



Research Article

Approaches to Online Evaluation in Higher Education in the Emergency Shift of COVID – 19: An Empirical Study of West Bengal

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Abstract

This paper tried to assess the approaches adopted in online evaluation system during COVID 19 pandemic in higher education. Day to day teaching learning as well as the evaluation system have been significantly affected during the emergency shift of COVID 19. The main objectives of this paper were to study the different practices of evaluation system; its, validity and effectiveness; and institutional preparedness to conduct the whole process of online evaluation. The paper also highlighted the issues and challenges faced by the students during formative and summative evaluation. Self-made online questionnaire was distributed to the college and university students and teachers of West Bengal. Descriptive survey method was used to collect data and simple percentage analysis was used for data analysis. It is found that the system was not ready for the rapid change. Sudden changes made the evaluation system a mess. The summative evaluation followed the same pattern of question papers. Only the pattern of formative evaluation was different. Online media and devices were used rigorously. This emergent shift in evaluation in turn has encouraged students to copy from internet. Unethical issues were present due to the absence of the teachers. That leads to several misconducts and cheating. Higher education institutions followed their own customized system for evaluation. Students' satisfaction and institutional preparedness were also not up to the mark. It was failed to differentiate between the high and low achievers.

Keywords: Online evaluation; emergency shift; COVID 19; validity; effectiveness; institutional preparedness.

Introduction

COVID-19 has led to global changes in the education system. Consequently, e-learning and online evaluation system have become necessary worldwide in response to the protocol of maintaining social distancing during a pandemic. E-learning has several advantages in encouraging learners to self-directed learning. Recent technologies allowed such encouragement into the highest level. However, higher education is a sector where face-to-face classes, laboratories, seminars, and other necessary activities with offline evaluation would mainly require physical interaction (Guangul *et al.*, 2020).

Consequently, a big challenge is created for the teachers, students, and administrators in terms of using such technologies to give all such facilities for education (Cooper and Tschobotko, 2020). Not just learning, the most affected area during a pandemic is a non-standardized evaluation system. Most higher education institutions have no clear policies, guidelines, and activities. Several questions as how to evaluate, what to evaluate, and what should be the duties of teachers and other stakeholders, are not straightforward. But, sometimes, online system in education achieve similar or better outcomes than face-to-face mode (Zheng *et al.*, 2021).

Lee *et al.* (1993), in their INQAAHE conference, mentioned evaluation as a mirror commonly pursued from multiple sources that give us valued and valid data. It always does the right things through a microscopic lens that reveals students' achievement levels or conditions. Evaluation of student performance has been defined as the process of making a value judgment about the merit of the student's academic accomplishment to aid in the improvement of future student learning (Brookhart and Nitko, 2019; Olina and Sullivan, 2002; Zughoul *et al.*, 2018). It can answer the question, "How good is the performance?" "Have they learned enough?" and "Are their works good enough?" (Ebel and Frisbie, 1991). So, evaluation and evaluation is an important attempt to examine the overall achievement of students and the education system. If there is any issue or effect in the evaluation procedure also can possess a bad effect on the overall education system. Here, we can mention the term test pollution. Like Messick (1984) mentioned, the term "test pollution" or contaminants affects the evaluation's validity. That depicts a systematic increase or decrease in test scores where three primary sources of test score pollution are test preparation, situational factors and external factors (Chalak and Tavakoli, 2010; Haladyna *et al.*, 1991) This academic year saw "test pollution" across each source with the switch to online instruction. Student learning (and hence test preparation) may have been impacted more than typical by stress, anxiety, illness, being forced to learn in a method that was vastly different from what they were used to, and the potential to fall behind due to lack of access to the materials to learn (Internet, quiet

space, etc.). The purpose of the classroom-based evaluation is to inform instruction, whether this is through the decision-making process of identifying strengths and weaknesses, grading decisions, placement of students, motivating students to study and learn, or increasing/decreasing the pace of instruction (Brookhart and Nitko, 2019). The online teaching-learning process and evaluation mode are often discriminatory to poor and marginalized students (Manzoor and Ramzan, 2020). So the aftermath of COVID 19, online evaluation became a pedagogical shift from the traditional paper-pencil evaluation method into the modern approach of evaluation from classroom techniques to virtual medium techniques, from the hard copy question paper to Google form or scanned soft copy and from teachers to computer-based self-evaluation through computer-based evaluations.

Now the question can be raised. Are the institutions following standardized evaluation techniques? Standard evaluation techniques also have some protocols. Are they following such protocols? What kind of approaches are they following? Are they accommodating to achieve the everyday purposes of the higher education system? So, with this backdrop, the present study aims to identify the image of emergency shifts in the evaluation system, the achievement level of the students, and the viewpoint of students and teachers regarding the preparation of institutions regarding e- evaluation practices.

Significance of the Study

The COVID-19 pandemic has impacted all countries worldwide, leading to a sudden change in all education sectors, especially in the teaching-learning system. This upgraded learning system removed the students from the traditional learning method. However, in West Bengal, we see the upgraded and traditional blend of learning and evaluation systems. That is not following any standardized conceptual model or framework. It is very much customized in nature and varies from university to university. Universities are following evaluation procedures as per their convenience level. Is this online evaluation serving the purposes of evaluation? The ultimate purpose of the evaluation system is to classify the students in a classroom according to their demonstrated knowledge or specific abilities in some specific areas. A good evaluation diagnoses the individual student's educational weaknesses and can predict the future academic successes of the students.

On the other hand, in respect of teachers, an evaluation system appraises the competence level of the teachers. It also familiarizes the teachers with the nature of students' learning, development and learning progress. It also helps the teacher select the learning materials, devices, and instrument for learning (Aggarwal, 2014). Here, big questions can be raised whether novice evaluation systems

is fulfilling such purposes or not. After introducing an unprepared system of evaluation, all stakeholders face severe problems regarding evaluation (Mishra *et al.*, 2020). Therefore, the present study is trying to delineate various issues and challenges faced by the students, the validity and effectiveness of the new evaluation system, institutional preparedness and approaches used for evaluation.

Research Questions

1. What are the evaluation approaches higher education institutions prefer during the emergency shift of COVID – 19?
2. How effective is online evaluation in assessing students?
3. Is online evaluation valid?
4. How did the institutions prepare for online evaluation?

Research Objectives

1. To reveal the evaluation approaches higher education institutions prefer during the emergency shift of COVID –19.
2. To examine the effectiveness of online evaluation in assessing students.
3. To examine the validity of online evaluation.
4. To study the preparedness of institutions for conducting online evaluation

Operational Definitions

Emergency shift- It means sudden shifting or changes of offline evaluation system to online evaluation in the arena of COVID 19 pandemic.

Online evaluation - It depicts the evaluation of student's knowledge, skills and abilities conducted over the internet by using electronic media and technologies.

Higher Education - In this paper higher education includes under graduate general degree and B.Ed. degree along with the post graduate education on going in universities.

Methodology

Participants

This is an online survey-based study of the 85 undergraduate and postgraduate students of different semester programme. They are studying in various colleges and universities of West Bengal. Students are participated from semi urban, urban and rural places. 42 Assistant professors, Associate Professors and Professors from colleges and universities of West Bengal has been selected as respondents. The demographical features of respondents (students and teachers) are presented in Fig. 1 and Fig. 2.

Tools and Techniques

The self-made questionnaires are used for collecting the data. There are two questionnaires for teachers and students. The questionnaire for students consists of three main

sections as 1. General information 2. Evaluation approaches 3. Students' perception on quality of evaluation. The questionnaire for teachers consists of 1. General information 2. Teachers' perceptions 3. Preparation of institution. From all these sections, researchers tried to see the evaluation approaches, effectiveness, validity, and institution preparedness in the online evaluation.

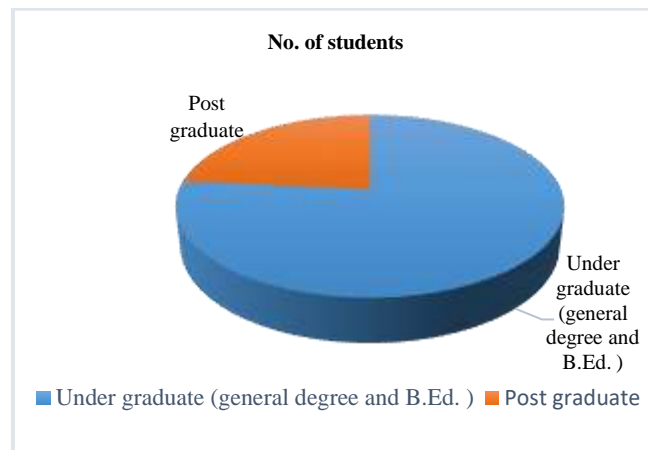


Fig. 1: Numbers of students participated

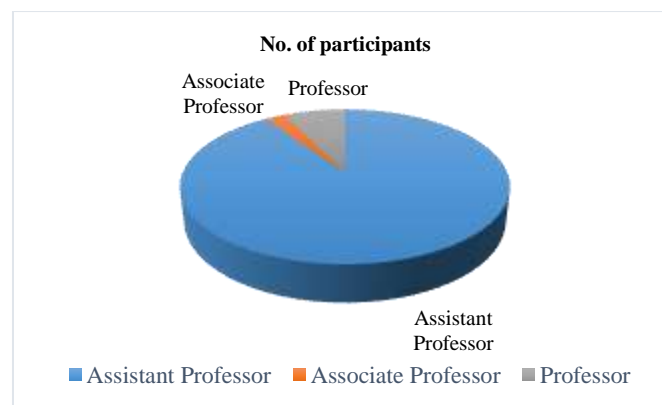


Fig. 2: Numbers of teachers participated

Method of Data Collection

This study is designed as mixed method research. A Descriptive survey method has been used. The data is collected via online Google form. The Google form has been distributed amongst 85 undergraduate and postgraduate students of colleges and universities. The questionnaire has been distributed to the 42 teachers of colleges and state universities. Researchers included multiple choice and open-ended questions for collecting valuable feedback. The tool was fully English version and for the better understanding of the respondents the researcher have translated each statement into Bengali. All responses are collected very carefully from the respondents.

Data Analysis

The present study followed the data analysis based on the research objectives. Simply percentage analysis is used to understand the current evaluation approaches, effectiveness, validity and institution preparedness. For

qualitative analysis, open-ended questions have been provided in the questionnaire.

Data Analysis and Interpretation

Evaluation Approaches During COVID 19

In order to reveal the picture of evaluation approaches in higher education institutions during the emergency shift of

COVID-19, researchers conducted a survey. Table 1 indicates the modes of evaluation and online platforms primarily used for evaluation by the teachers in response to students.

Table 1: Modes of evaluation and online platform used

Modes of evaluation	Percentage (f)	Online platform used for evaluation	Percentage (f)
Assignment	88.2% (75)	Google classroom	75.3% (64)
Projects	24.7% (21)	Email	51,8% (44)
Presentation with power point	31.8% (27)	WhatsApp	23.5% (20)
Seminar	29.4% (25)	Another social media	14.1% (12)
Class test	18.8% (16)	-----	-----
Other modes of evaluation	22.4% (19)	-----	-----

Table 2: Students’ and teachers’ perception on the effectiveness of online evaluation

S. N.	Statement	Strongly agree	Agree	Disagree	Strongly disagree
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
1.	The teacher Used a digital board or other devices to know about the student's understanding of course content	25.9% (22)	60% (51)	11.8% (10)	2.3% (2)
2.	When students submitted the wrong answers, these were immediately corrected	23.5% (20)	58.8% (50)	16.5% (14)	1.2% (1)
3.	Teachers returned assignments after correction with comments	20% (17)	62.4% (53)	16.5% (14)	1.1% (1)
4.	Teachers often gave activities to assess students’ progress	27.1% (23)	65.9% (56)	5.9% (5)	1.1% (1)
5.	Question paper of summative test includes MCQ, short answer type and essay type questions	20% (17)	47.1% (40)	24.7% (21)	8.2% (7)
6.	Question paper of semester-end examination included only essay-type questions	31.8% (27)	37.6% (32)	25.9% (22)	4.7% (4)
7.	Teachers could not monitor students’ progress individually during online class	20% (17)	52.9% (45)	22.4% (19)	4.7% (4)
8.	Students were given frequent feedback by the teachers about their strengths and weaknesses	23.5% (20)	63.5% (54)	11.8% (10)	1.2% (1)
9.	Students could not clarify doubts during semester end examination because of teacher’s absence	4.7% (4)	32.9% (28)	50.6% (43)	11.8% (10)
10.	In the pandemic situation, student's assessments were greatly affected by physical and mental illness	25.9% (22)	62.4% (53)	10.6% (9)	1.1% (1)
11.	The online examination could not discriminate between high achievers and low achievers	21.2% (18)	57.6% (49)	18.8% (16)	2.4% (2)
12.	Students are not satisfied with the present online assessment carried out by their institution	20% (17)	41.2% (35)	34.1% (29)	4.7% (4)
13.	Students faced difficulties in online submission of answer scripts	32.9% (28)	49.4% (42)	15.3% (13)	2.4% (2)
14.	Semester end question paper followed proper test plan or blueprint	14.3% (6)	66.7% (28)	19% (8)	-----

Table 2: Students' and teachers' perception on the effectiveness of online evaluation(Contd.)

S. N.	Statement	Strongly agree	Agree	Disagree	Strongly disagree
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
15.	Multiple Learning objectives have been assessed through online evaluation	11.9% (5)	57.1% (24)	31% (13)	-----
16.	Assignments were the most preferred means for formative evaluation	21.4% (9)	50% (21)	26.2% (11)	2.4% (1)
17.	Interactive evaluation during a lecture is difficult in the online mode	19% (8)	57.1% (24)	21.4% (9)	2.5% (1)
18.	The present online evaluation cannot evaluate student's skills and competencies	31% (13)	52.4% (22)	16.7% (7)	-----
19.	Empathy for students in pandemic situations takes precedence over systematic assessment	28.6% (12)	61.9% (26)	9.5% (4)	-----
20.	There was a control over not to open new web page or tab	21.4% (9)	35.7% (15)	38.1% (16)	4.8% (2)

Thirteen questions were asked to students to trace the effectiveness of the formative and summative evaluation system during the lockdown. The majority (85.9%) of students agreed that digital boards were used to understand the course content without traditional classroom situations. Providing assignments and corrections with immediate feedback were frequently present. Teachers usually gave frequent activities to develop student's knowledge and skills. In the case of summative evaluation, more than average (67.1%) students attained different types of questions. In the process of monitoring, teachers could not monitor students' progress individually during online classes. However, more than average (86.0%) of students agreed that they gave frequent feedback about their strengths and weaknesses. The rate of clarifying doubts during the semester end examination was not good (62.4%) during the examination. Other problems were raised during the pandemic, where student's evaluation systems were greatly affected (88.3%) by the physical and mental illness of the students. Lastly, most students (61.2%) were not satisfied with this present evaluation system. Because 74.1% of students encountered difficulties during the answer scripts submission. Most importantly, the majority of students (78.8%) acknowledged that online evaluation failed to discriminate the high and low achievers' students.

81% of teachers followed a proper test plan and blueprinted for examination. 69.0% of teachers agreed that multiple learning objectives were set and assessed by this evaluation. For internal examination, teachers used mostly (71.4%) of the assignment. Because more than average (76.1%) of teachers thought interactive evaluation was complex in online mode. 83.4% of teachers thought online evaluation failed to evaluate students' skills and competencies.

Because most (90.5%) teachers thought empathetic nature toward students took precedence over systematic evaluation. Even 57.1 % of teachers expressed that there was no such control over not opening the new web pages or tabs.

Validity of the Online Evaluation

The third objective was to study the validity of the online evaluation. The questions asked to students are shown in Table 3.

Regarding validity, most (99.4%) of the participants agreed that time limits were given for the submission of answer scripts. However, only 35.3% of students kept the camera open during exam. Even most of the time (70.6%), teachers were not present to supervise during the examination. So, more than average (72.9%) students believed that they got high marks without giving much effort in understanding the content.

Institutional Preparedness

The fourth objective of this article was all about the institutions' preparedness regarding online evaluation. In creating an online evaluation, a collaborative and effective environment is essential. 80.9% respondents expressed a positive opinion on collaborations between the teaching and non-teaching staff of the organizations. In case of special training for conducting an examination, only 47.6% teachers agreed on that. But, more than average teachers acknowledged regarding frequent meetings with the teachers, students and technical experts. Mostly institutions developed their own learning management system. Consequently, 66.6% of teachers mentioned that organizations conducted their exams as per their convenience and choices.

Table 3: Perceptions of students on the validity of the online evaluation

S.N.	Statement	Strongly agree	Agree	Disagree	Strongly disagree
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
1	The time limit was given for submission of the answer scripts	49.4% (42)	44.7% (38)	5.9% (5)	-----
2	There was a provision for giving examination by keeping the camera open	10.6% (9)	24.7% (21)	52.9% (45)	11.8% (10)
3	Teachers were not present to supervise during the examination	22.4% (19)	48.2% (41)	23.5% (20)	5.9% (5)
4	Students scored high marks in the last semester without much effort in learning	32.9% (28)	40% (34)	23.5% (20)	3.6% (3)

Table 4: Perceptions of teachers on institutional preparedness

S.N.	Statement	Strongly agree	Agree	Disagree	Strongly disagree
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
1	The institution has made attempt to make online evaluation Collaborative and effective	23.8% (10)	57.1% (24)	16.7% (7)	2.4% (1)
2	Institutions arranged Special training for teachers	11.9% (5)	35.7% (15)	42.9% (18)	9.5% (4)
3	Frequent meetings were conducted with teachers, students and technical experts	31% (13)	57.1% (24)	11.9% (5)	-----
4	Institution developed their own Learning management system for online evaluation	14.3% (6)	59.5% (25)	26.2% (11)	-----
5	Institutions conducted their exam as per their choice and convenience	7.1% (3)	59.5% (25)	31% (13)	2.4% (1)

Issues and Challenges Faced by the Students

The findings related to issues and challenges faced by the students in adapting online evaluation responses were collected through an open-ended questionnaire. It was found that most of the students, especially in rural places, encountered unstable network connections. Question papers were received late through online mode. Here, they have lost their confidence in submitting answer scripts on time. Even at submission time, they lost their connection for fewer data packages and poor connection. So, there were inequalities in accessing online internet data and connection facilities. Most students could not log in with an ID, a password essential for submission and uploading the answer scripts. One student explained that, they were not satisfied with online evaluation. Because, of poor internet facilities. Online evaluation was not a very good alternative of offline classes and examination.

Though whatever the situation was, students, opined that online evaluation helped them to prohibit the gathering of crowds in the classroom and created a good alternative for giving exams. But, one student admitted that -

I am not totally satisfied as there is no differences between high and low achievers .It is totally unfair for the hardworking and dedicated students as there is no differences in the final marks score. It is not a good alternative for offline exam.

One of the students said –

I am not satisfied with the online evaluation. Because, interaction between students and teachers during and after exam were very low.

Result and Discussions

This study provides the teachers' and students' perspectives and experiences regarding online evaluation. Teachers preferred new trends of evaluation. Assignments, PowerPoint presentations, seminars, and projects were used vastly. Teachers primarily used digital devices such as mobile phones, tablets, laptops, digital boards, stylus, and digital pad during teaching and evaluation. These were not popular before the pandemic, especially in rural places.

In respect of question type, essay-type tests were used mainly by the teachers. It is evident that with essay-type tests, a wide range of knowledge cannot be estimated. In the online evaluation, various social media and platforms were used as per the institutions' convenience and availability.

Every evaluation consists the remedial actions. However, during the pandemic, there were no such provisions for remedial treatment for the students. So, teachers were unable to identify the actual progress of the students. Teachers and institutions have shown over empathy towards students, which undermines the actual objective of the assessment. The prolonged pandemic influenced the psycho-social well-being of students and brought noticeable

changes in their behavior. COVID-19 impacted students' mental health, increasing stress and anxiety (Son *et al.*, 2020). Anxiety among students was due to uncertainty of being promoted from one grade to another and that the situation was more magnified for those who expected graduation for employment (Son *et al.*, 2020; Jena, 2020)

The present pattern of the examinations was not common to all institutions. So, this examination system lacked effectiveness and validity. Consequently, that did not provide good results for developing skills and achievement. It impacted their skill development and achievement (Hanushek and Woessmann, 2020). Many hours students spend on TV, computer games, and mobile phones for passive activities during their stay at home. It implied more negative consequences on future economic returns to students. The national economies that grow with less skilled labor forces are growing with lower qualities (Hanushek and Woessmann, 2020).

According to M. Weber, a higher education institution's goal is to form and anchor the student perception of the so-called "philosophy of life", and their future role as researchers and lecturers. So we need the effectiveness and validity of a test in the overall evaluation. The validity of a test is correlation with some criteria, which the experts regard as the best measures of the ability being measured (Singh, 2017). Researchers found that the present online evaluation was not maintaining such criterion. Like – the time limit was not given to all. Internet was used randomly for making and getting answers from the third party. Even the camera was not always open, which led to rigorous cheating. A study showed a certain number of students did cheating during examinations. That was detected through the learning analytics tools (Balderas and Hernandez, 2020). On the other hand, Internal and external disturbances, computer illiteracies and lack of infrastructure were the disturbances during and after the exam.

Student satisfaction plays a crucial role in the learning and teaching process. But, the majority of students were not satisfied. Students missed the direct connection with the teachers individually, especially at exam time. The extraordinary situation was the threat of severe resource unavailability, lack of accessibility and infrastructure, communication barriers, and social factors which prevented the uptake of the online education system (Okereke *et al.*, 2020). In contrast, few students were satisfied. Because they thought that in such a pandemic situation, there were no other options left and they should stay careful in interacting with the community (Casmata and Sarkadi, 2020). Instead of being in the same semester for 2-3 years, it was better for them to appear in the online examination. Students admitted that online evaluation is a highly effective tool in education if it is used wisely.

The university had a clear vision about implementing the online teaching-learning and thus encouraged faculty and students to do the needful in this regard. The MHRD, UGC and University substantially made the moral decision at the right time for the inclusion of all the stakeholders in the online teaching-learning mode that depends upon the change of mindset for the administrative authorities along with the educators to adapt to the technology-based teaching (Mishra *et al.*, 2020). But, the readiness of the University was not present. State universities autonomously conducted their exams, though few universities conducted training programs for the stakeholders, especially for the teachers. However, university preparedness was not at the level. They tried to blend techno-academic trends in the evaluation (Mishra *et al.*, 2020) So, the third-world countries are facing paralysis in handling the sudden shifting scenario of educational planning, administration, management and organization during this pandemic with their fractured technical infrastructure, academic incompetency and lack of resources (Thomas, 2020). It was found that even in a pandemic situation, institutions organized online evaluations and made them collaborative and effective. Few institutions provided e – proctoring tools to support the monitoring system of the evaluation through telematics resources (Gonzalez *et al.*, 2020) Most institutions made their learning management system by conducting continuous meetings with the stakeholders and technical experts. However, the potential of new technology cannot be developed unless teachers' proficiency in using technology is improved. Techno - Pedagogic training is needed for the teachers. Changes in curricula and learning objectives are ineffective if pedagogical skills, including evaluation practices, remain the same or are not standardized (Cachia *et al.*, 2010).

This pattern of evaluation could have been more potent. Multiple learning objectives are also can be assessed. But, presently, it is failing to select and discriminate the students' proper achievement level, skills and competencies, especially to see the differences between high and low achievers. Evaluation strategies must be developed with these new learning approaches in the pandemic situation. Teachers even failed to monitor the individual progress of the students individually. It is necessary to have good knowledge about the functioning forms and models of online evaluation. Otherwise, the validity and effectiveness of the evaluation will be at serious risk (Forsyth and Aleksieva, 2021).

Conclusion

This study explored college students' and teachers' perceptions on emergency online evaluation system in higher education. During stay-at-home orders due to COVID-19 students, faculty members, and educational institutions should not be confused, thinking that online evaluation is the same as emergency online evaluation.

Practical online evaluation requires more time to prepare with a more standardized form. It should have proper protocol and structure to maintain. It is imperative to develop question papers with reliability and validity. This requires adequate infrastructure as well as proper training of teachers and students. The main purpose of evaluation is to measure the cognitive domain of students which is not fulfilled on this emergent online method. This article presented that online evaluation was not following these protocols. Profound observations and training programs should be conducted for all stakeholders.

Most importantly, these evaluation techniques failed to assess a student's achievement. So, in any emergency, institutions must do the pilot study according to the situation's needs. Appropriate application of technology can reduce many of the negative aspects of offline examination such as examination anxiety, stress and other internal and external pressure on students for the exam. However, along with the tool development, continuous observations are also needed to develop the hassle-free, authentic evaluation.

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