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## Evaluation of The Necessity and The Feasibility of Solutions on E-assessment Methods and Tools for Foreign Language Lecturers

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### Abstract

Since the end of the outbreak, most higher education institutions (HEIs) in Vietnam have continued to offer blended-learning courses, including those in foreign languages. Thus, the popularity of e-assessments has increased, compelling lecturers to determine how to effectively manage this assessment model. The core aims of this paper are 1) to propose several solutions on e-assessment methods and tools for foreign language lecturers and 2) evaluate their degree of necessity and feasibility. Based on the quantitative research approach, an online survey using Google Form was conducted to collect data on the necessity and feasibility of our proposed solutions from the perspectives of foreign language lecturers at University of Social Sciences and Humanities, Vietnam National University of Ho Chi Minh City (USSH-VNU-HCM). The questionnaire obtained 31 valid responses. According to the results of the study, the criteria on the 5-point Likert scale are highly necessary and feasible. These findings provide insights that may assist HEIs' leadership, policymakers, curriculum developers, and lecturers to consider testing these offered solutions.

**Keywords:** Necessity, Feasibility, Solutions, E-Assessment, Foreign Language Lecturers

### Introduction

Technology has rapidly impacted on every part of our lives, especially as it becomes more intertwined with its users' individual and professional spheres. In recent times, technology-enhanced teaching has gained popularity in educational environments worldwide, particularly in tertiary education (Hichour, 2022). Hence, lecturers have faced various challenges in an increasingly complex field of education (Huan & Nasri, 2022) due to the fact that there are already numerous curriculums, courses, or subjects at HEIs that integrate traditional and online teaching with the widespread implementation of a learning management system (LMS). After the COVID-19 pandemic, on August 22nd, 2022 USSH-VNU-HCM issued a regulation attached to the decision No 269/QĐ-XHNV-ĐT on academic management on LMS for blended-learning and face-to-face courses to promote digital transformation in HEIs in order to integrate with the general trend of global education in the near future.

Accordingly, e-assessment activities have gradually gained popularity and have been sustainably adapted in blended learning courses at USSH-VNU-HCM, especially in foreign language teaching. E-assessment has enhanced the measurement of students' outcomes and made it possible for them to obtain immediate and direct feedback (Gilbert et al., 2011). Although advantages to e-assessment do exist, lecturers also need to have effective solutions on e-assessment methods and tools so as to ensure that students' learning outcomes (LOs) on e-tests are an accurate indicator of performance in each content area (McClelland & Cuevas, 2020).

## **Literature Review**

### ***E-assessment***

As defined by the JISC (2007), e-assessment is an assessment strategy in which all stages of the assessment procedure – from question presentation to the storage of students' responses – are conducted electronically. Kunaefi (2018) argues that e-assessment, or technology-enhanced assessment, offers great promise for fostering 21st-century abilities, including complex problem solving, communication, cooperation, creativity, and innovation in the classroom. E-assessment is mostly used in the examination of remote learning and online education. According to Falcao and Soeiro (2019), e-assessment refers to the use of information and communications technology (ICT) in general and the internet in particular for the purpose of evaluating a learner's performance, along with the design, delivery, and/or response recording. On the other hand, the term "e-assessment," as defined by Abd Rahman et al. (2021), is an examination of students' abilities, attitudes, and/or personality traits. This examination is administered through the Internet using accessible assessment tools with specific purposes and guidelines.

It can be concluded that most studies indicate that e-assessment is an electronic assessment in which all assessment processes, from the beginning to the finish, should be conducted electronically. This implies that the planning, test execution, response recording, and feedback delivery are all performed via ICT.

### ***Advantages of E-assessment***

E-assessment offers more benefits than traditional assessment for students but also for lecturers.

**For students.** They favor e-assessment since it provides location flexibility, immediate feedback, synchronous and asynchronous delivery modes, an easy-to-use user interface, error-free assessment of answer sheets, and novel features (Binsaif et al., 2021). Compared to traditional assessment, e-assessment delivers instant, detailed feedback, and may thus guide students to improve their academic performance. In addition, it allows students to study and take e-tests in their own surroundings from anywhere, at any time, and on any device, and also to quickly access their results, assisting them in managing their performance through automatic grading and reporting (Aburumman, 2021). Several studies pointed out that students prefer e-tests over paper tests. Regarding the students' opinions of e-assessment, a study conducted using a survey found that over half of students (53.2%) preferred e-exams rather than traditional exams on the campus (Ali & Dmour, 2021). Eltahir et al. (2022) found that some of the students surveyed had positive attitudes ( $M = 3.18$ ;  $SD = 1.22$ ) towards the adoption of e-assessment at Ajman University amidst the COVID-19 pandemic because of its benefits, such as rapid feedback and grading, time savings, environmental friendliness, ease of identifying and accessing unresolved questions, clear and

simple e-assessment system, and students' ability to take e-tests anywhere and at any time. A study by Binsaif et al (2021) revealed good responses from students on their experience with e-tests (a rating of 3.5 points out of 5 points), indicating that the implementation of e-exams and the further digitalization of higher education are both possible. In another research by Ningsih et al (2021), ANOVA results confirmed that e-assessment has a positive influence on character education ( $F = 43.571$ ).

**Lecturers.** The use of e-assessment over traditional assessment improved result reliability-administered tasks, for instance, grading, filtering, and saving records, which led to a reduction in lecturers' workload, freeing up time for other tasks related to the input of learning (Laborda & Penalver, 2018). Moreover, it supports lecturers in enhancing the quality of feedback supplied to students, which may be delivered through recorded videos or audios, written comments, or in real time during live meetings (Way, 2012). Accordingly, Burner's (2015) study indicated that students were more motivated to learn English when lecturers provided feedback because it prompted a two-way conversation between the lecturer and student on how to better interpret the meaning of the feedback given. E-assessment also helps lecturers in the management of the assessment of large classes, which is especially useful for question-based practices that require auto-correction (Mirza, 2021). Several studies pointed out that EFL lecturers had positive impressions about e-assessment. A study by Luthfiyyah et al (2021) identified that Indonesian EFL lecturers in higher education positively perceive technology as a tool for improving formative assessment. They recognize without a doubt that technology plays a variety of roles in supporting them with formative assessment. EFL teachers, on the other hand, require more extensive exposure to the knowledge, purposes, and practices of formative e-assessment. In another study by Prastikawati (2021), online quiz systems like Kahoot, Quizizz, and Socrative provide an interesting learning environment. The presence of digital tools encourages students to be more competitive and motivated in their studies. Their willingness to learn is instantly raised ( $M = 4.14$ ;  $SD = 0.91$ ). Hence, it is an ideal environment for students to flourish academically by exerting their greatest efforts. Additionally, Anwar et al. (2022) reported that most of the 12 lecturers at the Virtual University of Pakistan are satisfied and motivated to perform e-assessment procedures, but they are unable to utilize various technology-enhanced tools for e-tests owing to a lack of support from upper administration.

### ***Challenges of E-assessment***

There may be challenges to the application of e-assessment in higher education. Diverse studies have analyzed these challenges and critiqued e-assessment from various perspectives: Cheating and plagiarism are considered the key challenges to using E-assessment (Abd Rahman et al., 2021; Mellar et al., 2018; Anwar et al., 2022; A Sa'di et al., 2021). Even with a student authentication system, the interviewees in Mellar et al (2018) claimed there would be a loss of control over the assessment process, leading to an increase in cheating. This, they argued, is because teachers would have no way to know who the student was communicating with or what materials the student was accessing. Anwar et al. (2022) showed that students can make an attempt to write a response based on their own reasoning, which might result in at least a half point instead of a zero for copying from links, but they do not. Abd Rahman et al (2021)'s study showed that cheating may still happen, since 16.8% of participants thought that e-assessments would make cheating and plagiarism more common, and 12.6% said they would cheat or plagiarize themselves. A further challenge of e-assessment is the lack of technological infrastructure development, particularly at some HEIs

in developing nations because of their poor financial resources (Way, 2012; Mirza, 2021; Anwar et al., 2022). Furthermore, many lecturers are unfamiliar with technology, making it difficult for them to implement an E-assessment system in their subjects for the first time (Mirza, 2021; Anwar et al., 2022). Another obstacle is the difficulty of evaluating group projects. It is hard to monitor communication skills, evaluate group work, assess each member and the whole group, and provide feedback using only a computer (Alruwais et al., 2018; Mirza, 2021). Lastly, Masood & Qaddomi (2022) mentioned other challenges that both lecturers and students faced during the transitional phase of e-assessment are internet connection, digital literacy, and mental and physical health.

### ***Solutions on E-assessment***

To overcome the challenges presented by e-assessment these days, it is essential to have solutions to minimize the drawbacks of this type of e-assessment. For the e-assessment system to work better, there must be support for infrastructure, a steady supply of electricity, and digitally skilled lecturers and other relevant employees. On the other hand, the design of the e-assessment is also important. E-assessment's content, features, scale, time, and costs are all factors to be considered. This e-assessment must be designed such that it can handle any difficulties that may arise (Wuisan & Wibawa, 2019). Accordingly, A Sa'di et al (2021) provided a list of recommendations for addressing challenges faced by lecturers, such as university and lecturers' readiness, cheating, plagiarism, control in the practices of summative e-assessment, technical issues with the auto grading system, web server overload and the objectivity of e-questions. Moreover, Ridgway et al. (2004) claimed that the most effective way to handle e-assessment is to measure the correlation between computer and human judges as well as the correlation between the scores of two human judges. Using a locked-down browser in conjunction with footage from physical cameras is also the most useful approach to catch students' cheating in/ after e-exams (Von Gruenigen et al., 2018).

### **Research Questions**

In order to achieve the purposes of the study, the following research questions are to be answered:

1. What solutions on e-assessment methods and tools are recommended for foreign language lecturers?
2. To what extent do the lecturers evaluate the necessity and feasibility of the solutions on foreign language e-assessment methods and tools?

### **Methods**

#### ***Participants***

In September 2022, an online questionnaire was sent through Google Form to 50 foreign language lecturers at USSH-VNU-HCM. These lecturers have implemented e-assessment in their subjects since the beginning of COVID-19, and as such, they have a wealth of experience and insight to share. There were 31 participants who filled out the questionnaire, for a 62% response rate.

#### **Data Method**

This study was conducted in a quantitative research approach through a questionnaire as a Google Form, consisting of two major sections. The first section of the questionnaire provides a brief description of the research purposes, a definition of e-assessment methods and tools,



and the anonymity of the study. The second section is about lecturers' perceptions of the necessity and feasibility of some solutions on e-assessment methods and tools for foreign language lecturers. It consists of four main solutions, such as solutions on selecting assessment methods compatible with subject goals, exam objectivity, and expected LOs; adjusting and updating new alternative assessment methods for summative assessment; developing methods for designing assessment rubrics; and adopting anti-cheating methods for test designers and proctors (including ten sub-solutions) that can be measured on a five-point Likert scale, structured from "strongly unnecessary" to "strongly necessary" and from "strongly unfeasible" to "strongly feasible".

### Data Collection and Analysis

The present study's target participants are Vietnamese lecturers who teach foreign languages at USSH-VNU-HCM, and its purpose is to determine the degrees of necessity and feasibility of some solutions on e-assessment methods and tools for foreign language lecturers. Therefore, these participants were collected using a convenience sampling method based on their availability and desire to participate in the survey. They have all implemented foreign language e-assessment in their subjects to check their Vietnamese students' foreign language proficiency.

In the present study, the validity and reliability of the questionnaire were examined by Cronbach's  $\alpha$  test. In this study, values of factors ranged from 0.774 and 0.963 (Table 1), which were higher than 0.7 - the level of ensuring validity and reliability of the research by Field (2013).

Table 1

*Validity and reliability indexes with Cronbach's  $\alpha$  coefficient*

Solutions	Cronbach's $\alpha$
Selecting assessment methods that are suitable for the courses' expected LOs	.793
Adjusting and updating new alternative assessment methods for summative assessment	.774
Developing methods for designing assessment rubrics	.799
Adopting anti-cheating methods for test designers and proctors	.963

After this test, descriptive statistics through mean (M) and standard deviation (SD) using SPSS 26 were applied to figure out how important and possible the aforementioned solutions were.

### Findings

#### *Solutions on e-assessment methods and tools for foreign language lecturers*

##### **1. Selecting assessment methods that are suitable for the courses' expected LOs (SL1)**

When designing the assessment forms, lecturers should consider the compatibility of the exercise forms with the course objectives, the objectivity of the exams, and the expected LOs (Anderson and Krathwohl, 2001). Also, multiple-choice questions and closed-ended essays need to be replaced with questions that require higher-level thinking skills, such as open-ended essays, projects, group work, etc. In Table 1 below, we give some examples of assessment types that are thought to be appropriate for each expected LO.

Table 2

*Examples of assessment types are appropriate for each expected LO*

	<b>LOs</b>	<b>Examples</b>
1	Describe	Assignments, essays
2	Explain	Assignments, essays, presentations
3	Synthesize	Projects, assignments
4	Analyze	Research, typical situation analysis, assignments
5	Apply	Project, case study, experiment, test
6	Problem solving	Project, case study, experiment, test
7	Create	Project, experiment, test, poster
8	Communicate	Learning tasks: presenting, debating, role-playing, reporting, interpreting, answering questions, etc.

The construction of an e-assessment system has given lecturers opportunities to design multimedia assignments with vivid graphics and sounds. In practice, however, their preparation requires a great deal of time, and the chance of reuse is quite low. Additionally, storing this type of assignment demands a fairly large amount of capacity along with a stable and high-speed internet connection. Due to their lack of difficult technical and implementation requirements, typical question types such as short/ long answers, drag and drop (image or text), matching, inference, cause-and-effect, and multiple-choice questions are still highly dominant.

### **Adjusting and updating new alternative assessment methods for summative assessment (SL2)**

In the context of modern education, the use of e-learning has led to the development of alternative assessment techniques. This comprises take-home exams (eg. time-limited and multiple-choice exams), e-portfolios, webinars, self-/ peer-assessment, and continuous assessment (Nkalane, 2018). In order for students to be equipped with 21st century competencies, teachers need to update and modify these new assessment methods. This is because they help boost students' confidence and encourage them to compete with each other during the process of completing any learning task. Segers and Dochy (2001) also discuss the role of portfolios, as well as self- and peer-assessment, in the learning process. They asserted that alternative assessment methods help create motivation for learning and in-depth research as well as develop critical thinking in each student. Further, Xianli (2022) stated that the effects of peer-assessment based on e-portfolios had considerable favorable benefits on L2 students' writing competence. Moreover, e-portfolios may facilitate peer-assessment, systematically check students' writing mistakes, and provide critical feedback in a timely manner.

### **Developing methods for designing assessment rubrics (SL3)**

To assess the quality of student achievement, lecturers must construct assessment rubrics. This solution will assist in identifying the levels of LOs that students are expected to reach upon completion of the course. These levels can be described by different rankings (e.g. excellent, good, average, requiring more effort, etc.) or scores (e.g. 10, 9, 8, 7, etc. – Vietnam's grading scale), which are then summed and combined to provide a final score (e.g. A, B, C, etc.). Multiple rubrics are also used to determine the level of support required, such as independent, limited assistance from lecturers, or substantial assistance from lecturers.

**Adopting anti-cheating methods for test designers and proctors (SL4)**

In this part, we offer some solutions to limit students’ cheating for lecturers, in particular, test designers and proctors for each type of e-exam and specific cheating method as follows:

Table 3  
*Anti-Cheating Methods for Various Exam Types*

<b>Multiple choice tests</b>	
<b>Cheating methods</b>	<b>Solutions</b>
<b>SL4.1</b> Students may look for answers on the internet, sharing the screen with others.	Test questions must guarantee that students cannot search for answers on the internet, and they also must have a depth of knowledge learned in class. In addition, test proctors must randomly check the students' screens to make sure no one is cheating.
<b>SL4.2</b> Students may discuss the test questions by copying and distributing it to chat rooms on various social networks.	Test designers must limit the number of questions per page, shuffle them and their answer options on students' displays, and even lock copy/ paste using Safe Exam Browser.
<b>SL4.3</b> Students may connect their micro-Bluetooth devices to discuss test questions with others or even ask others to take a test on their account.	Students are only allowed to open one account on one computer; Proctors observe students' work and, if in doubt, ask students to share their screen; Students are requested not to discuss anything with others during the exam.
<b>Close-ended question tests</b>	
<b>Cheating methods</b>	<b>Solutions</b>
<b>SL4.4</b> Students ask others to take tests on their behalf, then they send the test answers to students for submission.	The proctors must ask students to write their names on their test papers, sign them, and then place them on the camera for the system to record. The Department of Testing and Quality Assurance needs to randomly check students' handwriting on their scanned tests and compare them with their traditional paper tests.
<b>SL4.5</b> Students may copy answers from other students’ tests.	The test duration must be limited in accordance with the test content so that students do not have enough time to ask others for help.



<b>SL4.6</b>	Students may work collaboratively on the exam (e.g., students may assign someone in charge of answering test questions, then share the answers with others in their chat group).	Lecturers should note the similarities between students' work to identify their cheating.
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**Oral tests**

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	<b>Cheating methods</b>	<b>Solutions</b>
<b>SL4.7</b>	Students receive test questions, send them to others, and get answers back to read in front of lecturers.	Questions and answers must include enough content for students to systematize ideas on paper within five minutes to avoid discussing them with others. Lecturers should ask questions flexibly so that students cannot ask for help.
<b>SL4.8</b>	Students may connect micro-Bluetooth devices to ask others for help.	Lecturers need to ask questions flexibly so that students cannot ask for help.

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**Projects/ Long essays as tests**

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	<b>Cheating methods</b>	<b>Solutions</b>
<b>SL4.9</b>	Students may ask others to complete the tests on their behalf.	Using e-mails or chat apps, students should maintain logs of their group work and submit them together with their tests.
<b>SL4.10</b>	Students are assigned group projects, yet only one or two group members complete them.	Lecturers must create online question-and-answer sessions with students' groups within five to ten minutes to gather information regarding their group work. If the test is an essay, conduct a five-minute online conversation with each group member to determine the test's validity.

***The necessity and the feasibility of solutions on e-assessment methods and tools for foreign language lecturers***

As can be seen in Table 4, the lecturers highly rated the necessity (M>4.31) and feasibility (M>3.81) of some solutions on e-assessment methods and tools. Among these solutions, SL2 had the highest level of necessity (M=4.50), while SL4 - the lowest (M=4.46); however, SL3's feasibility gained the highest degree (M=4.47), while SL4 also reached the lowest degree (M=4.08). Thus, university leaders should invest more time, budget, facilities, and technology to help lecturers enhance the effectiveness of applying e-assessment methods and tools in foreign language teaching and learning.

Table 4

*Descriptive of participants' perceptions about the necessity and feasibility of some solutions on e-assessment methods and tools for foreign language lecturers at USSH-VNU-HCM.*

Solutions	The degree of necessity		The degree of feasibility	
	M	SD	M	SD
SL1	4.47	.621	4.38	.660
SL2	4.50	.672	4.31	.821
SL3	4.47	.567	4.47	.671
SL4	4.46	.77	4.08	1.033
SL4.1	4.56	.619	3.94	1.014
SL4.2	4.62	.554	4.09	1.027
SL4.3	4.34	.865	3.81	1.203
SL4.4	4.53	.621	4.06	.878
SL4.5	4.47	.761	4.09	.928
SL4.6	4.47	.803	4.06	1.076
SL4.7	4.41	.875	4.25	.950
SL4.8	4.44	.878	4.31	.931
SL4.9	4.44	.759	4.06	1.162
SL4.10	4.31	.965	4.13	1.157

## Discussion

The research findings indicated what solutions on e-assessment methods and tools should be conducted and how foreign language lecturers at USSH-VNU-HCM evaluate their necessity and feasibility in the current situation. The majority of the lecturers, in particular, agreed that all of the offered solutions were both essential and possible. Hence, these findings will assist in addressing gaps in the theoretical and practice literature surrounding this issue.

Most of the previous research, not just in Vietnam but also worldwide, has investigated the challenges lecturers have encountered with e-assessment and provided ways to enhance e-assessment methods. This study focuses on practical solutions on e-assessment methods and tools for foreign language lecturers at USSH-VNU-HCM, especially solutions to avoid cheating, whereas A Sa'di et al (2021) proposed general e-assessment solutions based on the challenges faced by lecturers at HEIs in Jordan. Additionally, the recommendations of this study state that e-assessment's design needs to concentrate on its content, the university's infrastructure, and the teaching staff's digital skills, which supports the study's findings discovered by (Wuisan and Wibawa, 2019). We mentioned that solutions to cope with cheating in tests in the form of projects/ long essays require the correlation between computer and lecturers' judges as well as the correlation between the scores of students' and lecturers' judges after submitting students' tests, in agreement with Ridgway et al. (2004). Furthermore, integrating a locked-down browser with recordings from physical cameras is one of the most crucial factors that we should apply in e-assessment for all tests, which is similar to Von Gruenigen et al (2018)'s research results. Nevertheless, hardly any research has examined the necessity and feasibility of solutions to enhance foreign language e-assessment in HEIs; thus, the study's results cannot be discussed. More research needs to be done in this field to fill this gap in the literature.

Previous studies highlighted the benefits of e-assessment in teaching and learning (Binsaif et al., 2021; Aburumman, 2021; Ali & Dmour, 2021; Eltahir et al., 2022; Ningsih et al., 2021;

Laborda & Penalver, 2018; Way, 2012; Burner, 2015; Mirza, 2021; Luthfiyyah et al., 2021; Prastikawati, 2021; Anwar et al., 2022). This is a reason why administrators and policymakers in HEIs in general and USSH-VNU-HCM in particular should include this type of assessment when designing curriculum to enhance students' LOs. However, they need to consider implementing solutions to limit its drawbacks.

The results are not generalizable and cannot reflect the perspectives of all foreign language lecturers in HEIs about the necessity and feasibility of solutions on e-assessment methods and tools. To make the study more valuable, more research could be done with a wider range of stakeholders, like lecturers from different HEIs.

### Conclusion

In this study, we clearly presented some solutions on e-assessment methods and tools for foreign language lecturers and explored their necessity and feasibility through the perspectives of USSH-VNU-HCM's foreign language lecturers. The research findings revealed that all solutions are considered necessary ( $M > 4.31$ ) and feasible ( $M > 3.81$ ). Therefore, foreign language lecturers should implement these solutions to make e-assessment more effective in higher education. Even though the results of this study help fill a gap in the literature regarding both the theory and practice of e-assessment solutions, further studies should be conducted with a larger sample of lecturers from other universities in Vietnam in order to obtain more extensive empirical data on evaluating the necessity and feasibility of e-assessment solutions.

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