

## **Unproctored assignment-based online assessment in higher education: Stakeholder evaluation of issues**

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This study investigates unproctored assignment-based assessment implementation in an online teaching environment compared to on-site assessment. A mixed-method research approach was conducted with the participation of 284 English-major students, 6 teachers, and 4 experts at a university in Vietnam. Data collection instruments included a questionnaire, in-depth questions, observations, and interviews to examine stakeholders' evaluation of unproctored assignment-based online assessment compared with on-site assessment; differences in students' learning motivation; drawbacks in online assessment implementation; and how to facilitate students implementing online assessment effectively. The quantitative results show that despite the significance of unproctored assignment-based assessment, students gave higher evaluations for traditional assessment, particularly in terms of measuring knowledge, examining skills, and ensuring academic integrity. Online assessment has no different impact on student learning motivation compared to traditional assessment. The qualitative data indicate that various problems in unproctored final exams challenged the effectiveness of assessment practices, such as poor adaptability to the learning objectives; more risks in submission; risks to academic integrity without proctoring, such as cheating, plagiarism, collusion, fabrication, and subjective evaluation; and limited development of skills and practice. Implications for online teaching and assessment are recommended.

### **Introduction**

The transition to online teaching and learning has raised urgent requirements for designing appropriate online assessment approaches adaptable to the current conditions in innovative educational environment. The timely response and resilience capacity of academic institutions in the unprecedented situations, such as the Covid-19 pandemic, has been demonstrated by promptly generating appropriate online learning-teaching approaches. However, to ensure comprehensiveness in emergency remote teaching with a wide range of online teaching issues and challenges (Özüdoğru, 2021), exploring an adaptive assessment mode is imperative, but challenging due to the lack of preparation and other barriers (Cooper & Tschobotko, 2020; Zhang et al., 2020). There is little synchronisation among the novel assessment models, course objectives, and pedagogical approaches (Ismail & Shubair, 2022). Consequently, educators need to draw on the applicable online assessment measures (Ardi, 2017), implement clear educational plans, organise usual communications with students to address the issues, develop teacher training programs, and build extensive university communities (García-González et al., 2022) to ensure education quality.

Various studies have revolved around the issues relevant to online assessment. Previous studies have investigated online assessment, including the challenges of remote assessment and solutions (Almeida, 2021; Guangul et al., 2020; Mekky, 2021), levels of satisfaction of

students (Mekky, 2021), technology to authenticate online assessment (Ismail & Shubair, 2022), academic integrity, security and fairness issues (Langenfeld, 2021), pedagogical research and recommended technological solutions for effective proctored online examinations (Mohammad, 2020). Ho and Dang (2019) concluded that instructors ought to use online assessments for language competence and skills development among EFL learners and in similar learning settings (Ghadi & Khodabakhshzadeh, 2016).

To adapt to the dramatic shift in online learning approaches, educators have recommended online assessment types that may be adopted in particular educational settings, comprising unproctored and proctored exams. Proctored online exams are commonly implemented with the observation of instructors or proctored with some technology tools to deter students from academic integrity violation. Unproctored exams cover the open-questions or assignments taken at home without proctoring from examiners or any technology-assisted devices. Guangul et al. (2020) revealed that students achieved significantly higher academic performance in the non-proctored online exams compared to the proctored settings. This result is consistent with the investigations by Alessio et al. (2017), Carstairs and Myers (2009), Richardson and North (2013), and Wellman and Marcinkiewicz (2004). When comparing unproctored online exams and traditional ones, Clark et al. (2020) recognised that unproctored offers advantages over traditional, with respect to automatic grading processes, obtaining feedback immediately, simplifying the exam preparation process without printed papers, being cost and time efficient, and ease of platform access.

Although a range of previous studies have revolved around online assessment, there have been few inclusive investigations on unproctored online exams in foreign language classrooms from students' experience, instructors' evaluation, and education quality assurance experts' perspectives toward the effects of online assessment types with respect to the criteria of the course, student learning motivation, drawbacks, adaptations to effectively implement unproctored online exam, and academic integrity. This paper focuses on the following research questions:

1. What is student and teacher evaluation of unproctored assignment-based online assessment implementation compared with on-site assessment?
2. How does unproctored assignment-based assessment implementation affect English-major students' learning motivation and academic contribution in an online learning classroom?
3. What are the drawbacks of unproctored assignment-based online assessment and recommendations to implement online assessment effectively?

## **Literature review**

### **Online assessment and online assessment types**

During the online and hybrid learning period, many educators and researchers have investigated methods of assessment suitable for flexible use in novel educational environments, and to address gaps in previous research. Sabrina et al. (2022) emphasised

the significance of effective selection of assessment types that adhere to the design of the course and are relevant to the learning objectives. Similarly, Elfirdoussi et al. (2020) acknowledged the role of online formative and summative assessments, in which the former evaluates the students' learning progress and the latter measures learning achievement (Adesope et al., 2017; Lyons & Heywood, 2016).

Online assessment has become a prevalent assessment approach in academic institutions and how to implement it appropriately has been a controversial topic among educators and researchers. Generally, assessment is considered an important factor in learning, having three major purposes: (1) to support learning; (2) to execute accountability; and (3) to provide certification, progress, and transfer of knowledge (Archer, 2017; Capsim, 2018; Kearns, 2012). Online assessment measures learning progress and achievement, provides feedback, ensures academic integrity, and supports learners by giving them the information to reflect upon their learning and make the necessary changes to it.

There has been much research on applying certain online assessment types in teaching language, for instance hand-in assignments and take-home exams, extensive proctoring or monitoring, and proctored or un-proctored exams. The study by Taras (2008) found that the most favoured evaluation strategies include quizzes, multiple-choice tests, presentations, and interviews. Furthermore, numerous challenges in online appraisal have been disclosed, such as cheating, teacher's workload, test handling issues, and mental health troubles. Various online assessment types are available for instructors to evaluate students' academic achievement, taking into account the different learning conditions of each institution. According to Rutgers (2020), online assessment may be classified into two types: remotely proctored exams (time-constrained) and open-ended assessments. Proctored exams are commonly used in classrooms with observation by instructors (in-person proctored exams), or with proctoring via webcams in remote area cases (remote proctored exams), to prevent students from cheating. Open-ended assessment may include series of quizzes; open-book, take-home tests; assignments, professional presentations or demonstrations; annotated bibliographies; fact sheets; and e-portfolios.

Sabrina et al. (2022) classified online assessment into: (1) online exams and tests (human proctored test or exam, technology-based proctored test or exam, non-proctored online test or exam, real-time online quiz-based test); (2) non-exam assessments (authentic assessments; viva or oral examination; progressive and reflective assessments). Guangul et al. (2020) divided remote assessment into two types: (1) remotely proctored exams (time-constrained); and (2) open-ended assessments (paper/essay, written assignment, exam/quiz, online discussion, project, simulation, case study, reflection, presentation, field work, portfolio, peer evaluation, reflective assessments). Similarly, Sotiriadou et al. (2019) demonstrated that oral examinations as a form of authentic assessment can be used to prevent academic misconduct in both online and face-to-face learning environments. However, Ellis et al. (2019) suggested that authentic assessment is not always ensured, owing to the scope for "Contract cheating [that] occurs when a student outsources their assessment to a third party" (Ellis et al., 2019, p.1) Teclehaimanot et al. (2018) emphasised the importance of legal requirements for conducting online exams. These requirements may include identification and authentication such as a secure account with a confidential

password; or any other technologies or procedures that can properly verify students' identities. Under any circumstance, the online assessment design must meet the requirements of testing in terms of aligning with subject learning outcomes to improve learning experience through formative assessments, and to evaluate a student's learning achievement through summative assessments (Bognar & Bungić, 2014).

In accord with each subject's learning outcomes, and available resources, the particular assessment types (take-home assignments without proctoring, or proctored exams) are chosen. For each assessment type, certain requirements are provided to ensure the academic quality and integrity: take-home assignments do not need proctoring or monitoring or technology-based authentication, but require plagiarism checking, intensive and thorough understanding, and skills, while the other measures like proctored exams require time limitation, proctoring, and extensive knowledge to answer quizzes or questions (Hussin, 2018; Taras, 2008).

### **Unproctored exam-based assessment and on-site assessment**

When comparing unproctored online exams and traditional exams (on-site assessment, paper-based tests; in-campus exams; classroom-taken exams), Clark et al. (2020) recognised that the former have some advantages over the latter, in relation to automatic grading processes (Watson & Sottile, 2010), obtaining feedback immediately, simplifying the exam preparation process without printed papers, being cost and time efficient, and easy access to the exam platform. Alessio et al. (2017) accorded a favourable evaluation for proctored online exams for students from diverse remote areas at diverse times. This type of assessment could facilitate students accomplishing their learning without traveling to school, without any suspension in emergency cases. Other studies have also investigated security and integrity of monitored online examinations compared with traditional face-to-face settings (Karim et al. 2014; Harmon et al., 2010; Watson & Sottile, 2010).

Regarding academic achievement, some studies have demonstrated that students have achieved significantly higher test scores in non-proctored online exams compared to proctored settings (Alessio et al., 2017; Carstairs and Myors, 2009). These results could suggest that more opportunities for cheating may arise in unproctored exams, thereby facilitating students to obtain higher scores. However, several other investigations have revealed no significant differences between academic performance in non-proctored online tests and proctored tests (Berkey & Halfond, 2015; Foster & Layman, 2013). Alessio et al. (2017) acknowledged that academic integrity violations are easily made in an online environment compared to on-site testing. A study by Berkey and Halfond (2015) discovered that 84% of the students admitted to dishonesty misbehaviours in unproctored online test-taking exams. The participants manifested that the dishonesty in online exams is really a serious issue to be addressed to ensure fairness and education quality. Additionally, cheating is a barrier that prevents students from contributing to the lessons and learning dedicatedly. Watson and Sottile (2010) with a quasi-experimental study of 635 students, showed that the rate of students cheating in online testing is four times higher than that in on-site exams. The prevalent factors facilitating the misconduct include

testing conditions with remote observation or no monitoring from examiners. Moten et al. (2013) took some factors into account, including lack of validity in an independent online testing environment that weakens the examiners' detection ability to define who is taking the exam, and lack of reliability. Consequently, some strategies are recommended to ensure academic integrity, such as technology-based proctors - computer/system lockdowns, keystroke monitoring, the ability to stop/start a test, 360-degree camera and a fingerprint reader, *Blackboard* providing its LMS users with additional security (Foster & Layman, 2013); and screen-capture technology to authenticate IT online learning and assessment (Ismail & Abdullah, 2022).

Hussein et al. (2020) identified a number of online proctoring tools:

1. ProctorU (cloud-based, proprietary licence, live proctoring, authentication needed);
2. Kryterion (cloud-based, proprietary licence, live proctoring, authentication needed);
3. Respondus (cloud-based, automated Proctoring, 1000 seats/USD4,000);
4. BVirtual (cloud-based, live/recorded/automated proctoring);
5. AIProctor (cloud-based, Artificial Intelligence (AI) proctoring);
6. ProctorU Open Source (based on ProctorU);
7. Examity (cloud-based, live/recorded/automated proctoring, regular updates);
8. Proctorio (cloud-based, recorded/automated proctoring, can be integrated with Moodle).

Selecting online proctoring systems is also challenging since it relies on many factors, three of which Brown (2018) identified as the most influential: cost, security, and instructor and student comfortability with the use of technology. However, the unproctored online exam is also challenging as it requires implementation of strict rules and punishment policies to avoid misconduct, such as, plagiarism, collusion, and fabrication in students' works (Hussin, 2018; Telehaimanot et al., 2018). Additionally, in online language learning and assessment, the prominent factors influencing competence include reliability and validity.

### **Unproctored assignment-based assessment at universities in Vietnam**

Due to the emergency situations with little experience in online testing and assessment, choosing a particular online assessment type for each subject is very challenging with many controversial issues that stakeholders, such as leaders, experts, teachers, and students of all departments have taken into consideration. Many forums were set up to conduct continuing debates on what methods may be used to evaluate the learning outcomes and how to implement effectively. Eventually, unproctored exams were chosen as the primary online assessment mode in the online courses. Unproctored assignment-based assessment is a summative assessment approach, in which the assessment activities were accomplished at home without proctoring from any examiner or computer and submitted on the University's LMS system after about 3 days allowed for each subject. On the basis of the objectives, features and content of the course, the assessment activities could be provided in various forms such as writing essays to revise and summarise knowledge; making a minor thesis with various kinds of questions such as knowledge

inquiry or situation-solving oriented questions; video-making projects; or making a reflection-based diary. The questions covered several types to check basic knowledge; critical thinking ability; and open questions built from many real-life situations with various topics. All the assignments were created in files and submitted to the LMS assignment system account for each student. The deadline for submission was set up at a certain time. After this time, the submission was closed without any intervention for a late submission to be accepted by resubmitting. Then, teachers received the files, scored, and sent feedback to the students. The system saved all students' products and kept them confidential.

## **Method**

### **Participants**

The participants involved in this study were 284 students (32% males and 68% females) in first or second year general English courses in the 2020 -21 academic year at a university in Hanoi; 6 teachers of English (all female); and 4 experts (2 males and 2 females) from the department of testing and education quality assurance.

### **Instruments**

#### *Questionnaire*

This questionnaire was designed and employed for quantitative data collection, based on the research questions. It was divided into four sections including a. Background information (10 items); b. Student and teacher evaluation of unproctored, exam-based assessment and on-site assessment implementation compared to on-campus assessment (15 items, Appendix 1, ); c. Students' evaluations of learning motivation in unproctored assignment-based assessment compared to on-campus assessment (1 item, Appendix 1); d. In-depth questions (3 items, Appendix 2). Participants were asked to rate the evaluation items on a 5-point Likert-style scale: Strongly disagree (SD) =1; Disagree (D) =2; Neutral (N) =3; Agree (A)=4; Strongly agree (SA) =5.

#### *In-depth questions*

These questions (Appendix 2) were administered to the participants to collect a more intensive information to complement the quantitative evaluation items. The questions were written in English and some terms (such as proctored test/exam, unproctored exam-based assessment, academic quality and integrity etc.) were explained and noted in Vietnamese to ensure intelligibility and enable students to answer easily. Additionally, the answers in Vietnamese were also translated into English to be treated and analysed together with the answers in English.

#### *Observations and reflection*

To obtain data for the second research question related to learning motivation performed in the classroom, the author observed and considered students' learning attitudes, contributions, engagement and feeling notes in a reflection diary.

### *Interviews*

Interview questions (Appendix 2) were posed to students, instructors and experts to collect qualitative data for the third research question, relevant to the drawbacks of unproctored exam-based assessment and recommendations to facilitate students to implement the online assessment effectively.

### **Data collection**

A mixed-method research incorporating qualitative and quantitative approaches was used to collect data. The researcher sent the questionnaire to participants via email or social media. After that, the researcher analysed the data by counting the number of people choosing each option and storing in an *Excel* file. The interviewer conducted the interviews by direct communication (face to face) or indirect communication (via social networks or mobile phones). Direct conversations were recorded and notes taken.

### **Data analysis**

The quantitative data were analysed through descriptive statistics with IBM *SPSS 25.0*. The demographic information of the participants was analysed, based on the frequency descriptive test. Cronbach's alpha indicted a satisfactory reliability of dependent variables. The data about students' evaluation of online and on-site assessment were treated through a descriptive test. An independent-samples t-test was used to compare the difference between students' learning motivation through online and offline assessment. To assess students' learning motivation and academic performance, a paired-sample t-test was used. An auto-coding technique with *ATLAS.ti* software was used to treat the qualitative data. Auto-coding finds text passages, selects a specified amount of text, and then codes the passage with a previously selected code (Friese, 2019). The information collected from in-depth questions, interviews, and reflection notes was sorted on the basis of the repetition of key words in context, comparison and contrast, metaphors, and analogies must be gathered into codes and common themes (Bernard & Ryan, 2010).

## **Findings and discussion**

### **Students' evaluation of traditional (on-site) and online assessment (unproctored assignment-based)**

As illustrated in Table 1, in general, participants had a higher evaluation on the criteria of traditional assessment than online assessment, with overall mean scores of 3.53 and 3.33 respectively. Students revealed that traditional and online assessment types received similar mean scores in achieving the learning objectives, 3.16 and 3.06 respectively. The two types of assessment showed little difference in providing prompt feedback (3.38, 3.23) and reducing revision time (3.18, 2.90). Larger disparities occurred between the two types with regard to ensuring academic integrity (3.82, 3.13), submission risks (3.19, 3.68), and examining skills (3.84, 2.91). The smaller gaps between the two types appeared in accumulating autonomous learning (3.77; 3.62), anxiety (3.44; 3.43); and fostering problem-solving skills (3.60, 3.53). In the traditional assessment approach, students

evaluated highly the objectives relevant to measuring knowledge, examining skills and ensuring academic integrity.

Table 1: Students' evaluation of the criteria (N=284)

Assessment criterion	Traditional assessment		Online assessment	
	Mean	SD	Mean	SD
Achieving the learning objectives	3.16	.937	3.06	.944
Measuring knowledge	3.62	.942	3.35	1.041
Examining skills	3.84	.905	2.91	.875
Providing prompt feedback	3.38	.809	3.23	.844
Linking theory and practice	3.61	.831	3.35	.845
Boosting authenticity	3.51	.910	3.40	.937
Reflecting exhaustive competence	3.52	1.035	3.24	1.033
Reducing revision time	3.18	1.001	2.90	.922
Developing creativity	3.50	.726	3.16	.772
Anxiety	3.44	.853	3.43	.843
Fostering problem-solving skills	3.60	.914	3.53	.956
Accumulating autonomous learning	3.77	.803	3.62	.937
Feasibility/ flexibility	3.80	.936	3.35	1.041
Submission risks	3.19	.917	3.68	1.042
Ensuring academic integrity	3.82	.826	3.13	.881
Average	3.53		3.33	

In the in-depth-questions, students revealed that when doing on-site exams with a series of quizzes and questions that require general and specific knowledge, they had to revise their basic knowledge to answer the questions accurately and enhance their advanced knowledge for the open questions. Additionally, students had opportunities to examine their overall skills with various tests such as presentations, interviews, and projects. Most students believed that traditional assessment was particularly significant in ensuring academic integrity. Through direct proctoring by teachers, cameras, and other candidates, it was hard for students to cheat in the classroom. Some types of tests were scored by a computer program, so there was no external scope for cheating.

In online assessment, accumulating autonomous learning and submission risks are the categories ranked the first with the highest mean scores of 3.62 and 3.68. Accordingly, students believed that the significance of online assessment was most expressed through enhancing learning autonomy. This can be reasoned through the answers from the in-depth questions showing that online learning practised students' document-searching ability and self-learning capacity. Online educational environments without teachers' direct support forced them to navigate their learning approach to a more appropriate one in which students themselves are their teachers. With respect to submission risks, students revealed that submitting tests via the online system was a risky task because they encountered problems, such as the submission system automatically closing at the deadline time and they had no way to submit their tests if they were late, even some



seconds late; students submitted but forgot to attach the file or uploaded the wrong file; or they had technical problems that prevented them from submitting.

Comparing the mean scores and standard deviations from students' evaluations of traditional and online assessments, it can be concluded that the aforementioned items about unproctored, exam-based assessment are accurate. These results are in accordance with the investigations by Mekky (2021) and Ho and Dang (2019), that online assessment has many positive effects in learning, although compared to the traditional approach, the online assessment gets lower appreciation with respect to examining skills, flexibility, and ensuring academic integrity (Andreou et al., 2021).

**Students' evaluations of learning motivation in online and on-site assessment exam-based courses**

Table 2: Learning motivation in online and on-site assessment exam-based courses  
Independent samples test (equal variances assumed)

Levene's test for equality of variances		t-test for equality of means					95% confidence interval of the difference	
F	Sig.	t	df	Sig. (2-tailed)	Mean diff.	SE diff.	Lower	Upper
.093	.760	-5.675	566	.000	-.426	.075	-.574	-.279

The significance value of Levene's test recorded in Table 2 is higher than the preset (0.760 > 0.05). Consequently, the results of t-test from equal variances assumed are used to analyse the data. It is obvious that the value of Sig. (2-tailed) is lower than the significance level, 0.05. This figure clarifies the conclusion that the online and traditional assessment do not have different impacts on student learning motivation.

In the in-depth questions, students manifested their opinions about the learning motivation in unproctored assignment-based assessment. They expressed that motivation, including external and internal, was not different in traditional and online learning. Regardless of the assessment types, students must make an effort to obtain the subject goals; to earn teachers' and peers' appreciation; and to achieve good grades and rewards. Motivation is the same and the time spent on each day is unchanged, however in each assessment approach, students have a particular learning method.

We were informed of the ways to assess academic achievement from the beginning of the course; thus, we actively revised their knowledge properly. For example, if we were involved in the quizzes and open-questions tests, they would try to learn the details of the subject and read the basic knowledge in the textbooks carefully. However, if the assignment, presentation and study were provided as final tests of the course, we just focused on the main issues of the subject and searched the Internet for extra information" (V.A, age 21).

Other students indicated that assignment-based tests required more creativity, critical thinking and solving-problem skills than the quiz-based tests. The data from the

observations in the classroom and reflection after the course indicate that the number of students making inquiries and raising their voice to answer questions in the online assessment is the same as in the traditional assessment. The number of students who submitted their online reflection and assignments after each lesson is not different from the traditional situation. Several students noted that they had to keep raising their questions in classrooms to ensure that they acquired sufficient knowledge for the quiz-based tests, though how they posed their questions was different for each assessment type.

The findings here are similar to the study by Mekky (2021), in which participants identified many reasons for dissatisfaction with online assessment, though their learning motivation was unchanged. Students were always making an effort to attain high academic achievement. In a remote learning environment, the strengthening of motivation may be more challenging, requiring more effort in areas such as enhancing student learning autonomy. Whether students are learning in traditional or online environments, teachers should be very aware of how to stimulate learners, since motivation determines the direction, levels and consistency of students' behaviours and speed of achieving the desired goal in an educational environment.

### **Drawbacks of unproctored assignment-based online assessment**

*Unproctored assignment-based online assessments may not be adaptable to the learning objectives*

The assessment types implemented in a course may be inappropriate for the course content and objectives. Many students revealed their negative opinions on using essays as an alternative to exam-based tests to achieve learning objectives. They asserted that the outcomes of some online tests are not relevant to subject objectives. Particularly, they must learn a large amount of general and specific basic knowledge to be able to complete a normal test with quizzes and questions. Nevertheless, because the final test in online assessment was writing a short essay about a particular topic, students did not need to revise all of the content. They could focus on some primary contents or topics. Consequently, we missed a lot of useful information in the textbooks. The topics did not cover the aims of each lecture or the objectives of the course. Some subjects are related to remembering the structures or rules, and solving open questions that require more critical thinking and problem-solving skills. However, in the assignment, they did not have a chance to practice or show all their abilities. Additionally, they are not under pressure to improve their basic knowledge, but pressure to search as many materials as possible for the task. "The root is always of importance. If you want to build a high block, you must have a stable ground." (M.H., age 20).

Most of assignments did not follow the knowledge provided by teachers or in the coursebooks.

Doing the test without a time limitation made it more difficult to evaluate the results. Paper-based tests prescribed a particular time to think about the answer and complete in a timely manner. This requirement created practice in students' ability to respond promptly, and their problem-solving skills. However, for the home-taken tests, students chose freely

their beginning and completing times for their tasks, and even used a very long time to accomplish them. Some people demonstrated that they were enrolled in the tasks of researching rather than learning. This finding aligns with the investigation by Mekky (2021), who expressed sceptical opinions on whether a fully online learning approach complied with academic quality assurance requirements and anticipated learning outcomes

*Technology problems lead to more risks in submission*

Students felt more stressful when submitting the test online. They indicated that online submission was risky.

You likely underestimated and had to face many problems occurring in submission including overdue submission in which the system closed at the deadline time and there was no way for them to resubmit; completing submission but without attaching the file of essay or attaching the wrong file; or technical problems from the network, Wi-Fi or computer; or submitting to the wrong link of the other subjects.... This result had a negative effect on the results of the tests (N.L., age 20).

Regardless of the quality of a submission, those who missed the deadline received zero scores and a failure in the course. Many students had the excellent scores in formative tests but recorded a poor academic performance through computer technology problems.

*Academic integrity without proctoring (cheating, plagiarism, collusion, fabrication)*

Academic integrity in online assessment is a serious problem that needs to be addressed by examiners, students and managers. To ensure a fair examination, cheating, plagiarism, collusion and fabrication under any forms must be eliminated. This has a great impact on student learning motivation, academic achievement fairness and reputation of the school. In on-campus tests, there are some ways to prevent misconduct in exams, such as randomisation of the order of questions; reordering the seating of the members of a class; setting cameras in the classroom; having more examiners to observe students' activities in an exam class; and stricter punishment policies put on violators.

However, in online testing, the stakeholders generally have little experience with new types of assessment and lacks sufficient technological capacity to manage all the students' activities. Some students acknowledged that it was easy for them to cheat when they have a chance to take the test at home. They might ask for help from others,

... if we do the test in class, with the observation from examiners, everything is equal and cheating is hard to accomplish. However, at home, we cannot imagine what could happen. The lazy students might do nothing and wait for the outcomes from good supporters. (V.A, age 21).

This may explain why some students who had poor academic performance in formative tests attained unusually good scores on unproctored final tests.

Some confessed that they spent a great deal of money to make the good students help them with the assignment, even the experts. This is inequal to us. Despite making more efforts, we got lower scores. We are students, we are not as good as the experienced

students and experts. We need a fair exam. When these unbelievable things happened, we were demotivated and lose our belief in academic integrity. (T.D, 20 years old).

This result is consistent with the findings by Langenfeld (2020) and Ellis et al. (2019) showing that un-proctored tests in general and authentic assessment in particular did not reliably ensure against outsourcing of assignment work to other persons.

#### *Subjective evaluation from examiners*

When asked the questions about academic integrity in scoring, students asserted that they prioritised scoring by machines rather than human beings because it is more objective and accurate. However, although online assessment through assignments is implemented on a computer but is scored by teachers, it has several drawbacks, such as the rubric for assessment not being specific; long essays take a long time to read and some examiners may become distracted from a good focus on the main content. Teachers are often under time and patience pressures during reading of a thesis, scientific study or project. Some lecturers said that it is easy to make mistakes when scoring numerous tests that have multiple pages of screen reading.

#### *Reduced opportunities to develop and practise skills*

Students may have fewer opportunities to be engaged in skill-developing tests in an online assessment environment. Especially for the subjects related to skills such as listening, speaking, reading and writing, it is inappropriate to use assignment-based tests as alternatives. In some courses, listening and speaking tests are combined into an interview-based test, and reading and writing are integrated into an essay-based test. It is obvious that to attain competence in a subject, students must spend a particular time, typically about 30 to 45 minutes practising reading tasks and finishing writing tasks. However, in an unproctored remote exam, with 2 or 3 days as the allowed time, students complained that they could use various extra materials, take advantage of assistive tools, ask for help from others and have much time to check, or edit the outcomes. As a consequence, using essay-based tests to measure competence is not necessarily effective, and may even be problematic and lacking in validity.

### **Facilitating students overcoming barriers in unproctored assignment-based assessment**

The issues in online assessments need to be addressed to ensure that online assessment is reliable and adaptable to an online or hybrid learning environment. This requires participation by many stakeholders including teachers, learners and administrators. Regarding exam administration, students and teachers suggested that clear guidance about logging in and how to submit assignments to facilitate students must be provided to minimise mistakes in the submission process. There should be the handouts or videos providing guidance to help students follow the steps correctly. Technology assistant teams should anticipate problems that might occur in the submission process and recommend tips for students to solve problems by themselves. Also, technology assistant teams should be readily available during examination times to support students in emergency situations.

Misconduct prohibitions in online exams should be clarified, and punishments for academic violation should be widely publicised and strictly enacted.

To minimise cheating in online assessments and to ensure the quality of unproctored remote exams, teachers should generate questions and topics that are difficult for students to undertake with plagiarism, ask for help from others, or work in collusion with others. Questions should contribute to promoting critical thinking and avoiding the copying of material. The topic should be relevant to the context of the class or what they are taught in class, to help minimise the potential for assistance from others. This is because when reading an assignment that has been assisted by others, teachers may get some clues towards recognising who is the real writer. If the students do not contribute to the assignment, they also have to provide some instruction or retell what they learned in the course for some other to have as a basis for assisting. This facilitates all students to present their opinions and at least engage with revision of initial knowledge.

Tests should be a combination of knowledge and skills assessments that have been developed through the course and represent key learning outcomes. To provide a diversity of difficulty levels, test may be comprised of multi-part questions. Teachers should design various question types in the tests, to ensure good coverage of the content learned in class, and prioritise open-ended questions relevant to personal experiences or perspectives on an issue. An academic integrity pledge should be mentioned at the beginning of exams. Policies about the satisfaction drivers of instructional design in remote learning could be reviewed and prioritised. Institutions should strive towards integrative, international-qualified measurement systems to promote online learning and assessment practices in higher education.

## **Conclusion and recommendations**

This study investigated students' and instructors' responses and experts' evaluation concerning new online assessment modes, covering the issues:

- (1) Students' evaluation of traditional assessment implementation compared to online assessment in terms of ensuring academic integrity; achieving learning objectives; measuring knowledge; gauging skills; providing prompt feedback; linking theory and practice; boosting authenticity; reflecting exhaustive competence; reducing revising time; developing their creativity; increasing their critical thinking skills; fostering problem-solving skills; practising autonomous learning; feasibility; stress; suitable marking; and submission risks.
- (2) There is no difference between online assessment and on-campus assessment in relation to learning motivation.
- (3) Drawbacks in online assessment implementation are identified including lack of adaptability to the learning objectives; more risks in submission; risks for academic integrity without proctoring to minimise cheating, plagiarism, collusion and fabrication; subjective evaluation; and limitations in development of skills and practice.

The changes needed to ensure academic quality in online assessment include:

- a. Through evaluations by participants, stakeholders will have a comprehensive understanding about online assessment implementation in virtual classrooms. Consequently, they will identify the issues and make essential changes in curriculum, teaching-learning approaches and infrastructure, to adapt effectively for online assessment.
- b. Managers and administrators of universities will make suitable changes in management and education policies, and will design an appropriate online assessment roadmap to ensure academic quality and integrity.
- c. Instructors will have an insightful understanding of their learners: the encounters and their expectation, to recommend the teaching approaches adaptable to online assessment, and develop students' learning motivation and competence.
- d. Institutions will refer to this study to adopt appropriate online assessment types properly that are applicable and sustainable in the future when online education becomes a prevalent form in the parallel development of traditional education.

In the context of ICT development and suspension of on-campus classes due to the Covid-19 pandemic, successful application of online assessment in remote learning is becoming a major target that every academic institution needs to achieve. There are emerging challenges from new technology tools, including for example *Google Translate* (Atkinson & McBeath, 2022); *ChatGPT* (Davis, 2023), and other technological services such as the Taylor & Francis "*Text-to-speech*" service (Atkinson, 2021). These kinds of new services present issues that cause concern for unproctored-exams and ensuring academic integrity. Some new services are akin to two-side-knives, as they could provide positive assistance for learning or could become perfect tools for cheating in assessment.

In this study, however, due to the limited time and knowledge, the author focused only on English-major students' and teachers' evaluations of online assessment types in learning English as a foreign language (EFL), including the weaknesses and strengths, the effect, the barriers, and recommendations for solutions. Hopefully, in future research, there will be further investigations into online assessment types in a diverse range of disciplines and programs. Also, in this study, views about the amount of time required from learners in order to pass or get a good grade, compared with "traditional assessment", were not sought, and this issue could be addressed in future research.

### **Conflict of interests**

There is no conflict of interest to report in this paper

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## Appendix 1: Questionnaire

### Q1. How do you evaluate the criteria of unproctored assignment-based assessment and on-site assessment?

Strongly disagree (SD) =1; Disagree (D) =2; Neutral (N) =3; Agree (A)=4; Strongly agree (SA) =5.  
 Please tick the box corresponding with your opinion regarding the statements below

No.	Criteria of assessment	Unproctored exam-based assessment					On-site assessment				
		SD	D	N	A	SA	SD	D	N	A	SA
1	Assessment helped students achieve the learning objectives										
2	Assessment was able to measure the knowledge taught in the course										
3	Assessment was able to examine skills										
4	Assessment provided the prompt feedback										
5	Assessment facilitates students to link theory and practice										
6	Assessment was able to boost authentic knowledge										

7	Assessment was able to reflect students' exhaustive competence													
8	Assessment reduced students' revision time													
9	Assessment developed student creativity													
10	Assessment made students more anxious													
11	Assessment was able to fostered students' problem-solving skills													
12	Assessment was able to accumulate autonomous learning													
13	Assessment was feasible and flexible													
14	Assessment brought about many submission risks													
15	Assessment ensured academic integrity													

**Q2. How do you evaluate learning motivation in unproctored and on-site assessment exam-based courses**

Strongly disagree (SD) =1; Disagree (D) =2; Neutral (N) =3; Agree (A)=4; Strongly agree (SA) =5  
 Please tick the box corresponding with your opinion regarding the statement below

	Unproctored exam-based assessment					On-site assessment				
	SD	D	N	A	SA	SD	D	N	A	SA
I was motivated to learn in this assessment type-based course.										

**Appendix 2: Method details**

**In-depth questions**

These questions were delivered to the participants to collect more intensive information for the questionnaire:

- (1) What are the cons and pros of unproctored assignment-based assessment? Explain and give more evidence.
- (2) How does the online assessment influence your learning motivation? Clarify your ideas.
- (3) What are the problems between the learning objectives and unproctored assignment-based assessment?

**Interviews**

- (1) What are the drawbacks of unproctored exam-based assessment? Can you tell me some issues in implementing the unproctored exam-based assessment implemented in your courses at HLU?
- (2) What are the recommendations for the unproctored exam-based assessment implementation to ensure effectiveness and academic integrity?

### Appendix 3: Reliability analysis

In the first stage of the data analysis process, the author calculated the Cronbach's alpha value of variables with the result at 0.711 ( $> 0.7$ ) on average for 15 items. This indicated that the variables have sufficient reliability for treating other data in the next steps (Vural Özkip, 2009; Hair et al. 2012; Hair et al. 2017).

	Item-total statistics			
	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted
V1	48.72	34.840	.283	.700
V2	48.69	36.679	.141	.715
V3	48.62	38.079	-.019	.737
V4	48.64	35.860	.123	.724
V5	49.11	35.292	.208	.710
V6	48.72	36.125	.207	.707
V7	48.72	36.244	.195	.709
V8	48.40	33.023	.478	.677
V9	48.17	32.951	.491	.676
V10	48.24	31.973	.503	.672
V11	48.22	33.513	.398	.686
V12	48.55	33.123	.485	.677
V13	48.26	33.202	.506	.676
V14	48.22	34.069	.409	.686
V15	48.15	33.984	.476	.681

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