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ABSTRACT

With the growing popularity of the internet and the continued growth, universities are focusing more on web-based strategies to deliver higher education (e.g., e-learning). Despite this, very little research on e-learning service quality has been done to test the effectiveness of these efforts. Therefore, we researched two hundred-ten teachers, including 111 men and 99 women, who participated and used the quality of e-learning teaching questionnaires at several Vietnamese universities. In addition, we use the t-test and MANOVA test to assess each gender and experience group of the lecture. The results found that regarding the quality of e-learning teaching questionnaires scores, men were found to have higher scores than women. However, the teachers who had gone under the study showed a positive attitude to E-learning quality through lectures, and they would be interested in performing E-learning. Evaluating the quality of e-learning teaching is possible and well received by the lecturers. In addition, the assessment of quality learning helps to improve the system of e-learning at Vietnamese universities.

Keywords: E-learning, University, teacher, Quality of e-learning.

INTRODUCTION

Elearning is considered an application process based on information technology and learning processes based on information and communication technology (Urda & Weggen, 2000; Haines, 2016; Leem & Lim, 2007). This learning method is developing rapidly and is highly appreciated by traditional learning and comparative teachers (Castano et al., 2016) and is becoming more pervasive in higher education (Bichsel, 2013). A previous study found that six factors measure the quality of teaching in an online learning environment, including student-to-student interaction, faculty-to-student quality, lesson quality, course content, course structure, academic support, and mentoring (Peltier et al., 2007). Similarly, scholar González (2010) demonstrated that there are four steps, including (a) providing information to students, (b) occasional communication among unit participants, (c) engaging students in online discussions, and (d) supporting knowledgebuilding tasks. Scholar Pham et al. (2019) demonstrated that the e-learning system's quality is essential for overall e-learning service quality, followed by e-learning faculty and quality course materials, and quality e-learning support administration services. Therefore, to assist in increasing student-faculty interaction, timely access to timely information (Urda & Weggen, 2000; Thuy & Nga, 2020; Çalık & Altay, 2021), promoting the learning ability of the learner, accessing rich learning materials (Toan & Diem, 2020), and supporting knowledge-building tasks (González, 2010). To be more specific, Peltier et al. (2007) study shows that the course's content is the highest predicting factor for the perception of e-learning quality. In addition, the e-learning system has flaws because the instructor typically focuses on technical issues and subject identification, while the pedagogical aspects and teaching methods are frequently overlooked (Douglas & Van Der Vyver, 2004; Yunus & Salim, 2008). Research by Díaz and colleagues (2009) concluded that no significant differences were observed in the teacher's functions in the two teaching methods, face-to-face and e-learning (Díaz et al., 2009). Like other research, the interaction between the student and the instructor or the participants does not directly affect the online course's quality (Peltier et al., 2007). Overall, there have been many studies on e-learning topics on many different objects. Currently, research on the quality of lecturers' online teaching is quite limited. Moreover, research on the quality of online learning has not been conducted systematically in many different ways. Our current research assesses e-learning teaching quality in terms of experience and gender at several Ho Chi Minh City, Vietnam universities.

The study has three hypotheses:

A 4×2 factorial design was used. The independent variables were two characteristics: work experience (under two years, two from five years, six from ten years, above ten years) and gender (man and women). Five dependent variables were measured: quality of support services and elearning administration (OSSAEA), quality of e-learning teaching (QOET), accuracy of e-learning(AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE).

Hypothesis 1: No significant difference between man and women groups of the lecture when they are compared simultaneously on the understanding elearning administration (OSSAEA), quality of e-learning teaching(QOET), accuracy of e-learning(AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE).

Hyphothesis 2: No significant difference between under two years, to two from five years, to six from ten years and above ten years of the lecture when they are compared simultaneously on the understanding elearning administration (OSSAEA), quality of e-learning teaching(QOET), accuracy of e-learning(AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE).

Hypothesis 3 : No significant interaction between gender and work experience groups of the lecture when they are compared simultaneously on the understanding elearning administration (OSSAEA), Quality of e-learning teaching(QOET), accuracy of e-learning(AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE).

METHOD

Participants

Data Collection

The study participants were 210 Vietnamese teachers from two universities in Ho Chi Minh City, Vietnam, who completed the survey questionnaire during the 2021 spring academic semester. Participants' writing consent form agreed that the study conditions and all participants voluntarily agreed to participate in the two-part question-answer, including informative questionnaires and demographic questions (gender, subject, work experience, age). Descriptive statistics of the subjects are presented as men 111 (52.9%), women 99 (47.1%), under two years 41 (19.5%), two to five years 47 (22.4%), ten years 56 (26.7%), and more than ten years 66 (31.4%). The sample's M_{age} was 40.25 years ($SD = 5.48$ years).

Measure

Participants were asked to complete the following questionnaire: the Vietnamese versions of the E-learning System Quality Questionnaire (ESQQ)for teachers. The ESQQ consists of five subscales: e-learning administration (OSSAEA), quality of e-learning teaching(QOET), the accuracy of e-learning(AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE). The questionnaire, including 27 items of ESQQ, was bullied into Vietnamese by two authors, with the construct being assessed. All participants were instructed to read the questionnaire questions carefully and choose the responses that best described themselves measured on a 5-point Likert scale from 1 'strongly disagree,' to 5 'totally agree.' Cronach alpha coefficients for each subscale were as follows: the understanding elearning administration (OSSAEA): 0.82 quality of e-learning teaching(QOET): 0.83, the accuracy of e-learning(AOE): 0.69, quality of e-learning course materials (QOECM):0.84, and security and privacy of e-learning (SAPOE):0.77. Cronbach's alpha total scale's confidence system is .94. Therefore, The internal consistency reliability (Cronbach's alpha) estimate for this sample was reasonably high at 0.60 (Bowling, 2014). The one reason for the higher reliability of the ESQS scales subscale could be the contextual differences; teachers responded to scale items according to their understanding level e-learning system quality Questionnaire (ESQQ). ESQQ (total score) was 102.68 ($SD = 15.22$). OSSAEA subscale was 33.34 ($SD = 5.41$). QOET subscale was 26.72($SD = 4.41$). AOE subscale was 11.36 ($SD = 2.02$). QOECM subscale was 19.42($SD = 3.51$). SAPOE subscale was 11.84($SD = 2.26$).

Data Analysis

The data in this study were analyzed using descriptive statistics and the Statistical Package for the Social Sciences (SPSS) 20.0 software. Firstly, descriptive statistics and a person's correlation were used to analyze the data collected. Secondly, we were used bivariate statistics such as t-test, and one-way ANOVA analysis was to answer the research objectives. Thirdly, a two-way MANOVA was performed with two independent variables (work experience and gender) and subscales of the ESQS as dependent variables. Finally, these analyses were used to look into differences in Understanding elearning administration (OSSAEA), quality of e-learning teaching (QOET), the accuracy of e-learning (AOE), quality of e-learning course materials (QOECM), and security and privacy of e-learning (SAPOE) among Vietnamese teachers based on work experience and gender.

RESULTS

A dependent sample t-test was conducted to examine a significant difference between the women's OSSAEA and men's scores. Before comparing the group means across all the criteria (Table 1), we evaluated the paired sample t-test assumptions, and no violations were found. Results show a statistically not significant difference in the lecture's assessment of all e-learning criteria ($p > 0.05$)(see table 1).

Table 1: T-test findings comparing womens and mens to ESQQ

Variables	Men		Women		t	df	Sig	95% CI	
	M	SD	M	SD				Lower	Upper
OSSAEA	32.94	5.41	33.79	5.39	-1.14	208	.25	-2.32	.62
QOET	26.26	4.42	27.23	4.37	-1.59	208	.11	-2.17	.23
AOE	11.34	2.11	11.37	1.92	-.11	208	.91	-.58	.52
QOECM	19.54	3.60	19.29	3.41	.51	208	.61	-.71	1.20
SAPOE	12.02	2.28	11.65	2.24	1.19	208	.24	-.24	.99

** $p > 0.01$

This study showed a positive relationship between OSSAEA, QOET, AOE, QOECM OSSAEA, and SAPOE (.58, to .85, $p < .01$). QOET was significantly positively correlated with AOE, QOECM, and SAPOE (.65 to .72; $p < .01$). All AOE, SAPOE, SAPOE were significantly positively correlated ($r = .65$ to $.89$, $p < .01$).

Table 2: Corelation between related variables.

Variables	OSSAEA	QOET	AOE	QOECM	SAPOE
OSSAEA	1				
QOET	.74**	1			
AOE	.85**	.65**	1		
QOECM	.61**	.69**	.69**	1	
SAPOE	.58**	.72**	.71**	.89**	1

** $p < 0.01$.

Table 3: MANOVA results to compare the significant differences among gender and work experience.

Groups	Variables	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Squared	Eta Squared
Gender	OSSAEA	29.13	1	29.13	1.01	.32	.005	
	QOET	46.33	1	46.33	2.42	.12	.012	
	AOE	.23	1	.23	.05	.81	.000	
	QOECM	1.87	1	1.87	.15	.69	.001	
	SAPOE	6.45	1	6.45	1.26	.26	.006	
Work experience	OSSAEA	78.89	3	26.29	.91	.44	.013	
	QOET	34.50	3	11.50	.60	.62	.009	
	AOE	1.00	3	.33	.08	.97	.001	
	QOECM	38.98	3	12.99	1.07	.36	.016	
	SAPOE	7.09	3	2.36	.46	.71	.01	
Gender* Wok experience	OSSAEA	133.62	3	44.54	1.54	.21	.02	
	QOET	113.59	3	37.86	1.98	.12	.03	
	AOE	15.75	3	5.25	1.27	.28	.02	
	QOECM	70.49	3	23.49	1.93	.13	.03	
	SAPOE	23.93	3	7.97	1.56	.20	.02	
Error	OSSAEA	5847.54	202	28.95				
	QOET	3865.61	202	19.14				
	AOE	835.82	202	4.14				
	QOECM	2465.58	202	12.21				
	SAPOE	1034.17	202	5.12				

Firstly, the researchers tested all the assumptions results of valuation assumptions of normality, homogeneity of variance matrices the Box's of 129.29 indicates that covariance matrices' homogeneity across the group is assumed ($F(105,40.869)=1.126$, $p=.18$). Sencondly, the MANOVA revealed a significant multivariate effect for the main effect of gender is statistically significant (Wilks' $\Lambda=3.2$, $F(5, 198)=1.63$, $p<.01$; partial $\eta^2=.052$). Similarly, the main effect of work experience is statistically not significant (Wilks' $\Lambda=.920$, $F(15, 547)=1.14$, $p=.12$; partial $\eta^2=.027$). Thirdly, the interaction effect is statistically not significant (Wilks' $\Lambda=.95$, $F(15,547)=.95$, $p=.01$, partial $\eta^2=.016$). A 4 (under two years, to two from five years, to six from ten years, above ten years) \times 2 (men, women) between multivariate analysis of variance was performed on two dependent variables. Finally, the results revealed the interaction effect was non-significant ($p > .01$). Especially, asinificant work experience effects on OSSAEA [$F(3, 202) = .91$, $MSE = 28.95$, $p < .08$, Partial $\eta^2 = .007$], QOET [$F(3, 202) = .60$, $MSE = 19.14$, $p < .02$, Partial

$\eta^2 = .007$], AOE [F(3,9202) = .08, MSE = 4.14, $p < .02$, Partial $\eta^2 = .011$], QOECM [F(3, 202) = 1.07, MSE = 12.21, $p < .02$, Partial $\eta^2 = .007$], SAPOE [F(3,202) = .46, MSE = 5.12, $p < .01$, Partial $\eta^2 = .011$] among the under two years, to two from five years, to six from ten years and above ten years. Significant gender effects on OSSAEA [F(1, 202) = 1.01, MSE = 28.95, $p < .08$, Partial $\eta^2 = .005$], QOET [F(1, 202) = 2.42, MSE = 19.14, $p < .05$, Partial $\eta^2 = .012$], AOE [F(1,202) = .05, MSE = 4.14, $p < .05$, Partial $\eta^2 = .00$], QOECM [F(1, 202) = .15, MSE = 12.21, $p < .05$, Partial $\eta^2 = .001$], SAPOE [F(1,202) = 1.26, MSE = 5.12, $p < .05$, Partial $\eta^2 = .006$].

DISCUSSION

Firstly, this study found that no significant difference between gender (supporting Hypothesis 1). Secondly, no significant interaction between gender and work experience groups of teachers when they are compared simultaneously on the understanding learning administration (OSSAEA), quality of e-learning teaching (QOET), the accuracy of e-learning (AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE) (support Hypothesis 2). Finally, no significant interaction between gender and work experience groups of the lecture when they are compared simultaneously on the understanding learning administration (OSSAEA), Quality of e-learning teaching (QOET), accuracy of e-learning (AOE), quality of e-learning course materials (QOECM), security and privacy of e-learning (SAPOE) (support Hypothesis 3)

The practical implications of the highlighted findings are university teachers' views on understanding their characteristics and e-learning and tailoring their learning accordingly. From the profile of this study, it can be seen that men have a higher proportion of the population than women when assessing the quality score of the e-learning system. According to the results of this study, the teaching quality of lecturers at some universities in Vietnam is high. These findings suggest that the relationship between work experience and study of the assessed lectures in the implementation of quality e-learning systems in universities has no difference in the quality of e-learning between male and female teachers and teaching experience. In addition, the application of online learning in the context of COVID 19 has helped lecturers improve their ability to teach online to students. This is consistent with a previous study that found instructors have experience in learning because they are trained and have a clear plan to teach students (Dable et al., 2012). In addition, e-learning has provided an essential context for repositioning how tutorials and lectures can be used as the basis for collaborative learning between students and faculty (Freeze et al., 2019). Furthermore, the study also showed a significant difference between university teachers and teachers compared to the quality of online teaching. The results of this study are consistent with previous research by Diaz et al. (2009), which did not show a significant difference in teacher function between face-to-face and online learning.

In summary, the above research results have shown aspects, including positive correlation, gender difference, between the seniority of lecturers and the quality of online teaching of lecturers at a university. However, there is no difference between universities in assessing the quality of online learning at some Vietnamese universities. The findings of this study are important for evaluating the quality of e-learning teaching in university training programs. Moreover, the research also contributes to stimulating and promoting further research on this topic in the future. Future studies should address these constraints to make more precise evaluations.

CONTRIBUTION AND LIMITATION

First, assessing the quality of online teaching for teachers is an important exercise that all-important educational institutions should undertake. It allows both faculty and students to think about the courses being taught, the teaching people, and the organization itself. Therefore, quality assessment aims to improve the quality of e-learning and teachers in the best possible way. Second, assessing the lecturers' online teaching quality shows that the teaching quality is quite good and shows good potential for online teaching during the protracted period because of the impact of the COVID-19 pandemic.

Several limitations of the present study warrant comment to consider. Firstly, the interaction between learners and teachers is not great, possibly because students are unfamiliar with the new technology-based discussion methods and the transition from live discussion to online discussion. Therefore, lecturers need to make modifications to stimulate students' enthusiastic participation. Second, all learning-related activities have been postponed because of the impact of the prolonged COVID 19 pandemic. Hence, they will perform well in the long run. Finally, instructors need to develop a program and a long-term strategy for blended learning that includes both online and face-to-face. In addition, instructors are needed to improve interactive activities when delivering online lectures for greater student satisfaction and performance.

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