequential design of mixed research, which necessitated both quantitative and qualitative data analysis.

### Research Tool

A Google Form poll was created and will be distributed during the pandemic. There were two sections on the Google Form. The demographic and occupational data were compiled in the first section. "Please cite the two major challenges you encounter while conducting online examination" was the focal open-ended question in the second section of the questionnaire.

### Population

Teachers working in Higher Education Institutions (HEIs) in West Bengal, India, where online exams were administered during the COVID-19 epidemic, make up the study's population.

## Data Collection

The autumn and spring semesters of 2021 and 2022 are when the data were gathered. Amidst the surge of COVID-19 cases, HEIs have been oscillating between returning to the physical mode and going back to the online mode during this period. To gather data online and contact responders during COVID-19, a Google form has been constructed. Teachers from several Higher Education Institutions were randomly supplied a link to a structured Google Form via email and cross-messenger application.

## Data Analysis

Thematic analysis was used to examine the qualitative data, which consisted of open-ended answers to the main question. In order to comprehend the phenomenon and pinpoint the key problems, 232 replies from 116 teachers were analyzed to determine the determined codes.

To identify the codes, a thematic analysis of the qualitative data (text) was conducted. Developing constructs or codes, comprehending phenomena and minimizing data, and analyzing the 250 units to identify the key difficulties were all parts in the coding process (Saldana, 2013). The obtained data were sorted or categorized into these recognized codes once the six (6) codes had been identified. Three researchers' inter-rater agreement was used to assess the validity of these categories. The study clubs the elements (Kisanga, 2016) as a chosen framework that can cause teacher attitudes to reflect as obstacles to online education (see Figure 1).

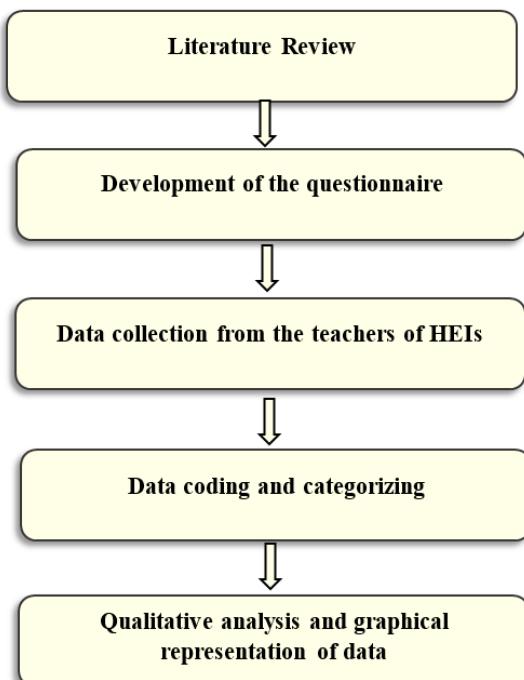


Fig 1: Framework of the Research Methodology

The Research Methodology Framework is shown in Figure 1. It offers a detailed graphic explanation of the method the researchers follow to conduct their research. The image shows the key stages of the study, from the preliminary literature review through the final qualitative analysis and graphical depiction of the collected data. In summary, Figure 1 provides a clear and succinct illustration of the study methodology, illustrating the logical progression of the investigation from the preliminary literature review to the concluding analysis and graphical portrayal of the collected data. It facilitates readers' and researchers' understanding of the study's overall

framework and how each stage contributes to the accomplishment of the aims or objectives of the research.

## Result

The codes are applied to the teacher replies that were gathered (see Table 1). The ground theory-identified code is defined using the relevant categories based on questions derived from the collected responses.

Table 1: Category of Codes

Codes (ideas)	Category
Invigilation and Evaluation	Lack of proper monitoring and invigilation during online examination, difficulty in checking answer scripts in online mode, tedious evaluation process and lack of proper assessment for descriptive type questions.
Examination administration and Answer Script Management	Framing suitable questions for open book examination, difficulty in tracking answer scripts due to overloaded mail box, timely submission and lack of clarity of scanned copies due to students' lack of proper technical knowledge.
Network Connectivity	Internet and server problem, connectivity
Ethical Issues in Examination	Learners' identity and authenticity, lack of originality in writing, copy from internet and learners take external help
Technological Equity and Access	Digital divide in the society, access to the internet in remote areas and lack of android phone
Overall Planning and Implementation	Transparency and sanctity of the process, lack of proper implementation strategy and doubtful integrity of the whole process

Technology's advancement has long been seen as a crucial component of civilization and as a primary force behind changes in the arts, economy, and education. The only alternative way to continue the teaching-learning process in this global pandemic scenario is through online education. Right now, this is the most effective way to keep the dynamic educational process going. However, there are several issues with the utilization of online learning and the assessment process. While online tests were in use before the COVID-19 pandemic, they became required for almost all courses globally at that time. The current study made an effort to investigate all of these difficulties that instructors at various postsecondary educational establishments face when administering online tests. Data was gathered from 116 educators from 51 distinct postsecondary educational establishments located throughout West Bengal. Six main challenges are identified from their responses: network connectivity (16.81%), overall planning and implementation (12.07%), ethical issues in examination (21.12%), exam administration and answer script management (25%), and technological equity and access (4.74%). For the teachers, the most pressing problems were that students didn't know enough about online exams, there wasn't enough supervision and monitoring during the test, answer scripts were piling up in their mailboxes, the evaluation process was time-consuming, and questions with a descriptive format weren't properly assessed. Another major worry was ethical issues. It was difficult for teachers to keep an eye on pupils who could hide who they were, communicate with others on social media during an exam, seek assistance from others, or use a separate device to look up the answers. By incorporating webcams into online exams, certain colleges were able to regulate such unethical behavior. Additionally, it is feasible to determine

whether pupils are using their gadgets to browse other webpages. Institutions could take some doable actions to get rid of these unethical problems. The issue with internet connectivity is another big concern. Sometimes students experience delays downloading the question paper. Uploading the scanned copies of the answer scripts within the allocated time is especially challenging because of the slow internet speed.

### Conclusion

The study's findings clearly show that many pupils in India find it difficult to cope with the country's digital divide and unequal access to continuous internet browsing. Another limitation is the data cost and limit. This research has certain drawbacks. The present study did not investigate if the teachers who completed the online test using their mobile devices were compelled to do so due to financial constraints. Not to add, India is a linguistically and culturally diverse country; hence, a far wider range of issues could be found if the data was collected from various institutions around the nation. The government must take action to address these problems. The universities have an obligation to preserve the integrity and transparency of the online examination procedure. Practical classes are conducted using cutting-edge technologies such as 3D virtual laboratories. In an effort to improve the liveness and scope of online education, a number of interactive online platforms are being introduced. The results of this kind of study can be extrapolated to other locations or nations, which broadens the scope of potential future research in this field. For this reason, future research must be more comprehensive and may use mixed-methods or qualitative investigations. Even with lockdown, life is not the same after a pandemic. Online instruction and evaluation have been combined with traditional offline classrooms to create blended learning or hybrid mode.

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