E-exams in Vietnam's Higher Education: Students' Computer Efficacy and Attitudes

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Abstract

The COVID-19 pandemic has brought enormous changes to the educational systems worldwide. Due to the serious COVID-19 situation in Vietnam, most universities moved from offline exams to e-exams. The study was conducted in Vietnam to investigate EFL students' computer efficacy and attitudes toward e-exams. The research employed the mixed method with an in-depth interview and a questionnaire. The number of participants was 1,099 students. The quantitative data were processed using SPSS. Descriptive statistics, independent sample t-test, and MANOVA were calculated for the quantitative data analysis. Furthermore, themes and codes were utilized for the qualitative data. The study showed that students generally had good computer efficacy in performing e-exams and positive attitudes toward e-exams. Yet, students found it stressful to take e-exams due to problems such as cheating, plagiarism, and testing conditions that may arise during the online tests. Specific recommendations like appropriate supporting platforms for e-exams, the consideration of cost, timeliness, the quality of platforms, the combination between the use of e-exams and formative assessment, and what support the university needs to provide for students and lecturers are suggested.

Keywords: E-exams, EFL students, computer efficacy, attitudes

Introduction

E-exams are commonly used in distance education and prove to be very useful for such kind of education. Currently, amid the COVID-19 pandemic, e-exams have been utilized to replace offline ones when social distances have been widely applied (Lo, 2021). In Vietnam, due to the serious situation of COVID-19, most universities had to move from normal teaching to online teaching with e-exams for summative assessment (Vo & Pang, 2021).

The Ministry of Education and Training in Vietnam quickly issued suitable policies to guide teachers and schools to implement online teaching and e-assessment (Ministry of Education and Training, 2020; Pham & Ho, 2020). To facilitate the online teaching and e-assessment process, teachers and schools in Vietnam can adjust their assessments to better adapt themselves to the sudden use of the online teaching mode. Formative assessments such as e-portfolios, projects, and assignments are adopted to evaluate students' performance. At the same time, tests

organized on platforms like Microsoft Team Learning Management System (LMS) are designed for summative assessment in universities in Vietnam (Lo, 2021).

The immediate use of e-exams to assess students brings both teachers and test organizers many challenges, especially in facilities, procedures, cheating, and plagiarism (Bui et al., 2021; Kundu & Bej, 2021; Lo, 2021). Unlike e-assessments in distance learning in which preparations and the careful design of courses and assessment support facilitate the effectiveness of e-exams, the sudden adoption of e-exams when both students and teachers are unfamiliar with them makes the downsides of e-exams become more obvious.

With the hope of gaining certain knowledge of how e-exams were utilized in immediate online teaching in Vietnam, the study was conducted in late 2021. A better understanding of the immediate use of e-exams provides teachers and students with the necessary information to implement e-exams more effectively. In addition, researchers may find it useful for their future studies with information from the research on the use of e-exams in education.

The study aimed to answer the following two research questions:

1. What is students' computer efficacy for e-exams?
2. What are students' attitudes toward e-exams?

Literature review

Concepts of E-assessment

Electronic assessment is understood as a method in which information technology is applied for any assessment-related activities (JISC, 2007). E-assessment is also defined as those which are conducted through websites or the intranet (Ayo et al. 2007). In general, e-assessment is designed to evaluate learners' learning outcomes through media connections like social networks and online platforms.

E-assessment can be conducted in either formative assessment or summative assessment. Assessment for learning is increasingly popular in higher education with different forms, including "virtual world scenarios for professional training, and web-based tools, such as e-portfolios, blogs, and wikis, to develop skills in reflection and self-assessment" (JISC, 2007, p.10). In addition, peer assessment and self-assessment are also used as kinds of formative e-assessment. The summative assessment refers to exams conducted using online tools.

The research presented in this article focuses on the summative assessment with end-of-course online tests conducted for EFL students in higher education institutions in Vietnam.

Advantages and Disadvantages of E-exams

E-exams are more accessible, flexible, efficient, and convenient for learners, teachers, and universities (De Villiers et al., 2016; Hillier, 2014). Unlike paper exams, e-exams provide learners with chances to sit for exams wherever they live, providing that they can have internet-connected devices. In addition, teachers can organize and handle e-exams from their homes. Universities also have no worry about exam places or geographical barriers during the implementation of e-exams.

E-exams are also found to be able to provide students with immediate feedback (Gilbert et al., 2011). With e-exams, teachers do not have to spend much time correcting papers. In contrast, the results of e-exams are obtained quickly after the exams finish. Even students can get results and feedback right after the exams.

Yet, several drawbacks are found when e-exams are used. Firstly, students and teachers may be less confident due to their lack of computer efficacy (Whitelock, 2009). The low computer capacity makes teachers have difficulties in designing e-exams while students with a lack of computer efficacy must confront certain anxieties, causing less confidence among them. Secondly, cheating and plagiarism are concerns of teachers and universities, especially when students take e-exams at home. Studies have found that cheating and plagiarism are more frequent in e-exams than in paper-based tests (Bartley, 2005; Pedersen et al., 2012).

E-exams in Vietnam Higher Education Institutions

Since early 2020, when COVID-19 first appeared in the world, e-exams have been more popular than ever before as they are a suitable solution to maintain students' assessment during the closure of universities due to large social distances. Universities in Vietnam quickly switched from paper exams to e-exams with the application of various online tools or platforms (Bui et al., 2021). Vietnamese lecturers make use of different available platforms like Google Forms. MS Team or Learning Management System (LMS) is used to create e-exams for their end-of-course ones. Some universities have their own e-exam systems that are used for distance education, and now the systems are useful for e-exams in emergencies caused by COVID-19 (Lo, 2021). For example, the University of Foreign Language Studies at the University of Danang has its own e-exam system https://exams.ufl.udn.vn/, which was first designed for online tests for language proficiency tests. The system is then utilized for students' e-exams.

Theoretical Framework

The study was grounded in the Technology Acceptance Model (TAM) theory, first introduced by Davis (1989). According to TAM, the use of technology is measured by individuals' choice to use a specific system, which can be interpreted by their attitudes towards the perceived usefulness and the level of ease of use of such technology. Perceived usefulness refers to the degree to which students believe that the adoption of a particular technology is useful for their performance in study. Ease of use is considered to be the level of effort and freedom from complexities when a technology is used. Bag, Aich, and Islam (2022) stated that the ease of online testing is evaluated by the extent of user-friendliness, the ability to modify the error, and the stress that users may suffer from using such technology. In this research, students' computer efficacy and students' attitudes towards e-exams are the two elements to be investigated for a better understanding of how EFL Vietnamese students accept the adoption of online tests in their English language courses.

Previous Studies

Numerous studies have been conducted on e-exams worldwide, especially when COVID-19 forces schools to shut down. A quantitative study with a sample of 200 students in India indicated that students showed a good perception of the "perceived usefulness of e-exams perceived ease of use, compatibility, subjective norms, and self-efficacy domains"(Kundu &

Bej, 2021, p.114) while they had difficulties due to low awareness, lack of resource facilitation and information technology (IT) support. Similarly, the quantitative research in Jordan revealed that students had positive attitudes towards online testing, though e-exams created anxiety among students, and cheating became more popular as compared with paper exams (Da'asin, 2016).

In Indonesia, it is found that e-exams have negative effects on students' health and cause them to concentrate less on test performance, though they still perceive the usefulness of e-exams (Jamiludin et al. 2018). A quantitative study in Nigeria showed that students had favorable thoughts of e-exams as online tests provided them with chances to edit their answers while taking the tests more easily than in paper-based exams.

A qualitative study conducted in higher education institutions in Vietnam revealed that both lecturers and students had numerous challenges in taking e-exams, such as IT skills and cheating during the exams. Teachers also had to confront more workload and problems with online test design. The study discussed both the use of formative and summative e-assessment; therefore, there was not much deep information regarding e-exams revealed in the findings. In addition, the research did not study students' perceptions of e-exams (Lo, 2021).

All in all, the literature review revealed that learners had different perceptions of e-exams. Thus, the disparities due to geographic features and the teaching and learning context with specific characteristics should be put into consideration in the Vietnamese context. Indeed, there is a gap to be filled in for a good understanding of EFL students' attitudes and computer efficacy in taking e-exams in higher education institutions in Vietnam.

Methods

Research Setting

The research was carried out in higher education institutions in Vietnam in late 2021 when social distance was enacted on a large scale, resulting in the closure of most universities and a switch from conventional learning to online learning. Emergency online courses were thus organized both synchronously and asynchronously as a way to back up the sudden closure of normal courses in universities (Cao, 2022; Nguyen & Nguyen, 2021; Tran & Nguyen, 2022). E-exams were conducted to assess students in general and EFL students in particular.

Research Design

The research adopted the sequential mixed method approach in which the quantitative stage was followed by the qualitative one. After the quantitative data were collected on a large scale, the questions for the interview were designed for deeper information and explanations for findings from the quantitative data. The mixed method increases the effectiveness and reduces the drawbacks of the qualitative and quantitative approaches if used alone (Cohen et al., 2007).

Research Instruments

The questionnaire, which was delivered through Google Forms, has three main parts. The first part was designed to collect personal information such as gender and levels (i.e., first year,

second year, third year, or fourth year). The second part was to collect data on students' computer efficacy, while the third part focused on students' attitudes towards online testing.

The questions for the in-depth interview were designed to obtain deeper information. Such data were intentionally gathered to further support what was collected from the questionnaire. The interview was semi-structured, with both the prepared questions and the spontaneous ones.

Research Sampling

The population of the research included university students who studied English as a foreign language at a Public University in Central Vietnam. This university has 6,541 students. The university was selected for the research for several reasons. Firstly, it is a typical public university in Vietnam with students coming from various areas of Vietnam. Secondly, the university is located in an area that was seriously affected by the COVID-19 pandemic, resulting in a full online semester.

All the research participants are EFL tertiary students who took e-exams at the end of the first semester of the 2021-2022 school year with the online learning mode. The invitations were sent to them randomly through emails, and 1,099 of them agreed to take part in the study. Among 1,099 ELF students who responded to the questionnaire, 20 students were invited for in-depth interviews. Those 20 students had typical replies to the questionnaire's results, so it was expected that they would be able to provide evidence for the results from the questionnaire.

Table 1. Demographic Features of Questionnaire's Respondents

Levels	Gender		Total
	Males	**Females**	
First-year students	22 (7.2%)	283 (92.7%)	305 (27.8%)
Second-year students	25 (6.2%)	378 (93.7%)	403 (36.7%)
Third-year students	11 (4.7%)	222 (95.2%)	233 (21.2%)
Fourth-year students	17 (10.7%)	141 (89.2%)	158 (14.4%)
Total	75 (6.8%)	1024 (93.2%)	1,099 (100%)

As shown in Table 1, the total number of students responding to the questionnaire is 1,099, among whom are 75 male students and 1,024 female students. In the education field, it is common that the number of female students surpasses that of their male counterparts. There are 305 first-year students, 403 second-year students, 233 third-year students, and 158 fourth-year ones.

Table 2. Demographic Features of Interviewees

Levels	Gender		Total
	Males	**Females**	
First-year students	1 (25%)	3 (75%)	4 (20%)
Second-year students	1 (16.7%)	5 (83.3%)	6 (30%)
Third-year students	1 (20%)	4 (80%)	5 (25%)
Fourth-year students	1 (20%)	4 (80%)	5 (25%)
Total	4 (20%)	16 (80%)	20 (100%)

Similar to the participants of the questionnaire, among 20 interviewees, the number of female students is 16 (80%) while that of male ones is 4 (20%). These include four first-year students,

six second-year students, five third-year students, and five fourth-year students.

Reliability and Validity

The reliability and validity of the research were obtained through the careful design of the instruments as well as the pilot study. The questionnaire was sent to two experts who are both Doctors of Philosophy for validation, and based on their comments, the questionnaire was edited. In the pilot study, the Cronbach's alpha of the questionnaire is .763, which denotes a good level of reliability. After the pilot study, the questionnaire items were revised for better comprehensibility and served the research better. The reliability of the main study was also good, with Cronbach's alpha of .782.

The questions of the interview were also validated by the two experts. To increase the reliability and validity of the research, member checking was utilized (Merriam, 2009). All the transcripts of the interviews were sent to interviewees for checking before they were used for the analysis.

Data Analysis

The quantitative data were processed using SPSS version 20. The statistical description was calculated. In addition, Sample t-test and ANOVA were used to test the relationship among variables like gender and students' levels with their computer efficacy and attitudes towards e-exams. The qualitative data were analyzed using codes and themes. The researcher looked for the major themes of the data first, and then subthemes were identified.

Findings and discussion

Students' Computer Efficacy for E- exams

The questionnaire reveals that 84.9% of students used laptops for their e-exams, while 15.1% utilized smartphones. The rest (2.8%) used other devices like tablets or desktops for their online tests.

With the 5-point Linkert scale ranging from "Totally Disagree" to "Totally Agree", the mean values from 2.61 to 3.40 indicate that students generally select "Agree" as their responses to the questionnaire item (Hung et al., 2010). As shown in Table 1, the mean values for all four items are between 3.57 and 3.91, which means that students agreed that they had generally good computer ability for e-exams. Specifically, it is found that the mean value for students' confidence in using web browsers (i.e., Google, Yahoo) is the highest, indicating students' good readiness for using web browsers for their e-exams. The second highest mean value belongs to the ability to download and install programs onto computers (mean value = 3.91). Surprisingly, students surveyed had the least ability to use Microsoft Office programs, although the mean value is still high (mean value=3.57).

Table 3. Students' Computer Efficacy for E- exams

Items	N	Min	Max	Mean	Std. Deviation
I feel confident in using applications/ software for my e-exams.	1,099	1	5	3.84	.968
I feel confident in performing the basic functions of Microsoft Office programs (MS Word, MS Excel, and MS PowerPoint).	1,099	1	5	3.57	.940
I feel confident in using web browsers (Google, Yahoo) for e-exams.	1,099	1	5	3.99	.895
I can download and install programs onto my computer.	1,099	1	5	3.91	1.020

The interview data show that EFL students generally have good computer efficacy when all 20 students interviewed responded that they had enough computer skills to handle the tests, especially when they had some training before the online tests. In addition, during the semester, they were given opportunities to become familiar with the platforms that were selected for their e-exams later by their lecturers. Yet, students confronted some challenges in doing e-exams due to internet connection, the quality and capacity of platforms, and so on as shown in students' replies to the question, "*Do you have any difficulties in doing your online tests regarding your IT skills?*"

"*........A: No, in fact, the online tests do not require much computer skills, and we are well-prepared for that by our lecturers.*

Q: How did your lecturers prepare students for e-exams?

A: They let us do some exercises or mock tests on the platform before the final exams."

(*1st year student 1*)

"*.....A: My online tests do not require much IT skill, so I have no difficulties. But lots of other issues happened that made me stressed.*

Q: What are the problems?

A: Internet connection, sudden power cut. Especially when I uploaded my paper, it took quite long, even got stuck because the number of students who took the exam was quite large, around 500 students."

(*2nd year student 3*)

"*...A: My IT skills are good, so it is not a problem. But, it does not ensure a successful performance.*

Q: Why?

A: You know, I took the test at home, but my house is small, and I have two younger sisters. They also had online lessons at the same time. It was noisy, which made me sometimes distracted.

(*4th year student 4*)

In other words, students have good computer efficacy to take e-exams, although they still have some difficulties regarding the facility and their test conditions.

Students Attitudes for E-exams

The questionnaire provides information on students' belief of e-exams' effectiveness compared with normal ones, the influence of e-exams on students' results, and students' feelings about e-exams compared with normal tests. As shown in Table 4, students generally selected "Agree" with all the items when the mean values were from 3.07 to 3.58. While students felt more stressed in e-exams (mean value=3.07), they still believed that e-exams did not affect their results (mean value= 3.55), and e-exams were as effective as face-to-face tests (mean value=3.58).

Table 4. Students' Attitudes for E-exams

Items	N	Min	Max	Mean	Std. Deviation
I believe that my e-exams are as effective in assessing students' abilities as normal tests.	1,099	1	5	3.58	1.130
Doing e-exams does not affect my results.	1,099	1	5	3.55	1.119
I am more stressed doing e-exams than doing normal ones.	1,099	1	5	3.07	1.213

The interview data share similar views of students. 14 out of 20 students interviewed suggested that there was not much difference regarding the effectiveness of the tests and results of the tests. In their opinion, e-exams were designed carefully, and both lecturers and students were now familiar with online tests. With good preparation and caution in designing test items, e-exams did not affect their results, resulting in a high level of test effectiveness in comparison with the normal tests.

Explanations for students' thoughts that e-exams are as effective as paper ones are careful preparation, appropriate test format, and test administration. The following are some extracts from the students' responses to "*How effective is the e-exam that you took compared with the paper tests?*"

> *"...A: (smile) Actually, I think my e-exams are effective because I was prepared for that by my lecturers, and the test was suitable for the online format. In my opinion, whether the tests are effective or not depends on how we prepare for them and how they are designed. The mode, online or offline, is not the matter.*

Q: How about the results?

> *A: Online tests do not affect my final results. I think I would have similar results if the tests had been offline.*

Q: Why?

> *A: The online tests were implemented carefully, and we were observed online. In addition, whether the tests are online or offline, the quality of the test is the same."*

<div align="right">*(4th year student 3)*</div>

"......A: Ah, I think the online tests are effective enough.

Q: *Can you clarify why they are effective enough?*

A: (thinking) Maybe because they are very similar to paper tests, we do them on the web instead of doing them on paper.

Q: *How about results? Do you think that e-exams affect your results?*

A: No, my results are not affected.

Q: *Why?*

A: The results depend on my ability, not on the mode of the tests. And, the format of the test, I mean the design of test items, is suitable for the online mode. Furthermore, the university has very strict regulations.

Q: *What do you mean by "strict regulation?"*

A: We had to use a camera, and we only accessed the web for the exams. So, cheating can be prevented.

<div align="right">*(2nd year student 2)*</div>

Yet, six students thought that e-exams were not effective due to three factors: cheating, test conditions, and stress. In their opinion, as students took e-exams from home, they were more likely to cheat in many ways, such as getting help from friends, using materials, and so on. In addition, students may not have a suitable place with a quiet environment for their tests, especially during lockdowns when all family members are at home. Poor internet connection and bad-quality devices also affect students' performance during the tests. Stress also negatively influences students' results.

"Q: How effective is the e-exam that you took compared with the paper tests?

A: Not as effective as paper ones.

Q: *Why?*

A: You know, students can cheat to get better results. And the test results can be impacted by lots of factors.

Q: *What are the factors?*

A: Internet connection, noise, and sometimes too worried for the test."

<div align="right">*(3rd year student 4)*</div>

*".......A: the tests (e-exams) are not effective at all.*

Q: *Why?*

A: Can it be effective when students can get help or use materials?

Q: *But as far as I know, students are asked to turn on the camera and cannot access any other web except for the web used for the exam.*

> *A: The camera cannot get to all corners of the room, and students are very good at IT, so they still have ways to access other webs while doing the tests."*

<div align="right">

(1ˢᵗ year student 4)

</div>

Surprisingly, while students found it stressful to take e-exams, 80.6% of them selected e-exams when being asked "If possible, would you choose to get online tests?".

Choices of Tests

020

80,4000

Yes
No
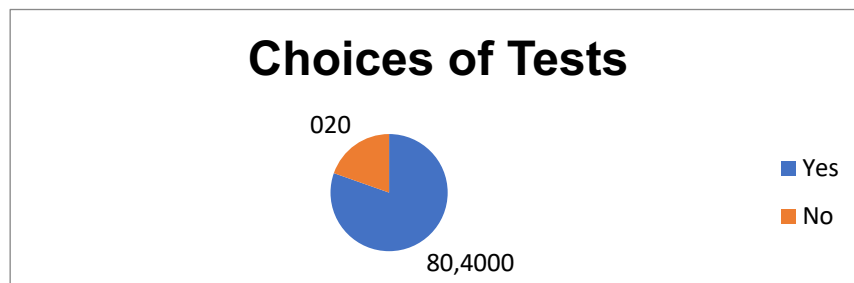
Figure 1. Students' Choices of Kinds of Tests

Reasons for their choice can be found in the interview. 17 out of 20 students interviewed chose to take e-exams when responding to the question, "*If you were given choices for the mode of your exams, would you choose e-exams?".* Two major themes were found for their selection: avoiding being affected by the corona virus, and not having to return to universities. Due to the seriousness of the COVID-19 pandemic, the lockdown was implemented widely in Vietnam to prevent the fast spread of the coronavirus. In addition, being at home in such a situation helps students to avoid being affected by the coronavirus. They did not have to return to universities when traveling was difficult, even impossible, in some places during the lockdown.

> "*.....A: Why not? I spent one semester learning online, so I would prefer to take exams at home for my convenience. I did not have to return to university and got risks of being affected by the coronavirus while traveling."*

<div align="right">

(2ⁿᵈ year student 3)

</div>

> "*.......A: Definitely yes. I do not want to travel and then get infected by the coronavirus. You know, having exams at home with suitable conditions is better. My parents provided me with a good internet connection, a laptop and a private room."*

<div align="right">

(4ᵗʰ year student 5)

</div>

The students who selected to have paper tests were worried about the test results. These students thought that e-exams would affect their results in a negative way, and paper tests should be implemented to maintain the quality of the tests. In addition, such factors as cheating and students' own conditions for the test are also reasons why they would not select e-exams.

"Q: If you were given choices for the mode of your exams, would you choose e-exams?

A: No. I am afraid that my results would be affected and just wonder whether the quality of the tests can be as good as paper ones."

<div align="right">

(3ʳᵈ year student 2)

</div>

"Q: If you were given choices for the mode of your exams, would you choose e-exams?

A: I think no.

Q: Why?

A: As I told you before, cheating is a serious factor affecting test quality. And, if we do not have good conditions for doing tests, we can get bad results.

(1ˢᵗ student 4)

To sum up, students were more stressed taking e-exams while they had generally believed that e-exams were as effective as paper ones and doing exams did not affect their exams. In addition, students were found to be more likely to take online tests due to the seriousness of COVID-19 and the conveniences that e-exams bring them.

Gender difference

Independent sample T-tests were used to test whether there were any differences in responses to the questionnaire between male and female students. The results show no significant difference between male and female students regarding their computer efficacy when significance values are all higher than .05. The mean difference between the two groups is from -.367 to .035.

Table 5. Gender Difference in Students' Computer Efficacy

Items	F	Sig.	Sig. (2-tailed)	Mean Difference
I feel confident in using applications/ software for my e-exams.	.084	.772	.808	.035
I feel confident in performing the basic functions of Microsoft Office programs (MS Word, MS Excel, and MS PowerPoint).	.006	.938	.156	-.159
I feel confident in using web browsers (Google, Yahoo) for e-exams.	1.800	.180	.727	-.037
I can download and install programs onto my computer.	1.049	.306	.007	-.367

Similarly, Table 6 indicates that there is no significant difference between male students and their female counterparts when all significance values are higher than .005. The mean difference values between the two groups are also very small, ranging from -.196 to .046.

Table 6. Gender Difference in Students' Attitudes for E-exams

Items	F	Sig.	Sig. (2-tailed)	Mean Difference
I believe that my e-exams are as effective in assessing students' abilities as normal tests.	.359	.549	.978	-.004
Doing e-exams does not affect my results.	.019	.889	.731	.046
I am more stressed doing e-exams than doing normal ones.	2.220	.136	.178	-.196

Level difference

MANOVA tests were used to test whether the levels of students (i.e., first year, second year, third year, and fourth year) affected students' computer efficacy and students' attitudes toward e-exams. As shown in Table 7, levels of students have influences on students' computer efficacy when the sig. value is .000, lower than .005.

Table 7. Level Difference in Students' Computer Efficacy

Value	F	Hypothesis df.	Error df.	Sig.
.963	4.611	9.000	2.660E3	.000

Specific differences are displayed in Table 8. Mean values for all three items show that the higher level of seniority students are, the better students are at computer skills for all four questionnaire items. Regarding the item about the ability to use applications/ software for e-exams, the mean values are from 3.48 to 3.77. The mean values for the second item range between 3.38 and 3.84. Similarly, the mean values of the third items also go from the lowest for first-year students (mean value= 3.94) to the highest for fourth-year students (mean value= 4.23). The mean values for the final item in Table 8 vary between 3.78 and 4.17.

Table 8. Mean Difference in Students' Computer Efficacy

Levels	Descriptive	I feel confident in using applications/ software for my e-exams.	I feel confident in performing the basic functions of Microsoft Office programs (MS Word, MS Excel, and MS PowerPoint).	I feel confident in using web browsers (Google, Yahoo) for e-exams.	I can download and install programs onto my computer.
First-year	Mean	3.54	3.38	3.94	3.78
	N	305	305	305	305
	S.D.	1.235	.956	.914	1.033
Second-year	Mean	3.73	3.57	3.94	3.90
	N	403	403	403	403
	S.D.	1.181	.947	.915	1.058
Third-year	Mean	3.48	3.64	3.99	3.93
	N	233	233	233	233
	S.D.	1.186	.860	.926	1.021
Fourth-year	Mean	3.77	3.84	4.23	4.17
	N	158	158	158	158
	S.D.	1.117	.934	.706	.839
Total	Mean	3.63	3.57	3.99	3.91
	N	1099	1099	1099	1099
	S.D.	1.193	.940	.895	1.020

Data from the interview further explain such differences. In the interviewees' opinions, the first-year students did not have much experience in e-exams as they just finished their first online learning semester, while the others had two semesters and had experienced e-exams before. In addition, to have more job opportunities, language students often take computer courses. As a result, the higher-level students are, the better they may be at computer skills.

"Q: The data from the questionnaire show that the higher level of seniority students are, the better computer-efficacy they are. What may be the reasons?

A: As me a first-year student, I am not familiar with online learning and online testing. This is the first time I have taken online tests. I live in rural areas where COVID-19 is not very serious, so my final year at high school was not much affected and I studied normally. That may be the reason for the differences between us and students of higher levels."

(1st student 4)

"......A: ...(thinking). The reasons may come from the fact that we have enough time to participate in computer courses. If we have computer certificates, it would be easier for us to get a job later."

(4th year student 3)

".......A: Of course, we have two semesters of learning online, and we have experienced e-exams while the first-year students may not.

(3rd year student 3)

Differently, the levels of students do not affect their attitudes towards e-exams when the significance value (.378) is found to be much higher than .005.

Table 9. Level Difference in Students' Attitudes for E-exams

Value	F	Hypothesis df.	Error df.	Sig.
.991	1.075	9.000	2.660E3	.378

To summarize, EFL students in Vietnam have generally good computer efficacy in performing their e-exams in immediate online learning. Students are found to be more stressed in e-exams though they have positive attitudes towards them. In addition, gender does not affect students' computer efficacy as well as attitudes towards e-exams. While the levels of students impact students' computer efficacy, the levels do not influence students' attitudes.

Discussion of Findings

E-exams have flourished than ever before since the outbreak of the coronavirus. As shown in the research, EFL students in Vietnam have generally good computer efficacy in performing their ex-exams. By the same token, Indian students have enough computer skills to take online tests (Kundu & Bej, 2021). Students do not have difficulties regarding IT skills when they take e-exams in Saudi Arabia (Khan et al., 2021).

EFL students in Vietnam are discovered to have positive attitudes towards e-exams. Such

findings agree with some previous studies in the world and in Vietnam. In Jordan, students have positive attitudes towards the use of e-exams for assessment (Momani, 2019). Vietnamese students are more stressed in performing online tests. Similarly, the study in Jordan reveals that students are nervous in e-exams (Da'asin, 2016). Similar findings are discovered in studies in India and Saudi Arabia where students perceive that online tests are more beneficial than paper-based ones regarding numerous factors such as pedagogy, validity and reliability, affective factors, practicality, and security (Khan et al., 2021; Kundu & Bej, 2021). Studies in Indonesia, Turkey, and Nigeria also indicate that students have positive attitudes towards the adoption of e-exams in assessing students due to the numerous benefits of online testing though they have to confront many challenges in facilities, pedagogies, and administrative procedures (Jamiludin et al., 2017; Tella & Bashorun, 2012; Yurdabakan & Uzunkavak, 2012). In Vietnam, Lo (2021) and Bui et al., (2021) share ideas that students in higher education institutions regard e-exams as a good solution of assessment in immediate online learning amid COVID-19 pandemic. In addition, students surveyed in those countries share their concerns over the two major factors, cheating and plagiarism, which somewhat hinder the effectiveness of e-exams.

The study shows that gender causes no differences in EFL Vietnamese students' computer efficacy and attitudes. Similar findings are found in Jordan, where gender does not affect students' attitudes towards e-exams (Da'asin, 2016). In India, male students were found to have more positive attitudes towards online testing than female counterparts (Kundu & Bej, 2021). In Vietnam, the levels of students have certain influences on students' computer efficacy, but students' attitudes towards e-exams are not affected by their levels. Yet, studies in other countries indicate that the levels of students cause differences in students' attitudes toward online testing (Da'asin, 2016; Kundu & Bej, 2021).

Implications and Conclusion

Implications

The adaptation of e-exams is increasingly popular these days in the 4.0 era. Yet, the implementation of e-exams would be more effective in higher education in general and in Vietnam in particular if the following implications regarding support from universities, consideration of cost, timeliness, the quality of platforms, and the combination between the use of e-exams and formative assessment are considered.

First, the implementation of e-exams would be better if universities could provide lecturers and students with timely support (Lo, 2021; Vo, 2021). Training workshops on platforms used for e-exams should be conducted to familiarize both lecturers and students with the platforms so that they can perform their tasks well (Khan et al., 2021). In addition, there should be instant support to help lecturers and students deal with technical issues that may arise during the adoption of e-exams. Universities need to invest in upgrading their platforms for online testing as well as facilities so that they can reduce risks of technical issues in the implementation of e-exams.

Secondly, cost, timeliness, and supporting system quality should be considered when universities organize e-exams (JISC, 2007). The costs of organizing tests are essential,

especially in the educational systems of poor countries like Vietnam. In addition, designers of e-exams should take into consideration the time allocated not only for designing tests but also for students to do the tests. Designing test items takes time for conducting items and loading the items onto the online system. Similar to paper tests, the time for each item needs to be calculated regarding the level of difficulty, complexity, and length. In addition, the quality of platforms is essential to the success of e-exams. Different platforms are used in designing and delivering e-exams, but the key elements are their stability and supporting functions. The stable system helps to reduce risks of technical issues and increase the effectiveness of online tests. Supporting functions make the e-exams more accessible and easier for teachers and students.

Finally, formative assessment and summative assessment should be combined to assess students' performance and learning outcomes more effectively (JISC, 2007; Lo, 2021). E-portfolios, assignments, projects, or blogs can be used in combination with e-exams. Such a combination can help to increase the efficiency of assessment.

Conclusion

The study conducted in late 2021 reveals that EFL students in Vietnam have good computer efficacy in performing their e-exams. In addition, they have positive attitudes towards the use of e-exams in assessment during the COVID-19 pandemic. There is no gender difference found regarding EFL students' computer efficacy and attitudes towards online testing. Yet, levels of students cause differences in computer efficacy, while attitudes towards e-exams among students are not affected by their levels. It is highly recommended that instant support from universities, the consideration of cost, timeliness, and the quality of platforms, and the combination of the use of e-exams and formative assessment should be put into consideration when e-exams are adopted in the language teaching and learning practice.

Yet, the study is just the first milestone for further ones to be taken on e-exams in Vietnam's higher education. The research was conducted on a small scale with a sample from one public university; therefore, its findings just contribute to the understanding of the adoption of online testing in higher education in Vietnam. Such results cannot be fully generalized for the whole system. Further studies need to be carried out for a better understanding of e-exams in other disciplines.

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Biodata

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