A Study on the Effectiveness of Moodle E-Assessment at a Private University in Ho Chi Minh City

Chau Thuc Quyen[1], Vo Thi Bich Phuong[1*]

[1] Ho Chi Minh City University of Foreign Languages – Information Technology, Vietnam
[*]Corresponding author's email: phuong.vtb@huflit.edu.vn
[*] https://orcid.org/0000-0003-0700-7080
https://doi.org/10.54855/ijte.26611

Received: 28/08/2025 Revision: 25/12/2025 Accepted: 12/01/2026 Online: 16/01/2026

ABSTRACT

Moodle-based assessment, a widely used form of e-assessment, offers a comprehensive list of assessment tools and features that support student-centered teaching and has been increasingly adopted in Vietnam, especially since the COVID-19 pandemic. This study aimed at examining the effectiveness of Moodle-based assessment in final exams within the Faculty of Foreign Languages, HCMC University of Foreign Languages – Information Technology (HUFLIT). The study involved the participation of 1558 students from the Faculty of Foreign Languages. A mixed-methods approach, incorporating a 5-point Likert-scale questionnaire and focus group interviews, was employed to collect the data. The results revealed a high level of effectiveness of Moodle-based assessment in final exams across four aspects: reliability, validity, practicality, and acceptability. Alongside its benefits, one of the most common challenges students face is the risk of academic dishonesty and technical difficulties with Moodle-based final exams. From the findings, some pedagogical conclusions were drawn to increase the overall effectiveness of Moodle-based final exams while simultaneously addressing and minimizing their inherent constraints.

Keywords: Moodle-based assessment, final exams, effectiveness

Introduction

Assessment has always been associated with teaching and learning processes in higher education. It serves not only as an indicator of academic success but also supports and shapes learning, providing feedback. According to Gaba et al. (2021), advances in educational technology and the rise of flexible learning in higher education have significantly increased the use of digital platforms for assessment. E-assessment is defined as using digital technologies to create, distribute, and assess an evaluation. E-assessment is associated with greater efficiency, improved student engagement, and real-time feedback for educators (Gikandi et al., 2011). As higher education institutions seek to replace traditional paper-based assessments with more

CITATION | Chau, T. Q., & Vo, T. B. P. (2026). A Study on the Effectiveness of Moodle E-Assessment at a Private University in Ho Chi Minh City. *International Journal of TESOL & Education*, *6*(1), 1-16. DOI: https://doi.org/10.54855/ijte.26611

flexible and student-centered approaches, understanding how systems like Moodle perform in final examinations becomes essential. This growing reliance on digital assessment systems highlights the need to examine their effectiveness, reliability, and the challenges they pose in real educational contexts.

Among the many e-assessment tools available, Moodle, an open-source learning management system (LMS), has become one of the most widely adopted platforms because it offers a variety of assessment features including quizzes, assignments, rubrics, and feedback modules (Wang & Wang, 2024). These assessment tools and features enable teachers to design structured evaluation processes while giving students greater autonomy in how they engage with coursework. Rather than its individual tools, what makes Moodle pedagogically significant is its ability to facilitate flexible, feedback-rich, and student-centered assessment. Previous studies on Moodle-based assessment have linked its use to greater flexibility, better feedback, and greater learner control (Rashid & Asghar, 2016; Bälter et al., 2013; Divjak et al., 2024). For these reasons, many universities have preferred Moodle as a platform that supports both effective teaching and meaningful student learning (Ortiz-Lopez et al., 2024).

As with most institutions, Moodle has been used as the LMS for Ho Chi Minh City University of Foreign Languages – Information Technology (HUFLIT). It serves as the backbone of the infrastructure for course materials, blended learning, and various assessment activities. In particular, the Faculty of Foreign Languages, the platform supports a range of assessment formats designed to address students' diverse requirements while fostering a learning environment that fully promotes the development of knowledge and language skills. However, while formative assessments such as practice quizzes and weekly assignments are easily automated with Moodle, applying the same methodology to summative assessments, particularly high-stakes final exams, raises concerns about their pedagogical soundness and trustworthiness. The reason is that most current final exams are in multiple-choice format. The level of accountability for comprehensive assessment has raised the question of whether multiple-choice tests alone meet the assessment requirements. Multiple-choice tests are fast to administer and easier to mark, but they have demonstrated inadequacies in assessing critical thinking, creativity, and the applied use of language knowledge in real-world situations (Wahas & Syed, 2024). Therefore, it is important to explore alternative combined assessment formats on the Moodle platform to offer a wider range of assessments of students' language competencies and to ensure assessment integrity.

This study aims to investigate the effectiveness of Moodle-based e-assessment in final exams at HUFLIT from students' perspectives in the Faculty of Foreign Languages. This study also seeks to identify the benefits and challenges of Moodle in final exams through user experience and to offer suggestions based on its advantages and challenges in the learning and teaching process.

The questions were developed to capture students' experiences – both positive and negative – when using Moodle for final assessment. The study sought to provide an overall picture of the Moodle LMS's effectiveness in final assessments from students' perspectives and to offer recommendations to improve the system's quality and suitability. A deeper understanding of the benefits and challenges of using Moodle for assessment would also increase students' understanding of the role of technology-enhanced assessment in higher education, enhance student engagement and digital literacy, and, most importantly, provide students with opportunities for learner autonomy and lifelong learning.

Literature Review

The use of Moodle in education

Moodle, short for Modular Object-Oriented Dynamic Learning Environment, is a leading open-source learning management system (LMS) that supports online, blended, and hybrid learning. It was produced by Martin Dougiamas, an educational researcher, in the early 2000s. Moodle has since gained prominence in education worldwide, especially in developing contexts. Recently, its use for digital course delivery and assessment has been adopted widely across many universities in Vietnam. Moodle is an LMS that supports integrated learning tools, such as online quizzes, discussion forums, wikis, rubrics, and assignment submissions, as well as real-time feedback (Ellaway & Masters, 2008; Koneru, 2017; Gamage et al., 2022). All these tools are easily modified to accommodate various pedagogical models, allowing instructors to design collaborative learning activities, support interaction, scaffold students' understanding, and build assessment tasks with intended learning outcomes.

Moodle's design principles are grounded in social constructivist learning theory, which promotes learning through engagement, collaboration, reflection, and knowledge co-construction within learning communities (Dougiamas & Taylor, 2003). This theoretical foundation is also inherent in Moodle's interaction tools, intended to support dialogue and engagement rather than simply the delivery of content within learning communities. In addition to flexibility, Moodle's open-source nature and ongoing development by the global developer and educational communities enable unique customization and improvements that can accommodate institutions with varying levels of technological support.

In Vietnam, Moodle is one of the most widely used LMS platforms, especially in public and applied universities, thanks to its low cost, ease of use, and compatibility with e-learning and flipped classroom environments (Vuong, 2023; Tran, 2024). Moodle also provides built-in assessment tools that allow institutions to facilitate digital assessments such as final assessments in a way that is consistent with the current changes associated with educational reform policies embracing digitalization in higher education in Vietnam. In this respect, Moodle is not simply a technological tool, but rather a pedagogical environment that fits in with broader changes in the perception of learning and assessment in modern higher education.

Assessment tools and features of Moodle

Regarding e-assessment tools on Moodle, there are many academic and practical advantages which make Moodle an attractive e-assessment tool in higher education (Ellaway & Masters, 2008; Nicol, 2007; Maier et al., 2016; Al-Qdah & Ababneh, 2017; Yonker, 2011).

Firstly, Moodle empowers instructors with assessment formats that can accommodate many objective items such as multiple choice, matching, and true/false, as well as subjective formats including essays, and open-ended questions, and instructors can plan with those assessments to help meet intended learning outcomes and cognitive demands, while engaging students at a deeper level of understanding and less at rote memorization. In addition, the incorporation of rubrics, question banks, and randomizing items adds another layer of validity, security, and scalability to the assessments (Yonker, 2011).

Secondly, Moodle also improves the effectiveness and accuracy of the assessment process through features such as randomized questions and automated grading, which mitigate the potential for human error and bias (Nicol, 2007; Maier et al., 2016; Bälter et al., 2013; Ellaway & Masters, 2008). Moreover, the platform includes interactive elements such as item shuffling, and immediate feedback which support learner engagement and active learning (Al-Qdah &

Ababneh, 2017). Immediate feedback helps students quickly identify knowledge gaps and motivates them to adjust their learning strategies, thereby enhancing performance. Consequently, it is unsurprising that even simple diagnostic quizzes with e-assessment feedback yield measurable improvements in retention, exam skills, and self-regulation (Bälter et al., 2013).

Taken together, these features provide a flexible, student-centered, scalable approach to Moodle-based assessment for universities, while continuously improving their assessment systems to meet the demands of a changing higher education system.

Challenges of e-assessment via Moodle

Although there are many benefits to using Moodle for e-assessment, there can also be substantial challenges that limit its success and credibility for higher education practitioners. Among them, a major issue concerns technical constraints, such as limited internet access, device incompatibility, as well as users' limited technical competence and inadequate training in e-learning pedagogy (Cao, 2023). These challenges can significantly disrupt the assessment process, increase student stress, and yield unsatisfactory or even inequitable results. The broader digital divide also poses challenges. For instance, students with limited access to appropriate devices, or more generally, low levels of digital literacy, may not be able to fully utilize Moodle's capabilities, which actually reduces the equity of the assessment experience (Xu & Mahenthiran, 2016).

In addition, the issue of academic integrity in Moodle-based assessment is ongoing. The online setting offers opportunities to cheat and engage in corresponding misconduct, all of which compromise the validity of the results. Research has demonstrated that students often believe e-assessments are more likely to be dishonest than traditional face-to-face examinations, raising concerns regarding fairness and reliability (Dermo, 2009). Even though Moodle includes question randomization, time limits, and restricted access periods, potential issues of academic dishonesty may remain (Farrell & Rushby, 2016). Crawford et al. (2020) found that additional security measures, such as two-factor authentication and AI-assisted remote proctoring, are necessary to ensure the integrity of online assessments. If sufficient safeguards are not in place, the cost of a lack of academic integrity undermines the assessment process and trust in digital evaluation within higher education institutions.

Another issue concerns the pedagogical design and validity of Moodle assessments. While Moodle provides a variety of tools, its success largely depends on instructors' ability to design assessments that align with the desired learning outcomes, foster higher-order thinking, and be valid and reliable. In practice, many instructors lack sufficient experience or training in designing digital assessments, resulting in poorly designed quizzes that fail to assess students' true understanding or higher-order thinking skills (Sorensen, 2013; Öz, 2014; Farrell & Rushby, 2016). Because of the lack of targeted professional development, Moodle's potential to enable deep, authentic learning has not been fully realized.

In summary, while Moodle-based e-assessment offers enormous opportunities, it currently faces challenges due to structural barriers, disparities in student preparedness, vulnerabilities to academic integrity violations, and a lack of pedagogical knowledge. The first step towards improving the legitimacy, equity, and educational value of digital assessment in higher education is to understand and address these challenges.

Previous studies on Moodle-based assessment in Vietnam

A collective body of Vietnamese research on e-assessment and Moodle consistently highlights its benefits and limitations in local educational contexts. Many studies have confirmed that e-

assessments using Moodle have positive effects on student learning outcomes and overall satisfaction or experience. For example, Huynh-Cam et al. (2021) reported a significant increase in English listening and reading performance among university students, while Vuong (2023) found strong acceptance of Moodle in a flipped grammar classroom and concluded that perceived usefulness and perceived ease of use had the greatest impact. Vuong's findings are consistent with the international literature on Moodle's advantages in promoting engagement, flexibility, and personalized feedback. Like Huynh-Cam et al. (2021), Vo (2023) noted that Vietnamese students reported high levels of digital self-efficacy and positive attitudes toward e-exams, with the expectation of being able to address technical difficulties and issues of academic integrity.

On the other hand, Moodle-based assessment challenges have now been widely studied. Tu and Luong (2021) identified decreased motivation and increased frustration due to technical disruptions, limited opportunities for peer interaction, and limited teacher support in a fully online context. Additionally, Tang et al. (2022) found that, in Moodle e-assessment, an instructor's adoption and use of this tool are influenced by participants' computer self-efficacy and perceived ease of use. Their research suggests that competence in technology and organizational-level training remain key components in the successful integration of Moodle-based assessments.

Conceptual framework

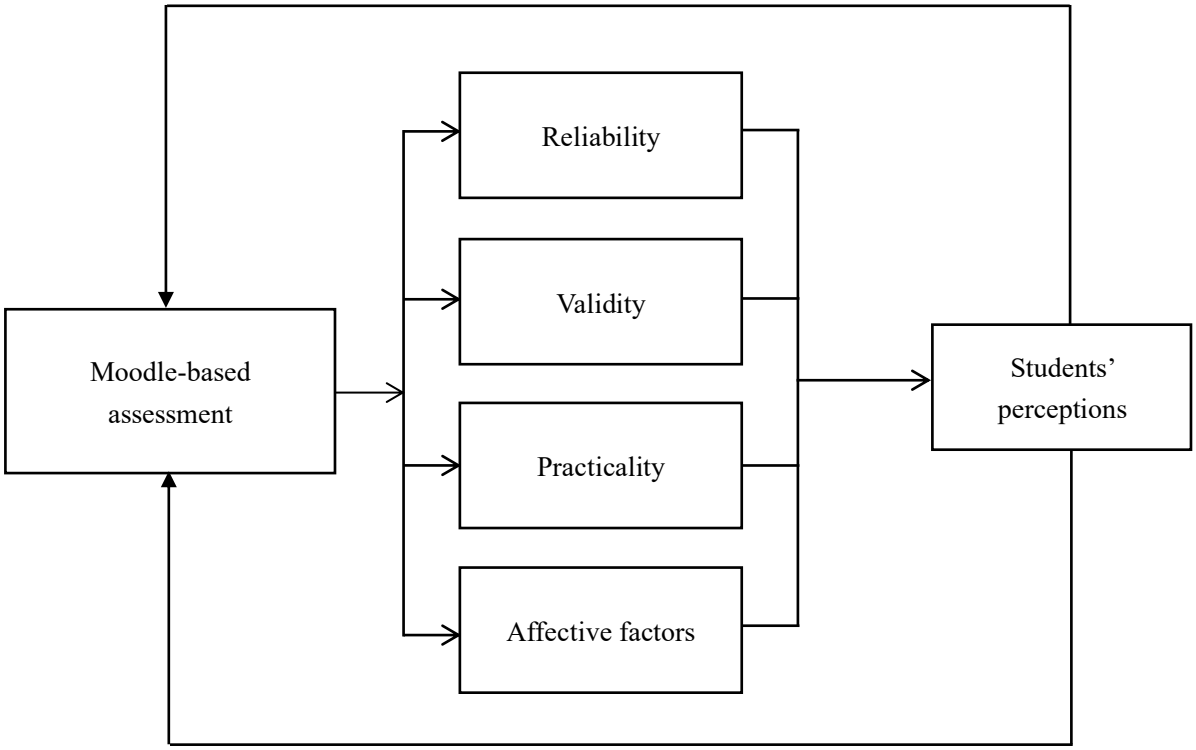
Research shows that when interface design is improved, instructions are clear, and ongoing support is available, users are more satisfied with their computer-based assessment experience. The benefits of adaptive, scenario-based assessment and feedback opportunities can also better serve learners' needs, helping them feel confident and independent in their learning (Crawford et al., 2020).

This research is based on the theoretical framework proposed by Alhazmi et al. (2015), as shown in Figure 1. However, there have been some changes and additions to reflect the context of the Faculty of Foreign Languages at HUFLIT, in order to gather indications from both lecturers and students on topics, including:

- Reliability: Assesses Moodle's consistency as an assessment tool, ensuring stable performance and dependable functionality across test sessions.
- Validity: Assesses the accuracy with which Moodle measures students' knowledge and competencies, ensuring that the assessment aligns with intended learning outcomes.
- Practicality: Assesses the usability and operational effectiveness of Moodle in managing assessment activities, including test creation, administration, grading, and feedback delivery.
- Affective factors: Explores participants' emotional responses and overall satisfaction with Moodle's implementation in assessment contexts, including anxiety, motivation, and perceived fairness.

Figure 1:

Conceptual Framework for Moodle-based Assessment (Adapted from: Alhazmi et al., 2015)



Accordingly, issues related to assessment activities on the Moodle platform will be discussed and refined for future course implementations.

To sum up, the inclusion of computer-based assessment into Moodle can offer considerable benefits and also specific problems. While e-assessment can save time, reduce costs, and provide instant feedback, it can create a range of potential issues that affect academic integrity, accessibility, and the development of powerful critical thinking skills.

Going forward, research and development in digital assessment should consider a variety of assessment methods that can balance the efficiency of deep learning, optimize security and pedagogy, and ensure usability for all types of learners. Given that a small number of studies have systematically investigated students' perceptions of Moodle-based assessment, this study focuses on how Moodle-based e-assessment affects students during final exams, specifically in the context of organizations such as HUFLIT. It aims to investigate the effectiveness of Moodle e-assessment, thereby adding further literature on the pedagogical validity and strategic application of online assessment in Vietnamese higher education.

Research Questions

The current study seeks to address the following research problems:

1. What is the level of students' satisfaction with Moodle-based final exams at HUFLIT?
2. What practical measures can be implemented to improve the quality of Moodle-based assessment?
3. What practical measures can be implemented to improve the quality of Moodle-based assessment?

Methods

Pedagogical Setting & Participants

This study was implemented at the Faculty of Foreign Languages, HUFLIT. Moodle-based final exams have been held for selected courses offered by both the English and Chinese Language Departments since the third semester of the 2023-2024 academic year. Final exams using Moodle are delivered in computer labs under strict invigilation. Students are required to sit at assigned computer rooms, log in with institutional credentials, and complete the exam within a fixed time frame while being monitored by invigilators to ensure academic integrity. To achieve the purpose of the current study, convenience sampling was employed to recruit first-, second-, and third-year students who had previously experienced final assessments on the Moodle LMS system within the Department, with demographic information as described in Table 1 below.

Table 1.

Students' demographic information

Variables		**Number**	**Percentage**
Gender	Male	327	21%
	Female	1231	79%
Year at university	1st	431	27.7%
	2nd	567	35.9%
	3rd	560	34.2%
Major	English Studies	860	55.2%
	Chinese Language	698	44.8%
GPA	Excellent	150	9.6%
	Good	319	20.5%
	Fair	864	55.5%
	Poor	225	14.4%

Design of the Study

To explore students' perceptions of Moodle-based final exams, this study used a mixed-methods approach combining quantitative and qualitative research methods. Quantitative data were collected using a five-point Likert scale questionnaire, ranging from "strongly disagree" to "strongly agree". The questionnaire was adapted from Dermo (2009), Almuhanna (2023), and Adanir et al. (2020), with 25 total items for students. It was structured into four dimensions: Reliability (4 items), Validity (7 items), Practicality (7 items), and the Affective Dimension (7 items). Cronbach's Alpha was subsequently calculated for each questionnaire dimension to assess internal consistency. A summary of the reliability scores for each questionnaire dimension was presented in Table 2.

Table 2

The reliability scores of the questionnaire

Dimension	**Cronbach's Alpha**	**N of Items**
Reliability (R1-R4)	.690	4
Validity (V1-V7)	.796	7
Practicality (P1-P7)	.761	7
Affective factors (A1-A7)	.705	7

In addition, follow-up semi-structured interviews were conducted with 89 students who volunteered to explore in detail participants' experiences with the final assessment on the LMS. The qualitative findings in this study served as a supplement tool to clarify the results obtained

from quantitative surveys.

Data collection & analysis

An online questionnaire via Google Forms was administered to 1558 first-, second-, and third-year students in the Faculty of Foreign Languages, HUFLIT. Later, 89 students who volunteered to participate in semi-structured interviews were invited. The quantitative data collected via questionnaires were analyzed using SPSS version 26.0. Descriptive statistics, including mean, standard deviation, percentages, independent sample T-test, and ANOVA, were employed. In addition, thematic analysis was used to interpret interview data.

Results/Findings

Students' perceptions of Moodle – based final exams

Table 3

Students' perceptions of LMS Moodle's reliability in final exams (n = 1558)

Statements	Mean	Stand. Dev.
R1. Marking is more accurate, because computers don't suffer from human error.	3.89	1.019
R2. Grades for online assessments are secure.	4.06	0.886
R3. It is easier to cheat on online exams than with paper-based exams.	3.23	1.336
R4. Username-and-password login provides adequate security for online exams.	4.04	0.908
Reliability	**3.80**	**0.815**

Table 3 showed students' perceptions of LMS Moodle's reliability for final exams. Overall, students reported positive viewpoints on the system's accuracy and security, with a high mean score (M = 3.80, SD = .0815). Particularly, students agreed that computer-calculated scores were more accurate because of the absence of human error (R1, M = 3.89, SD= 1.019, their scores were secured (R2, M = 4.06, SD = 0.886), and the login process with personal username and password was safe (R4, M = 4.04. SD = 0.908).

However, students' viewpoints for online cheating (R3, M = 3.23, SD = 1.336) were divergent. The students remain neutral about whether it's easier to cheat on Moodle during final exams. Although LMS Moodle was generally trusted by students for its accuracy and security, anti-cheating measures were emphasized to enhance the reliability of online final assessments.

Qualitative findings from semi-structured interviews suggest concerns in their friends' dishonest behaviors during the test when "some students might open other tabs or applications to cheat". Students described other cases of cheating: "If I don't know the answer, I can just turn to the person next to me and I only need to glance slightly to see the entire question and answer on the bright, large computer screen. Unlike on paper, you'd have to lean over completely or wouldn't even be able to read the question clearly."

Table 4

Students' perceptions of LMS Moodle's validity in final exams (n = 1558)

Statements	Mean	Stand. Dev.
V1. Online assessment is appropriate for my subject area.	3.82	1.006
V2. My subject area is too complex to be dealt with by online multiple-choice questions.	3.47	1.134
V3. Online exams have an important role to play at tertiary level.	3.99	0.903
V4. Computerized exams align with contemporary university learning approaches.	4.01	0.910
V5. Computerized exams need to include a variety of question types to fully test knowledge.	3.80	1.009
V6. The types of questions align with the course's learning objectives.	3.91	0.913
V7. The duration of the electronic test is sufficient in relation to the number and nature of questions.	3.78	1.025
Validity	**3.82**	**0.795**

Table 4 presents students' perceptions of the validity of Moodle-based final exams. The results revealed an overall positive evaluation, with M = 3.82 and SD = 0.795. Notably, the highest number of agreements was observed in the consistency between computer-based assessments and modern university learning methods (V4, M = 4.01, SD = 0.910) and the important role of computer-based assessments in the current era of technology-integrated education (V3, M = 3.99, SD = 0.903). Although the concern about the complexity of course knowledge was expressed as not fully captured by multiple-choice questions (V2, M = 3.47, SD = 1.134), the students agreed that Moodle-based assessment practices were appropriate for the specific requirements of the courses (V1, M = 3.82, SD = 1.006). Moreover, strong agreement was expressed regarding the alignment between exam question types and course learning objectives (V6, M = 3.91, SD = 0.913), the appropriateness of the allocated exam time (V7, M = 3.78, SD = 1.025), the knowledge evaluation through various question formats (V5, M = 3.80, SD = 1.009).

Table 5

Students' perceptions of LMS Moodle's practicality in final exams (n = 1558)

Statements	Mean	Stand. Dev.
P1. Online assessments use less paper, which is important to me.	3.93	1.034
P2. Technical problems make online exams impractical.	3.72	1.064
P3. The system provides clear instructions, including the number of questions, how to answer them, and the test duration.	3.99	0.930
P4. The system saves the answers automatically, in the event of an Internet failure.	4.04	0.972
P5. The system allows the student to skip some questions and return to them again to answer.	4.22	0.851
P6. It is easy to contact the technical team if there are any technical problems.	3.92	0.990
P7. Doing exams in the campus computer labs is practical and convenient.	3.97	0.953
Practicality	**3.97**	**0.763**

Table 5 explored students' perceptions of Moodle's practicality for final exams. The results indicated that students' overall perceptions were positive with an average score of 3.97 (SD = 0.763), showing a high level of agreement. Particularly, students expressed their appreciation for taking final exams on computers for paper savings (P1, M = 3.93, SD = 1.034), user-friendly

interface (P3, M = 3.99, SD = 0.930), and the idea of conducting final exams on computers (P7, M = 3.97, SD = 0.953). Additionally, students highly valued several technical features, including the automatic saving of responses during internet connection disruptions (P4, M = 4.04, SD = 0.972) and the ability to skip and return to questions later (P5, M = 4.22, SD = 0.851). However, some technical difficulties during the exam and the need for accessible technical support were also mentioned here (P2, M = 3.72, SD = 1.064) and (P6, M = 3.92, SD = 0.990), respectively.

Furthermore, some concerns regarding technical difficulties were also mentioned by several students during the interview, such as:

> *"There were times when I couldn't turn on the computer, or the screen went completely black during the test."*
>
> *"While doing the test, the system froze, lagged, or I got logged out in the middle of the exam."*
>
> *"Sometimes the system lagged so badly I couldn't log in and had to switch to another computer while taking the test."*

Despite easy access to technical support teams during the exams, some students also expressed concerns about the stability of the schools' internet connection and computer infrastructure, and the worry that they may have to retake the test if the problems cannot be resolved immediately.

Table 6

Students' perceptions of LMS Moodle's affective factors in final exams (n = 1558)

Statements	Mean	Stand. Dev.
A1. I feel more comfortable using electronic tests.	3.96	0.977
A2. I find it easy to concentrate on the questions when doing an online exam.	3.76	1.055
A3. Online exams are more readable.	3.69	1.104
A4. Online exams save marking time.	4.35	0.816
A5. I feel motivated when I get instant scores after the test.	3.98	1.016
A6. The use of electronic tests suits our passion for technology.	3.54	1.126
A7. I prefer typing rather than handwriting essay answers.	3.81	1.138
Affective factors	**3.87**	**0.848**

Students' perceptions of the affective dimension associated with using the Moodle LMS for final exams are illustrated in Table 6, with a generally positive expression (M = 3.87, SD = 0.848). Students reported feeling comfortable taking final exams on computers (A1, M = 3.96, SD = 0.977), better concentration during the exam (A2, M = 3.76, SD = 1.055), and receiving immediate scores after test completion (A4, M = 4.35, SD = 1.104). Moreover, many students reported increased motivation due to instant grading (A5, M = 3.98, SD = 1.016) and a preference for typing over handwriting (A7, M = 3.81, SD = 1.138). However, lower agreement levels were observed in the reading of computer-based tests (A3, M = 3.69, SD = 1.104), especially in the alignment between the final online tests and students' personal interest in technology (A6, M = 3.54, SD = 1.126).

Based on students' insights and both quantitative and qualitative findings, the Department's Moodle-based final assessment should be improved to make it more robust and equitable in the near future.

Differences in students' perspectives

Table 7

Differences among students' gender, academic year, GPAs (n = 1558)

Variables	Test	N	Reliability		Validity		Practicality		Affective factors		Overall effectiveness	
Gender	Independent Sample T-Test		T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.
	Male	327	.785	.013	1.126	.002	5.607	.090	.785	.000	1.895	.005
	Female	1231										
Year	One-way ANOVA (F)		F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
	1st	431	17.241	.000	14.256	.000	10.419	.000	16.296	.000	16.933	.000
	2nd	567										
	3rd	560										
GPA	Excellent	150	3.293	.020	4.130	.006	3.568	.014	7.846	.000	5.015	.002
	Good	319										
	Fair	864										
	Poor	225										

Table 7 compared differences in students' perceptions of Moodle–based final assessment practices by gender, academic year, and GPA. Specifically, the T-test revealed a statistically significant difference in perceived awareness between male and female students (Sig. = 0.005), indicating that gender influenced how students experienced the Moodle-based final assessment. These general perceptual differences are rooted in variations among students' learning styles, technological familiarity, and differences in expectations between the genders. Notably, no significant differences were observed in reliability or practicality (Sig. > 0.05), indicating that both male and female students perceived the Moodle LMS's technical aspects similarly.

Results from ANOVA analysis uncovered significant differences across all measured dimensions among first-, second- and third-year students (Sig. = 0.000). The numbers indicated that students at different academic levels held divergent perceptions of Moodle-based final assessment practices. Second- and third-year students were more likely to focus on practicality, technical efficiency, and user issues than first-year students, who had only initial impressions.

Additionally, ANOVA findings demonstrated that students' GPAs had a significant impact on students' perceptions of overall effectiveness, validity, and affection (Sig. = 0.000 - 0.002). Students with excellent and good APA tended to rate positively in terms of reliability, validity, and overall effectiveness. Such findings reflected students' strong ability to adapt to the Moodle-based final assessment and their better self-regulated learning skills compared to students with average and low GPAs. Students with lower GPAs usually encountered difficulties during the tests, leading to a higher level of anxiety, technical difficulties, and emotional aspects. The general findings from this section highlighted the need for technical support, usage training, and instructional guidance for lower-achieving students to ensure the equity in LMS Moodle-based final assessment experience.

Discussion

The purpose of the current study is to investigate the effectiveness of Moodle in final exams at the Faculty of Foreign Languages, HUFLIT. Based on quantitative and qualitative data analysis, the following major findings were identified.

Firstly, the results indicated that students expressed a high level of satisfaction with Moodle-based final exams across four dimensions: reliability, validity, practicality, and affective factors. Specifically, the reliability of Moodle-based exams was reported to be consistent, particularly in automatic grading and login security, ensuring stable performance and dependable functionality across different test sessions. This finding aligns with Alhazmi et al. (2015), who stated that students' positive perceptions of system accuracy and secure login procedures support its reliability, demonstrating that Moodle can consistently deliver assessments under monitored exam conditions. In addition, the participants hold positive views on the validity of Moodle-based final exams, particularly their consistency with modern learning approaches at university and their important role in higher education. This reflects the fact that Moodle-based final exams accurately assess students' knowledge and competence. This finding aligns with the conclusions of Rashid & Asghar (2016), Bälter et al. (2013), and Divjak et al. (2024) regarding Moodle's ability to support flexibility, enhanced feedback, and learner autonomy. Considering the practicality of Moodle-based final exams, the positive results suggest that Moodle is useful and effective across all assessment-related procedures, including test creation, administration, grading, and feedback delivery. Notably, students rated affective factors related to Moodle-based exams highest, feeling more comfortable and motivated when receiving instant scores. This increase in motivation resulting from immediate grading reinforces the findings of Bälter et al. (2013), who found that instant feedback from e-assessment can significantly enhance retention, test-taking skills, and learners' self-regulation. Moreover, in the context of higher education in Vietnam, this study aligns with the findings of Vo (2023) and Tang, Nguyen, and Tran (2022), who reported positive attitudes among students towards the effectiveness of Moodle LMS as a channel for assessments. In short, the results suggest that Moodle-based exams are an effective alternative to traditional paper-based exams.

Secondly, despite overall satisfaction, two key challenges emerged: academic integrity and technical reliability. Regarding reliability, students are neutral or unsure about whether online cheating is easier than cheating on paper-based examinations. Although they expressed trust in login security, qualitative concerns about opening other tabs or applications to cheat, or about the ease of looking at a peer's screen, were noted. This reflects the view in the literature that online exam environments create opportunities for misconduct, which leads to undermined validity of exam results. This finding is also similar to Dermo's (2009) results, which showed that students were more skeptical about cheating in e-assessments than traditional exams. In terms of practicality, technical barriers such as computers going black, system freezes, or unexpected logouts were reported as persistent issues in Moodle-based exams, often beyond students' control. These problems are consistent with the challenges identified by Tu and Luong (2021), who stated that technical disruptions, such as unstable internet connections or device limitations, can cause stress, lost time, and performance disadvantages. However, an important contrasting finding in the current study is that although technical problems were present, they didn't reduce students' satisfaction with the system. This differs from the findings of Tu and Luong (2021) and Vuong (2023) who reported the generally negative attitudes towards many aspects of Moodle-based assessments as well as challenges related to technical problems. Moreover, the user interface and exam navigation were additional challenges in Moodle-based exams. Some students found scrolling through long reading passages difficult, suggesting that unnecessary switching between text and questions may disrupt students' concentration and

memory retention. This result highlights the need for technical design features, such as double-scrolled screens that support long reading text, to improve Moodle's user-friendliness in final exams. In addition, the findings also show performance-related inequalities. The students with lower GPAs experienced more stress and anxiety in Moodle-based exams, reflected through their low overall satisfaction with the system. This result suggests that students with stronger academic performance may find Moodle empowering and convenient, while those with weaker academic performance may feel disadvantaged, leading to heightened anxiety during exams. This result underscores the need for pedagogical measures, such as practice tests and orientation sessions, to reduce the achievement gap among students.

Conclusion

The purpose of the current study is to investigate the effectiveness of Moodle-based final exams at the Faculty of Foreign Languages, HUFLIT. The findings highlight high student satisfaction and key challenges related to academic integrity and technical reliability. Based on the findings, the following pedagogical suggestions are drawn.

Firstly, to improve the effectiveness of Moodle-based final exams, it is essential to organize training and provide students with detailed guidance on using Moodle, submitting exams, checking results, and handling technical issues. Additionally, offering supporting materials such as instructional videos, infographics, or manuals in advance can help students reduce stress and operational errors during the online exams. The user interface should also be improved for better visual clarity and usability. Some features to consider include a larger font size, a soft yellowish screen tone, and simplified layouts to reduce eye strain. The display of reading and writing online exams should also be revised to the split-screen format. In particular, the left panel could display the reading passage or writing instructions, such as charts or essay-writing topics, while the right panel should show the list of questions or answer boxes. Distinguished scroll bars should be added to each panel so students can easily control the workflow. Automated data backup mechanisms should also be implemented to minimize the risk of data loss. Routine system checks should be conducted to ensure stable operation, particularly during peak examination periods when online exams are run consecutively.

Secondly, the study found that 1st-year students faced greater challenges during online exams than 2nd- and 3rd-year students. More experienced students were often better prepared, more effective in test completion, and more capable of managing technical issues. Based on these findings, differentiated support strategies should be provided for students in the distinguished school-year. In particular, 1st-year students should receive detailed instruction and supplementary guidance for online exams from lecturers and mentors. Meanwhile, 2nd and 3rd-year students may benefit from being reminded of better practices.

This study provided an in-depth examination of the Moodle LMS integration for final exams across courses in the Faculty of Foreign Languages, HUFLIT, with students reporting positive perceptions across the dimensions of reliability, validity, practicality, and affective factors. Students' experiences and challenges were identified and addressed through practical suggestions that target the overall effectiveness and consistency of Moodle-based final exams in the near future. Despite these strengths, concerns regarding academic integrity and technical stability remain significant challenges that must be addressed to ensure fairness and consistency during final examinations. The findings also highlight the need for stronger institutional support – particularly targeted training for first-year students, improved user interface design, and enhanced IT infrastructure – to optimize Moodle-based final exam implementation and promote equitable assessment experiences for all learners.

Acknowledgments

This research is funded by Ho Chi Minh City University of Foreign Languages - Information Technology under grant number H2024-18. The data used in this study were extracted from a university-level research project entitled "A study of practical issues and proposed improvements in the implementation of end-of-term assessments on the Moodle LMS for students of the Faculty of Foreign Languages at Ho Chi Minh City University of Foreign Languages - Information Technology." The project was reviewed and approved by the Research Ethics Committee under approval number 56-2025.

References

Afacan Adanır, G., İsmailova, R., Omuraliev, A. & Muhametjanova, G. (2020). Learners' Perceptions of Online Exams: A Comparative Study in Turkey and Kyrgyzstan. *International Review of Research in Open and Distributed Learning*, *21*(3), 1–17. https://doi.org/10.19173/irrodl.v21i3.4679

Almuhanna, M. (2023). Improving E-assessment based on university students' experiences. *TOJET: The Turkish Online Journal of Educational Technology, 22*(1), 130–143. https://psycnet.apa.org/record/2023-98279-012

Alhazmi, A. K., Zafar, H., & Al-Hammadi, F. (2015). Framework for integrating outcome-based assessment in online assessment: Research in progress. *Science and Information Conference proceedings*, 217-221. https://doi.org/10.1109/SAI.2015.7237147

Al-Qdah, M., & Ababneh, I. (2017). Comparing online and paper exams: Performances and perceptions of Saudi students. International Journal of Information and Education Technology (IJIET), 7(2), 106–109. https://doi.org/10.18178/ijiet.2017.7.2.850

Bälter, O., Enström, E., & Klingenberg, B. (2013). The effect of short formative diagnostic web quizzes with minimal feedback. *Computers & Education, 60*(1), 234–242. https://doi.org/10.1016/j.compedu.2012.08.014

Cao, T. X. L. (2023). Benefits and challenges of using LMS in blended learning: Views from EFL teachers and students at a Vietnamese public university. International Journal of TESOL & Education, 3(3), 78-100.DOI: https://doi.org/10.54855/ijte.23335

Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. A., & Lam, S. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching, 3*(1), 1–20. https://doi.org/10.37074/jalt.2020.3.1.7

Divjak, B., Žugec, P., & Pažur Anićić, K. (2024). E-assessment in mathematics in higher education: A student perspective. *International Journal of Mathematical Education in Science and Technology, 55*(8), 2046–2068. https://doi.org/10.1080/0020739X.2022.2117659

Dermo, J. (2009). e-Assessment and the student learning experience: A survey of student perceptions of e-assessment. *British Journal of Educational Technology*, 40(2), 203-214. https://doi.org/10.1111/j.1467-8535.2008.00915.x

Dougiamas, M., & Taylor, P. C. (2003). Moodle: Using learning communities to create an open-source course management system. In *Proceedings of the World Conference on*

Educational Multimedia, Hypermedia and Telecommunications (pp. 171 - 178). Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/13739/.

Ellaway, R., & Masters, K. (2008). AMEE Guide 32: e-Learning in medical education. Part 1-Learning, teaching, and assessment. *Medical Teacher, 30*(5), 455 - 473. https://doi.org/10.1080/01421590802108331

Farrell, O., & Rushby, N. (2016). Assessment and learning technologies: An overview. *British Journal of Educational Technology, 47*(1), 106–120. https://doi.org/10.1111/bjet.12348

Gaba, A., Bhushan, B., & Rao, D. K. (2021). Factors influencing the preference of distance learners to study through online during COVID-19 pandemic. *Asian Journal of Distance Education*, 16(1), 194-206. https://doi.org/10.5281/zenodo.4965925

Gamage, S. H., Ayres, J. R., & Behrend, M. B. (2022). A systematic review on trends in using Moodle for teaching and learning. *International Journal of STEM Education*, 9(1), 1–24. https://doi.org/10.1186/s40594-021-00323-x

Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers & Education, 57*(4), 2333–2351. https://doi.org/10.1016/j.compedu.2011.06.004

Huynh-Cam, T. T., Agrawal, S., Chen, L. S., & Fan, T. L. (2021). Using Moodle-based e-assessment in English listening and reading courses: A Vietnamese case study. *JIRSEA, 19*(2), 66–92.

Koneru, I. (2017). Exploring Moodle functionality for managing Open Distance Learning e-assessments. *Turkish Online Journal of Distance Education*, 18(4), 129 - 141. https://doi.org/10.17718/tojde.340402

Maier, U., Wolf, N., & Randler, C. (2016). Effects of a computer-assisted formative assessment intervention based on multiple-tier diagnostic items and different feedback types. *Computers & Education, 95,* 85–98. https://doi.org/10.1016/j.compedu.2015.12.002

Nicol, D. (2007). E-assessment by design: using multiple-choice tests to good effect. *Journal of Further and Higher Education*, 31(1), 53–64. https://doi.org/10.1080/03098770601167922

Ortiz-Lopez, A., Olmos-Miguelanez, S., & Sanchez-Prieto, J. C. (2024). Toward a new educational reality: A mapping review of the role of e-assessment in the new digital context. *Education and Information Technologies*, *29*(6), 7053-7080. https://doi.org/10.1007/s10639-023-12117-5

Öz, H. (2014). Turkish Teachers' Practices of Assessment for Learning in the English as a Foreign Language Classroom. *Journal of Language Teaching and Research*, *5*(4), 775–785. https://doi.org/10.4304/JLTR.5.4.775-785

Rashid, T., & Asghar, H. M. (2016). Technology use, self-directed learning, student engagement and academic performance: Examining the interrelations. *Computers in Human Behaviour, 63*, 604–612. https://doi.org/10.1016/j.chb.2016.05.084

Sorensen, E. (2013). Implementation and student perceptions of e-assessment in a chemical engineering module. *European Journal of Engineering Education*, 38 (2), 172–185. https://doi.org/10.1080/03043797.2012.760533

Tang, T. T., Nguyen, T. N., & Tran, H. T. T. (2022). Vietnamese Teachers' Acceptance to Use

E-Assessment Tools in Teaching: An Empirical Study Using PLS-SEM. *Contemporary Educational Technology, 14*(3), ep375. https://doi.org/10.30935/cedtech/12106

Tran, T. M. L. (2024). Blended Learning in EFL Classrooms at a Vietnamese University from Students' Perspectives. *International Journal of TESOL & Education*, *4*(2), 99-117. https://doi.org/10.54855/ijte.24426

Tu, N. P., & Luong, T. K. P. (2021, March). Online language learning via Moodle and Microsoft Teams: students' challenges and suggestions for improvement. In *Proceedings of the Asia CALL international conference* (Vol. 533, No. 978-94-6239-343-1, pp. 106-113). https://doi.org/10.2991/assehr.k.210226.013

Wahas, Y. M. A., & Syed, A. J. A. (2024). E-assessment challenges during e-learning in higher education: A case study. *Education and Information Technologies*, *29*, 1-20. https://doi.org/10.1007/s10639-023-12421-0

Wang, X., & Wang, J. (2024). Comparing Chinese L2 writing performance in paper-based and computer-based modes: Perspectives from the writing product and process. *Assessing Writing*, *61*, 100849. https://doi.org/10.1016/j.asw.2024.100849

Vo, T. K. A. (2023). E-exams in Vietnam's Higher Education: Students' Computer Efficacy and Attitudes. *Asia CALL Online Journal*, *14*(2), 62–79. https://doi.org/10.54855/acoj.231425

Vuong, N. H. A. (2023). Moodle as a potential online platform used in the flipped classrooms in the Vietnamese EFL teaching context. *European Journal of Education Studies, 10*(3), 104 - 116. https://doi.org/10.46827/ejes.v10i3.4710

Xu, H., & Mahenthiran, S. (2016). Factors that influence online learning assessment and satisfaction: Using Moodle as a Learning Management System. *International Business Research*, 9(2), 1–18. http://dx.doi.org/10.5539/ibr.v9n2p1

Yonker, J. E. (2011). The relationship of deep and surface study approaches on factual and applied test-bank multiple-choice question performance. *Assessment & Evaluation in Higher Education, 36*(6), 673–686. https://doi.org/10.1080/02602938.2010.481041

Biodata

Dr. Chau Thuc Quyen is a Vietnamese from Ho Chi Minh City, Vietnam. She holds a PhD in English Language Studies from Suranaree University of Technology. She currently lectures at the Department of Foreign Languages, HUFLIT. Her research interests include Higher-Order thinking skills (HOTS), Critical thinking training, and technology-enhanced language learning.

Vo Thi Bich Phuong is currently a lecturer at HCMC University of Foreign Languages - Information Technology. She earned her MA in TESOL at HCMC University of Social Sciences and Humanities in 2016. Her academic areas of interest predominantly include learner autonomy, TESOL methodology, Computer-assisted language learning, blended learning, and AI in education.