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Remote assessment of learning during the pandemic: junior high school teachers' experiences

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ABSTRACT

This paper explores the teachers' experiences of remote assessment in the Junior High School of Rizal Technological University. The qualitative study was used to determine the assessment methods used during the remote learning in terms of written and performance task and identify the most effective among other difficulties faced by the teachers in comparison with face-to-face. Data of the paper were obtained by conducting interviews that use open-ended questions from 10 participants who teach in the School Year 2021-2022. The analysis of the study was done according to themes and categories and participants' answers were quotes excerpted from the transcripts. The study's conclusion emphasizes the significance of carefully planning exams to guarantee academic integrity. With emphasis on the need to focus on cognitive, emotional, and psychomotor abilities when designing learning exams, especially for online learning, as well as the use of technology tools to monitor results and prevent dishonest behavior during online assessments. Finally, a complementary technique for evaluating students while they are engaged in online learning through teaching resources or learning management systems must be available.

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731

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1. INTRODUCTION

It was an unexpected turn of events when the world started announcing the need for closed doors due to the pandemic caused by COVID-19. As we made the move to online classrooms, the traditional educational gathering at institutions changed to remote attendance via screens. Pandemics have been recognized to have a variety of effects on human life throughout history [1]. The COVID-19 epidemic, which we are still largely affected by, has also sparked important reforms, and led to a considerable shift in educational activities around the world [2]. Nations where the COVID-19 pandemic threat has escalated, its process of education has temporarily been halted, and online learning resources have been introduced [3].

The affected educational sector and the inadequate adaptation of public schools in the Philippines to flexible learning due to deficiencies and elements present in the socio-economic and geographical components have made this tough for educators and stakeholders. One of the fundamental requirements for distance education is having the technical infrastructure needed, leveraging technological tools, and having enough number of skilled teachers [4]. Nevertheless, plans and procedures have begun to roll out in every other country on how to resolve the spreading virus and as a result, "new normal educational policy" has been implemented [5] and is also known as distance learning [6].

While the implementation carried numerous risks and issues to education institutions, resumption of classes was already announced by the Commission on Higher Education (CHED) and Department of Education (DepEd). The DepEd started the implementation of learning continuity plan (LCP) in 2020-2021 on August 24, 2020 [7]. The Rizal Technological University meanwhile has started the classes on the 20th of September 2020 and decided to continue with remote instruction, which required also new methods for assessments, despite the difficulties in the practice of distance education [8]. One of the challenges of which has been the assessment of learning remotely. Results from valid and reliable assessments are essential for determining whether or not educational objectives have been met. Assessments are done to spot and then correct learning deficits. The teacher provides feedback and explains test outcomes. In this regard, evaluation and/or assessment procedures play a significant role in the accomplishment of educational objectives [9] even during remote or distance learning.

Remote assessment has introduced a new challenge for teachers because of the use of learning management systems and other online technologies for teaching and learning as used in distance learning. It must be noted that in distance learning, learning management systems and other online technologies are frequently employed. These tools offer integrated features including storage, interaction, and communication. Though it is a challenge, teachers must adopt, and they must become acquainted with the various tools used in distance education. Some of these tools are Edmodo, Google Classroom, Blackboard, and Canvas. Google Meet, Skype, and Zoom are video conferencing tools that are frequently used for online lesson deliveries [10], [11]. Additionally, these technologies provide various advantages for assessment [12] such as: i) instant feedback [13], [14]; ii) ease of submitting [15]; iii) providing statistical data [16]; iv) enriching assessment tools [17]; and v) student participation and motivation [18].

However, there are also drawbacks in using online tools for assessment. Test security is the subject of remote assessment that generates the most debate [19]. Due to the high importance and accountability of decisions like student selection, placement, and graduation, test security is especially crucial when findings are used in these contexts [20]. It can be difficult to stop plagiarism, copying, and cheating during assessments in distant learning. The fairness and dependability of the outcomes of the assessment may be overshadowed by this. Different technologies, such as voice and retinal scanning, have been created to avert this troublesome circumstance [21]. However, such technologies are not used widely because of the needed infrastructure to do so. With the issue of plagiarism, cheating and copying during remote assessments, hence the issue of reliability of assessment of learning during remote assessment is also a big challenge that needs to be addressed upon. This study for this reason tried to elicit firsthand experiences of teachers at the Laboratory High School of Rizal Technological University, Mandaluyong, Philippines to know how the teachers handled such challenges posted by giving assessments remotely to students. For these reasons, the assessment's validity and reliability results might not have been distinct. Giving a glimpse into the assessment procedures used during this pandemic will be crucial for gauging the outcomes of remote assessment and illuminating potential future uses.

This study aims to investigate how junior high school teachers used remote assessment during the COVID-19 pandemic. There were four research questions will be used to guide this effort: i) what assessment methods were used by the teachers during the remote learning in terms of written and performance tasks?; ii) what difficulties have the teachers encountered when developing and implementing the assessments for their courses?; iii) what remote assessment of learning techniques have they found to be especially effective?; and iv) how did the remote teaching impact the teachers' assessment procedures when compared to face-to-face classes?

2. RESEARCH METHOD

The research utilized the qualitative approach to research. It used an interview guide to solicit answers from the respondents. Due to the rise in internet users and the growing usage of the internet as medium worldwide, qualitative researchers now have access to novel techniques for data collecting. Through first-hand experience, accurate reporting, and quotations from actual discussions with the participants, this study used the qualitative research approach to better understand the experiences of teacher respondents during remote assessment. Inductively building from specifics to broad themes, data analysis, and the researcher's interpretation of the data's significance are all components of the qualitative research process, emerging questions and processes are also included [22]. The case study method was especially used in the research. This is done in order to develop in-depth knowledge about a case and to seek a thorough comprehension of specific instances of phenomena [23]. The 10 teacher respondents of the Rizal Technological University-Laboratory High School (RTU-LHS) are the subject of this study from the College of Education (CEd).

The qualitative techniques include synchronous and asynchronous interviews, as well as virtual focus groups [24]. With this trend in acquiring qualitative data, the researchers employed the asynchronous email interview as a specific method for this research relative to the acquisition of data. In an asynchronous email

interview, as opposed to a virtual focus group, where the material is frequently shared with other participants, the researcher and participant repeatedly exchange information over the internet over a set period [25].

This study used inductive analysis of data; a qualitative method compatible with the constant comparative method [26]. The study used document reviews and transcripts of interviews as their main data sources. These categories were then contrasted and compared to create more overarching themes that represented more significant parts of the data. After identifying emerging categories and themes, data sets were reviewed in order to find specific passages that indicated these groups, which served as the foundation for the analysis. The quotes used throughout the discussion were taken from transcripts of interviews.

2.1. Participants

Researchers suggest that qualitative sample sizes of ten may be adequate for sampling among a homogenous population [27]. There is undoubtedly a variance in the minimal sample size that experts advise for qualitative research, and several papers, book chapters, and books offer advice and propose anywhere between 5 and 50 participants as being sufficient [28]. In this study, we subjected 10 junior high school teachers at the Laboratory High School of Rizal Technological University, Mandaluyong, Philippines as the respondents of this study, during the school year 2021-2022.

3. RESULTS AND DISCUSSION

3.1. Assessment methods in written and performance tasks

The teachers at Laboratory High School of Rizal Technological University gave clear specifications about written and performance tasks to easily determine the methods that will ensure meaningful and relevant learning, and these include technology integration; objective and subjective tests; and traditional and authentic assessments. Most of the responses shared that it is essential for teachers to remember the foundation of assessment and evaluation in education despite the remote learning since it serves as a measuring tool in knowing the strengths and weaknesses of the learners.

3.1.1. Objective and subjective tests

The respondents, given their profession, pointed out first the nature of the learning tasks and subjects before giving the definite methods they use. For them, written and performance tasks can be objective and subjective to see some validity in the results, and one participant has synthesized similar answers into:

"I provided formative and summative assessments to measure my students' learning in the forms of objective examination (multiple choice), subjective tests (essays, reflection papers, discussion fora), and performance-based tasks (audio-visual creative presentation, think-pair-share, small group discussion). Subjective and performance-based tasks are assessed through the use of a rubric that students know about." (Participant 7)

These responses demonstrated that test items should be separated, and that subject variation has little bearing on remote assessment. A lot of earlier researches [29], [30], called for building a strategy that simultaneously incorporates the advantages of subjective and objective methodologies. Concerning subjective evaluation, they suggested integrating objective techniques to account for any bias and get a clearer picture of each person's creativity. As they sought to understand how subjective and objective assessment methods differ in their effects on the measurement outcomes of individual creativity, they acknowledged that it might be a more reasonable strategy to use multiple assessment methods, as determined by another respondent:

"In order to maintain the reliability and validity of assessments during my classes, I create written exams in both objective and subjective format. They contain multiple choice, modified true or false, identification. Moreover, to ensure that there will be no similarity of answers, they are asked to have short responses, essays, sentence construction, and multiple choice with short response. On the other hand, performance-based includes differentiated tasks using audio-visual presentations and arts and crafts." (Participant 8)

These answers showed that the pandemic did not restrain the teachers in applying the usual assessment methods done during face-to-face as they are still proven effective and necessary to see learning progress.

3.1.2. Technology-integration

The participants concurred that technology, which is more sensitive and creative, creates a dynamic shift in the assessments. It is claimed to be methodical, and because more people have access to information and a greater sense of responsibility, it may promote learning [31], [32]. According to the respondent's actions:

"As to the assessment tool and platform, I found the objective type of test through Google Form as my most viable options due to convenience and simplicity." (Participant 3)

These online programs' quick responses make it simpler for facilitators to give feedback that guarantees a quick improvement of deficiencies and an increase in exceptional performances. Additionally, it is a wonderful substitute for face-to-face instruction because students' comprehension of the subject matter is improved and they become more involved in the essential activities through performances like demonstrations, group projects, multimedia presentations, research or investigative projects, or other written outputs that are digitized [33].

"During the remote learning, I used methods like online test questions, essays, recorded audio/video, online activity presentation, and E-Portfolio." (Participant 5)

The quality approach during the pandemic or distance learning has indisputable potential as a result of the acceleration in creating assessments remotely. One of the key advantages of technology integration is the ongoing exchange of detailed explanations of how to use technological instruments and clear instructions, which increases the need for contact and feedback [34].

3.1.3. Traditional and authentic assessments

The transformation of education demands achievement, motivation, and attitudes among learners and facilitators through real assessments, even though some facilitators prefer traditional exams to stimulate all of the learners' senses as they thoughtfully respond to objective tasks. Flynn *et al.* [35] also served as a model for this sort of assessment, which looks at learners' knowledge and competency in realistic contexts. This type of assessment gives learners direct experience and helps them develop their abilities and values. As a result, Participants 2 and 8 combine assessments to focus on skills within the fundamental range of the conventional and authentic.

"I give one formative assessment immediately after the discussion of the topic in a form of learning activity, quiz, or recitation. I also use authentic assessments such as portfolios, practical tests and artworks based on the nature of our subject." (Participant 2)

"I provided formative and summative assessments to measure my students' learning in the forms of objective examination (multiple choice), subjective tests (essays, reflection papers, discussion fora), and performance-based tasks (audio-visual creative presentation, think-pair-share, small group discussion). Subjective and performance-based tasks are assessed through the use of a rubric that students know about." (Participant 8)

Similar to the study conducted by Salma and Prastikawati [36], the findings revealed the same context of response as those of the participants in this study complied with the objective assessment that was strengthened with performance-based tasks that covered subjective outputs. The activity of the assessment result is attributable to the teachers' evaluation, which was carried out not only at the conclusion but also during the process. It demonstrates that performance-based assessment is a method of measuring student accomplishment that takes into account both the students' process and their outcomes in order to produce more relevant results [37], [38].

Formative and summative assessments are a part of the learning process because they help teachers reconstruct students' performances in light of the lesson's goals. The variety of the activities increases learners' and facilitators' motivation to experiment with new teaching and learning techniques, leading to a satisfying demonstration of interest in staying active despite the virtual transition [39]. As proven:

"In order to maintain the reliability and validity of assessments during my classes, I create written exams in both objective and subjective format. They contain multiple choice, modified true or false, identification. Moreover, to ensure that there will be no similarity of answers, they are asked to have short responses, essays, sentence construction, and multiple choice with short response. On the other hand, performance-based includes differentiated tasks using audio-visual presentations and arts and crafts." (Participant 9)

Despite the pandemic, the techniques in delivering assessments were retained following the needs of the course and learners. The deliberate monitoring of their available tools and equipment was also a factor in crafting the activities that target the use of technology and traditional assessment (e.g. pen and paper to be scanned), authentic assessments as a form of performances that are subjective by skills and values of the

learners, and objective assessments that are directly verified for correction. The respondents also deliver these assessments through a learning management source used by Rizal Technological University known as e-RTU, that is hosted by Moodle, that can be modified according to the types of tests apart from the widely used Google applications. The adjustment and adaptation of these assessment methods required more review of the navigation of the educational resources and tools, but they were able to cultivate a much more advanced approach, remote assessment, that aligns with students' digitalized world.

3.2. Difficulties in developing and implementing assessment procedures

During the remote assessment, teacher respondents identified three main concerns that are observable among learners from different grade levels. The misfortunes brought upon by the pandemic put many learners in hampering situations of personal, unethical practices, and technical difficulties.

3.2.1. Intrinsic and extrinsic motivation

Distance learning is viewed as equivocal because it has unfavorable effects on facilitators' satisfaction and involvement, even while it may be convenient for students with solitary personalities and preferred resources [40]. The self-determination theory, which takes into account both the learners' intrinsic and extrinsic motivation, is used to study these two effects. Kulikowski *et al.* [41] revealed in their studies that online studies can be perceived as a subject of lower motivational potential.

"Some difficulties that I encountered are to Motivate students to perform in class." (Participant 5)

This experience is not new to participant 10:

"Some students do not participate in class anymore and when asked to open the camera or microphone, they are just silent. They have personal excuses and there were 3 of my advisory class that were sought by subject teachers because they skipped the subjects. When asked, they said that they no longer want to study because they find it hard to maintain the online setup." (Participant 10)

Many teachers raised the same issue with the high absenteeism rate among students, who find a variety of ways to be difficult. Academic motivation is characterized by student engagement, participation, and perseverance in carrying out activities in the context of cognitive psychology [40]. According to previous study [42], one-fourth of respondents felt moderate-to-severe anxiety during the early stages of the epidemic in the Philippines, while one-sixth expressed moderate-to-severe depression and psychological effect. These actions made the students appear unworthy because they failed to uphold the key principles of academic integrity: honesty, trust, fairness, respect, responsibility, and courage [43]. As demonstrated in this instance:

"Cheating is another issue because students can still open other tabs or sources and/or use two devices (if they have) while taking the test." (Participant 8)

While the university implements interim policies and gives specific instructions about no cheating and plagiarism, teachers still find numerous works that display dishonesty. This is a concern that is pressing every deliberation as the solution only leads to strategically securing the delivery of remote assessment by focusing more on authentic assessments which according to Participant 3 was not a struggle but discouraging behavior.

"Developing the assessment tool wasn't particularly hard but sustaining its integrity was. The concern about the honesty of the students upon taking online test proves to be a major problem until now. It challenges our conventional thought that we can prevent cheating." (Participant 3).

The learners' low motivation drastically reduced their desire to surpass their goals, and the "new norm" has cost them dearly as overall assessments result in physical and mental tiredness [44].

3.2.2. Technical difficulties

Elmahdi *et al.* [45] in their study stated that most of their participants identified technology resources and assistance as the primary concerns when discussing the issues, obstacles, and difficulties teachers may encounter while using pickers in classrooms. According to certain research [46], [47], instructors' resistance to integrating technology into their lesson plans is a worldwide issue. The technical support provided is the main component that motivates teachers to use technology. In the case of Rizal Technological University, faculty

members received Moodle training with the domain e-RTU to be utilized for materials and exams across the university. As stated:

"During the development, I think it works well for me since I know how to use the LMS in terms of assessment. Just that, it takes longer than usual to finish one examination online maybe because of hardware requirements. The lagging is even worse during the implementation phase because a number of students are using the system at the same time." (Participant 8)

Some teachers do not integrate technology in their teaching activities unless they have been provided with just-in-time technical support.

"I am already old. The young ones should be patient with us. Sometimes the students are assisting with the presentation already because it is their generation, but I still have to write down all steps to know what to click because it is hard to remember everything." (Participant 10)

The correct incorporation of technology into educational activities was highlighted by Ali and Elmahdi [46], who stated that when tools are "not incorporated for the intended use, because of the incapacity to utilize, it defeats the exact reason for which they have been made available." Nevertheless, despite its availability, technological challenges continue to exist.

"Difficulty in checking the activity due to internet delay. I also find it difficult creating the exam online since there are only few applications which I am familiar with and are suitable in Math because of the of limited characters and symbols allowed." (Participant 4)

Internet connectivity, academic integrity, interference with at-home learning, and an abundance of assignments are the four main issues, Adedoyin and Soykan [48] identifies as being related to e-assessments. Similar to this, Arora and Srinivasan [49] identified a number of main hurdles experienced by teachers in the online teaching-learning process, including network problems, a lack of training, a lack of knowledge, a lack of enthusiasm, lower attendance, a loss of personal touch, and a lack of contact. Kaup *et al.* [50] listed difficulties in maintaining academics during the COVID-19 pandemic related to technology, training, and student participation.

3.3. Effective techniques

The global lockdown stopped any possible operations to do traditional classroom management and implement face-to-face performance which was almost free of any technical glitches, inadequate time, and misconduct. Nevertheless, technology allowed the arousal of motivation among students to continue the meaningful learning experience through wide choices of online assessments. These smart technologies support gamification [51] that may be accessible with instant feedback, reinforcement, and increased competitiveness some platforms offer features of short answer responses, forums, objective tests, blogging, and many others. A participant mentioned the use of these tools:

"I make use of other sources such as Kahoot and Mentimeter, integrated in both formative and summative assessments, they still do their pen and paper activities wherein I ask them to take a picture of their notes and works after class, Quizizz is also effective and fun because there are options like self-paced quiz or teacher-paced quiz, and of course, Google form is another option since it has many other types of assessments that allow objective and subjective." (Participant 9)

There are also teachers who use audio-visual presentations because they enhance skills and values among learners.

"The video tutorial presentation is I think the most effective, especially in our subject. This could test not just the mathematical competency of the students in the topic but as well as their creativity, communication, and technological skills." (Participant 5)

According to a study by Asejo [52], educators in other subject areas may attempt to focus on employing audiovisual presentations in their particular subject areas. The utilization of audio-visual (A.V.) presentations as a teaching strategy should be the emphasis of training programs for teachers created by school administrators. Additionally, respondents believed that A.V. aids played a significant part in the teaching-

learning process, improved teaching-learning, and provided in-depth and detailed knowledge [53]. There are also teachers who prefer the simplicity of assessments through modules as results are faster and easy to record.

"I develop learning modules that help the students to follow up with the synchronous discussions that we are doing. It will be followed by a learning activity or quiz to ensure that they have absorbed the information about the lesson." (Participant 3)

In order to maintain learning continuity during the epidemic, the DepEd developed self-learning modules based on the most essential learning competencies. This method encourages students to study and complete the weekly quizzes that are submitted for teachers' review on their own time [54]. Lim research [55] on the impact of modular instruction in word problem solving among students, teaching mathematics through modules is a successful technique to help students grasp. Numerous studies have shown that students who self-study perform better academically, are more motivated and self-assured, are more creative and intellectually curious, feel more included in their communities and experience less alienation, and value responsibility, all of which contribute to students' intrinsic motivation through personal accomplishments. Independent learning involves engaging in tough yet interesting activities on one's own [56]. Many assessment tools and techniques are being explored by the teachers and these are done to encourage the teaching and learning process amidst the difficulties during the COVID-19 and online classes.

3.4. Remote teaching and impact on assessment procedures vs face-to-face

Since the pandemic abruptly made changes in the lifestyle and practices of people in their respective communities, it is also essential to understand how remote learning has shifted student perceptions of their learning experiences. With active learning that was shown among learners in their classrooms, it was also clear to reinforce knowledge, interaction, and motivation. However, the sudden transition affected learning gains in a remote setup:

"It was a big shift to implement assessments during the face-to-face classes compared to the flexible learning modality. Most of the assessments during the face-to-face classes were enforced strictly compared during the online learning modality." (Participant 2)

The innovative strategy to rebuild education in communities has been to provide students the freedom to investigate and experience their learning in order to claim it as their own. This movement is fair, universal, and consistent with the abilities of 21st-century learners [57], but in the response provided by participant 2, the facilitator returns to being the source of knowledge that is poured out because students require in-depth direction in order to perform honorably. Due to this, the submission's timeliness, despite any early announcements, is impacted:

"Well, I had to make some adjustments in terms of students who are not able to meet deadlines and not able to take examinations on time. Provided that they submit a letter of explanation (with valid reason) with their parent's/guardian's signature within the week of the activity, I still give them the chance to make up for their missed tasks. Though I also gave consideration in rare cases during face-to-face classes, the online setup made me more considerate (still with limitations) and more lenient. I allow my students to explain their side first (why this and that) before I come up with a decision on whether to give them chance/s or not." (Participant 9)

A SEAMEO e-conference titled "Education in a Post-COVID-19 World" gave education officials and professionals a place to exchange knowledge and strategies for minimizing the effects of COVID-19 on education in order to ensure that no Filipino learner is left behind in the crisis, the Philippine DepEd introduced the LCP. According to the DepEd [58], "the learning delivery style throughout the extended enhanced community quarantine (ECQ) would rely on the available resources of the HEI and students." Students who experience connectivity issues during the ECQ session will be permitted to finish their coursework following the ECQ. Even after school hours had passed, the teachers remained to meet the requirements of the students. Though not all students effectively self-regulate their learning tasks, as previous research has shown [59]–[61].

"The assessment in remote teaching is quite difficult for me because I can't see/observe my students' performance if they properly executed the activity, specifically in PE (Practical activity). Unlike in face-to-face class, we have Physical interaction, so I can easily identify and correct it." (Participant 5)

The findings of a study by Miao *et al.* [62] revealed that interactions between students and teachers had a direct impact on social presence and learning engagement. The study's important ramifications showed that the mediated approach lowers students' motivation to learn, which makes them passive in class. The latitude and choice not to participate in social interactions reduced the level of contact, and the online environment's communication tools are not suitable for everyone [63]. According to Khalil *et al.* [64], one of the biggest difficulties for students during the COVID-19 pandemic was the absence of nonverbal contact between teachers and students:

"It's hard to know if the students are listening or learning because not everyone answers. Often, not even. The others, forget to turn off the camera, you see them lying down and not conditioned to learn." (Participant 10)

Except when students actively choose to connect and ask questions, it can be challenging for professors to tell when their pupils are lost or confused in an online environment [65]. In addition, academic integrity continues to be a problem. Students may view educators' efforts to foster critical thinking as a struggle rather than an opportunity. With the rise in popularity of online learning, there has been a rise in the frequency and variety of techniques to engage in academic dishonesty in online tests [66]. Because of the nationwide modules offered by DepEd and the detrimental effects of COVID-19 among workers who had been laid off, students looked for alternative strategies to profit from writing outputs on a commission basis. In fact, Facebook and other social media have been used for sharing answers. Twitter is flooded with tweets about this, and the cheating incident was covered by the news. When participants were asked about their thoughts about these major cases, participant 9 said:

"It is challenging because of the additional time needed to prepare all instructional materials needed for the assessments unlike in face-to-face wherein you can easily observe how the students are performing in formative and summative assessments. I have to really give attention to their outputs to double-check any forms of cheating." (Participant 9)

As experienced and observed among teachers and learners, remote teaching has truly been a scale of multifaceted approach, methods, and behaviors. The teacher respondents remain productive and ahead to address remote assessment challenges.

4. CONCLUSION

The pandemic has implicated many stakeholders in the society and the most crucial is the education sector. This experience had been unavoidable because of the increase in the COVID-19 cases and online education has to be implemented to still pursue excellence and continuous growth regardless of the absence of a classroom setting. However, this entails the challenge of maintaining quality in both classroom instruction and remote assessment.

In this context, the study revealed that it is extremely important to: i) design online assessments meticulously to ensure academic integrity; ii) structurally craft assessments that target cognitive, affective, and psychomotor skills or objective and performance-based; iii) methods, tools, and technologies can be used as advantage in checking outputs and avoid misconduct; and iv) strategies in remote assessment can be complementary to the interests of the learners through the use of educational tools or learning management sources. This thorough research and analysis, with the given literature, has provided an array of recommendations that can be used for awareness and adaptation in assessment delivery. The authors strongly believe that remote teaching and learning has precedented benefits and strategies to assess the performance of learners, and they should be paralleled with policies and guidelines that strictly uphold integrity.

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