


An Investigation of Student Satisfaction in an Online Language Learning Course

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ABSTRACT

Online learning's application in the language learning process has become an important topic as the COVID-19 crisis has restricted in-person classes. This study investigates student satisfaction in an online language learning course at a higher educational institution in Vietnam. The study tested the influence of learner-learner, learner-content, and learner-instructor interactions; internet self-efficacy; and self-regulation on student course satisfaction. The effects of student background variables were also explored. Linear regression analysis was conducted to determine the contribution of predictor variables to student satisfaction. The findings showed that student interaction with peers, content, and instructors and self-regulation were good predictors of student satisfaction; however, internet self-efficacy was not a good predictor. Additionally, there were no differences in effects of gender and prior online language learning experience on student course satisfaction.

KEYWORDS

Internet Self-Efficacy, Online Language Learning, Regression, Self-Regulation, Student Satisfaction

INTRODUCTION

Online learning continues to grow in popularity. However, the effectiveness of online learning has been questioned, especially by educational institutions where there are inadequate organizational capacities to accommodate online learning and the use of educational technologies. There have been a number of studies on student satisfaction and engagement in online learning which are defined as the level of pleasure in participating in and fulfilling the learning experience in an online learning program (Dziuban, Moskal, Johnson, & Evans, 2017; Parsad & Lewis, 2008). Student satisfaction is dependent to one's interaction with peers, instructors, and content; as well as technology, course design, and implementation. In an online course, student satisfaction also depends on the learner, particularly his/her ability to navigate the course components, search for information, and succeed in learning autonomy (Kuo, Walker, Schroder, & Belland, 2014; Triquet, Peeters, & Lombaerts, 2017).

In language teaching and learning, computer assisted language learning (CALL), which was introduced in the early 1980s, offered students the opportunity to learn languages in any context with computer technologies (Azizinezhad & Hashemi, 2013). Studies on English foreign language (EFL) learners' and instructors' attitudes toward CALL revealed an association between its use and user satisfaction (Hsu, 2017; Yükselir, 2016). This was mainly due to positive perceptions on language improvement and usability.

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In Vietnam, the context of this study, a few online English language learning programs have been offered by both public and private organizations. TOPICA, an educational technology group, is delivering the TOPICA NATIVE platform for speaking practice through augmented reality (<https://topicanative.edu.vn/>). It applies practice-interaction-assessment-lecture-evaluation (PIALE) as an underlying methodology to support individual learners in their online speaking practice.

This empirical study aims to investigate student satisfaction in an online language learning course. Specifically, our study explores key predictors that influence student satisfaction. It also aims to examine the relationship among three types of interaction (learner-content, learner-learner, and learner-instructor), Internet self-efficacy and self-regulation, and whether gender and prior online language learning experience affect student satisfaction with the course.

LITERATURE REVIEW

Factors Influencing Student Satisfaction

A growing body of literature has investigated the factors influencing student satisfaction with online learning. These include three types of interaction (learner-content, learner-instructor and learner-learner), Internet self-efficacy, and self-regulation (Gameel, 2017; Ghadirian, Ayub, & Salehi, 2017; Kuo et al., 2014; Yilmaz, 2017). The following section presents each of the aforementioned elements in details.

Learner-Content

Interaction with content is the process in which learners master the materials embedded in the online course. Content in an online course can vary in format, and must be complete, relevant, and accurate (Marzban, 2011). With the evolution of learning management systems (LMS), the content of an online course (e.g., study materials and activities) can be structured according to a variety of pedagogical needs of the course developers. Since the beginning of CALL, focus has been on developing online course content to foster learners' language skills (listening, speaking, reading, writing) and language aspects (grammar, vocabulary, pronunciation).

An important issue concerning course content and the interaction is the relationship between quantity and quality of learners' interaction with the content. Some researchers found a positive correlation between access rates and grades, as well as learner-content interaction and satisfaction (Chen, Chang, Ouyang, & Zhou, 2018; Gameel, 2017). However, others indicated that the quality of the interaction was more than quantity (Grandzol & Grandzol, 2010; Lee, 2012). Some higher education institutions made the interaction compulsory to ensure the highest possible frequency of interaction (Thach, 2018). Conversely, Cho and Tobias (2016), Grandzol and Grandzol (2010) suggested that the quality of the interaction with the content should not contain arbitrary thresholds or requirements for interaction.

Learner-Instructor

In an online learning environment, learner-instructor interaction has been a significant predictor of student satisfaction. It is also the most important factor in guiding learners to interact with content and peers (Cox, Black, Heney, & Keith, 2015; Kim, 2017; Kuo et al., 2014). Learner's behaviours in the online learning process depend on the quantity and quality of instructor's guidance and feedback. Pertaining to the quantity of interaction, learners react positively to attentive instructors. Instructors' online presence could be an important factor to increase learner online presence, encouraging learners to feel motivated and satisfied with the learning environment (Kang & Im, 2013). In this regard, Gómez-Rey, Barbera, and Fernández-Navarro (2017) found that instructor's pedagogy is considered the most important factor followed by the role of designer, social persona, and promoter, which include sending messages to promote learning. Study by Cho and Tobias (2016) has shown that instructor's

posts did not have a positive effect on increasing the number of learner's posts; they may even have an adverse impact.

College students in developing countries have low autonomy in online learning (Dang, 2010; Le, 2013; Loi, 2016). Therefore, the role of instructor is more important. Technical and cultural barriers also limit learner's interaction with instructors. For example, in Vietnam, Internet coverage for the whole population has increased every year (VNNIC, 2019). However, learners who come from the countryside and stay in the university's dormitory may have fewer advantages than those who live at home and have broadband connection. Culturally, Asian learners view teachers as a respectable authority, role model, and ultimate source of knowledge (Loi, 2016; Sit, 2013). Accordingly, they are reluctant to argue with instructors, ask questions, or share differing views about academics (Raymond & Choon, 2017).

Learner-Learner

The learner-learner online interaction can be a one-to-one or one-to-many format. Interaction with peers gives learners motivation to excel through collaboration (Ghadirian et al., 2017). This interaction is a cornerstone in the community of learning, improving study outcomes and enhancing high-order thinking and involvement (Blake, 2009). Studies by Eneau and Develotte (2012) and Gameel (2017) have shown that learner-learner interaction positively impacts learner's satisfaction and autonomy in Web-based online learning environments because it is easier for a learner to socialize and gain peer responses. However, Kuo et al. (2014) revealed the opposite, noting that learner-learner interaction was not significantly associated with student satisfaction.

In language teaching and learning, this interaction is important in enhancing learner language proficiency (Saeed, Khaksari, Eng, & Ghani, 2016). Through different modes of interaction, like text chat, learners negotiate meaning, correct each other and themselves, and help in learning vocabulary or solving technical problems (Golonka, Tare, & Bonilla, 2017). Through reciprocal scaffolding interaction with a peer or group, a learner is assisted in editing and improving his/her text (Saeed et al., 2016). However, Lee (2016) noted that students with a low level of language proficiency find it difficult to correct their peers; hence, instructors need to guide them on peer correction techniques like using rubrics or providing individual and group feedback (Cox et al., 2015).

Internet Self-Efficacy

Self-efficacy refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3); i.e., self-efficacy is confidence in performing a task, activity, action, or challenge. Self-efficacy includes confidence in using computers, Internet, and LMS, and seeking information. Internet self-efficacy is the belief in one's capability to organise and execute Internet-related actions to accomplish tasks (Kuo et al., 2014). In online learning, self-efficacy is a less researched topic (Alqurashi, 2019).

Studies revealed that technical factors and Internet self-efficacy had a positive significant but weak relationship with student satisfaction (Chu & Chu, 2010; Kuo et al., 2014; Zaili, Moi, Yusof, Hanfi, & Suhaimi, 2019). Computers and information and communication technology competence are necessary attributes to avoid failure in applying technology for learning effectiveness (Kintu, Zhu, & Kagambe, 2017). Robles (2006), however, did not find Internet self-efficacy as a predictor of student satisfaction in an online course.

Self-Regulation

The term "self-regulation" originated from psychology to define student motivation and their use of learning strategies for personal outcomes (Zimmerman & Kitsantas, 2014). Self-regulation is manifested by planning or setting learning goals, implementing a plan, and self-evaluation (Triquet et al., 2017; Zimmerman, 2008). Thus, self-regulation is synonymous with learning autonomy, which refers to a learner taking initiative, monitoring progress, and evaluating personal learning outcomes

(Lee, 2016). Past studies indicate that online self-regulation, unlike in the traditional classroom context, is more student-centered; therefore, it requires more effort from the student and support from the instructor (Lan & Hoang, 2018; Triquet et al., 2017).

Several studies have investigated the relationship between online self-regulation and learning success/satisfaction (Delen & Liew, 2016; Kuo et al., 2014; Shen, Cho, Tsai, & Marra, 2013). The results were inconclusive. For example, Delen and Liew (2016) indicated a connection between learner online regulation and academic success/satisfaction. However, Kuo et al. (2014) reported no significant association between the two variables. In language learning, some studies were conducted on English self-efficacy, which is defined as “one’s belief about how well he/she can successfully perform a task in English based on his/her past experience” (Wang, Kim, Bai, & Hu, 2014, p. 25).

EFL contexts have different layers of association between self-regulation and English self-efficacy, such as self-evaluation, environment structuring, and goal setting. Although there is evidence of increased self-regulation strategies, results have reported that Asian EFL students have not been tasked with their learning autonomy, in general, and self-assessment, in particular (Hsu, 2017; Lan & Hoang, 2018). This is due to their dependence on instructors’ knowledge and reluctance to participate in evaluation exercises (Ba, 2016; Chen, 2008).

Collectively, the literature has outlined critical factors that influence student satisfaction in online learning environments. Researchers have used different models to depict the association between the aforementioned factors or dimensions and learners’ satisfaction. However, limited research explores whether Internet self-efficacy, self-regulated learning, and online interaction relate and predict student satisfaction in online learning environments. Furthermore, student demographic variables like gender, age, and online learning experience have been underestimated (Alqurashi, 2019).

This study is one of the few in Vietnam on student satisfaction in online English language learning. Variables, namely gender and online language learning experience, are included to determine student course satisfaction. It will contribute to the research on influencing factors in an online language learning environment in a developing country where technological conditions and online teaching pedagogy are not as advanced as developed countries.

RESEARCH METHODOLOGY

Research Questions

This research asks the following questions:

1. Do the three types of interaction, Internet self-efficacy, and self-regulated learning correlate with student satisfaction?
2. Are the three types of interaction, Internet self-efficacy, and self-regulated learning significant predictors of student satisfaction?
3. What are the differences and effects of student background variables on student satisfaction?

Participants

The participants of this study were undergraduate students who had used an online English course in their four-year study for a Bachelor of Arts at a Vietnamese university. In the first two years of this degree, the students studied general English through traditional and online classes. In the traditional lessons (12 hours per week), the students studied language skills with university lecturers, some of whom were also assigned to supervise the students’ online learning.

Of the 1,115 students enrolled in the online English language learning course (described below), 709 completed the online survey (a return rate of 63.4%). After cleaning responses, 681 participants were used for this study. This number met the requirements of a multiple regression model with five

independent variables. At least 75 participants are needed to make confident assumptions on observed relationships (Stevens, 2002).

The Online Course

The online English language course, which we used in our study, was developed by lecturers at the university. The Moodle platform course content was grouped into five levels of English proficiency of the Common European Framework of Reference (CEFR): A1, A2, B1, B2 and C1. Each study level had nine units, designed to help students enhance their language skills and aspects (reading, listening, speaking, writing, grammar, and vocabulary).

Data Collection

Our study used a survey questionnaire to ask for demographics (i.e., gender, prior online learning experience), five predictor variables, and student satisfaction. This study adapted the Internet self-efficacy scale developed by Eastin and LaRose (2000) to measure confidence in the students' success in performing tasks using Internet-based technology. The self-regulated learning scale was adapted from the metacognitive self-regulation subscale in the motivated strategies for learning questionnaire (MSLQ) developed by Pintrich, Smith, Garcia, and McKeachie (1993). The measure of interaction and satisfaction was modified from an existing instrument developed by Kuo et al. (2014) in a blended learning environment. The biggest modifications to the questionnaire were in the number of points in the Likert scale.

In this study, a four-point Likert-scale measured learner levels of interaction, self-regulation, and satisfaction. Standard surveys use a five- or seven-point scale; however, there are drawbacks associated with a midpoint in an Asian context. Studies have shown that Asian students tend to choose the middle option (neither agree nor disagree) to avoid conflict (Lee, Jones, & Mineyama, 2002; Wang, Hempton, Dugan, & Komives, 2008).

Two stages were involved in the questionnaire development process. Stage 1 organized an expert judgement session to ensure the content validity of the instrument. Five instructors were invited to read the questions based on their teaching experience in the online course, sharing feedback on whether the questions were appropriate for this online course. Slight modifications regarding deletions, additions, and wording were made to assure suitability. In stage 2, the questionnaire was piloted on 20 students who had used already the course. These students were excluded as study participants. The Cronbach's coefficient alpha values, calculated based on the pilot sample of this study, indicated that the developed instruments were reliable (0.93).

PROCEDURE AND DATA ANALYSIS

We received permission from the university leaders to conduct the survey, and contacted instructors about their willingness to review the questionnaire. Other instructors were invited via e-mail to distribute the survey link through e-mails and other means such as the phone messages and social networks. The survey was hosted in Google Docs. To increase the response rate, students received reminder e-mails.

The data were analysed using both frequency analysis and inferential statistic via the Statistical Package for The Social Sciences (SPSS), version 22. Descriptive analyses presented students' basic information and average score of predictor variables and student satisfaction. Correlation analysis was performed to understand the relationship between the three types of interaction and student satisfaction. Multiple regression analyses investigated whether the five predictor variables significantly predicted student satisfaction. A one-way ANOVA investigated the effect of student background variables on satisfaction.

FINDINGS

Descriptive Analyses of Variables

Table 1 shows the average scores for each scale. A standard deviation lower than 0.72 reveals that participants did not differ in their responses to the questions. Regarding the types of interaction, the learner-content interaction was the highest (mean 3.02/4.0). The mean difference between learner-learner and learner-instructor was small (2.56 compared to 2.50). The average score for Internet self-efficacy (2.12) was slightly higher than the midpoint of 1.50, while self-regulation (2.84) was close to the midpoint of 2.50. Students' overall satisfaction with the online course was at 2.90/4.0.

Table 1. Basic statistics

Scale	Mean	Std. Deviation
Learner-Content	3.02/4.0	0.65
Satisfaction	2.90/4.0	0.66
Self-Regulation	2.84/4.0	0.63
Learner-Learner	2.56/4.0	0.72
Learner-Instructor	2.50/4.0	0.70
Internet Self-Efficacy	2.12/3.0	0.59

Given our focus on student satisfaction, before estimating correlation between the variables, we were interested to see how interaction with the course content helped the students improve their language skills (i.e., reading, listening, writing, speaking) and knowledge (i.e., grammar, vocabulary). Due to a low count in some cells, responses were collapsed into *agree* and *disagree* categories. The original variables were *strongly agree*, *agree*, *disagree*, and *strongly disagree*. Figure 1 depicts students' perceptions about the usefulness of interaction.

Figure 1. Perceived contribution of learner-content interaction to language learning

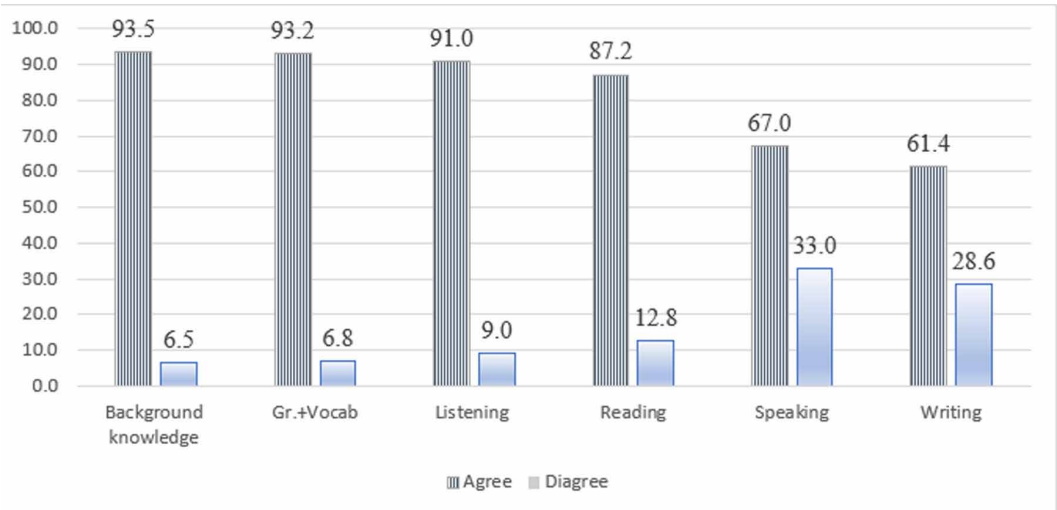


Table 2. Correlation between variables

	Learner-Learner	Learner-Instructor	Learner-Content	Internet Self-Efficacy	Self-Regulation	Satisfaction
Learner-Learner	-	0.638	0.359	0.179	0.467	0.439
Learner-Instructor		-	0.348	0.137	0.454	0.418
Learner-Content			-	0.325	0.466	0.557
Internet Self-Efficacy				-	0.464	0.301
Self-Regulation					-	0.487
Satisfaction						-

Note: $p < 0.01$; small $r = 0.10$ to 0.29 ; medium $r = 0.30$ to 0.49 ; large $r = 0.50$ to 1.0 (Cohen, 1988)

First, Figure 1 reveals that the majority (93.5%) of participants felt that interaction with content contributed to background knowledge. Although this variable was difficult to measure, the perception was probably due to general background knowledge the students acquired from reading and listening. Second, many respondents (93.2%) valued improvements in grammar and vocabulary. They continued to practice these language areas from secondary school. Third, there was a statistically significant difference between perceived usefulness for receptive skills (listening and reading) and productive skills (speaking and writing). Again, this was probably due to the students' language learning at secondary school, which was usually grammar-based and test-oriented.

Correlation Analysis

Table 2 shows the Pearson correlation coefficients between the variables. All three types of interaction were positively related to satisfaction ($p < 0.01$). Data in Table 2 indicates that learner-content had the largest correlation ($r = 0.557$); whereas Internet self-efficacy recorded the smallest association with student satisfaction ($r = 0.301$). Students' interactions with peers and instructors had similar

Table 3. Correlation between the learner-content interaction variables

	Listening	Reading	Writing	Speaking	Gr.+Vocab.	Background Knowledge	Overall Satisfaction
Listening	-	0.670	0.520	0.516	0.625	0.644	0.665
Reading		-	0.649	0.581	0.645	0.613	0.632
Writing			-	0.746	0.488	0.495	0.613
Speaking				-	0.395	0.384	0.526
Grammar + Vocabulary					-	0.750	0.598
Background Knowledge						-	0.668
Overall Satisfaction							-

Table 4. Multiple regression of five predictors of student satisfaction

	Beta	t	Sig.	Tolerance	VIF
(Constant)		1.961	0.05		
Learner-Learner	0.146	3.678	0.00	0.547	0.108
Learner-Instructor	0.113	2.851	0.00	0.552	0.084
Learner-Content	0.367	10.680	0.00	0.732	0.314
Internet Self-Efficacy	0.062	1.834	0.07	0.758	0.054
Self-Regulation	0.167	4.252	0.00	0.560	0.125
Adjusted R square: 0.411					

levels of correlations with satisfaction (0.439 and 0.418 respectively) while their self-regulation was related to satisfaction at a slightly higher level of 0.487.

Table 3 shows Pearson correlation coefficients among the variables. This indicates the contribution of learners' interaction with content to language skills improvement (i.e., listening, reading, writing, and speaking), language areas (grammar, vocabulary), and general background knowledge. Data in the table highlights associations between all predictor variables and student satisfaction ($p < 0.01$). Improvement in background knowledge had the largest correlation with satisfaction ($r = 0.668$), followed by listening ($r = 0.665$) and reading ($r = 0.632$). Enhancement in speaking skills had the smallest contribution ($r = 0.526$) to student satisfaction. Interestingly, unlike the results of descriptive analyses presented in the prior section (see Figure 1), betterment in grammar and vocabulary had a lower contribution ($r = 0.598$) to satisfaction compared to most language skills.

Regression Analysis

A multiple regression analysis was performed to see how much the independent variables can predict student satisfaction. The distribution of the data showed no extreme outliers for the data set. The tests also showed that the variables met the assumption of normality, linearity, multicollinearity, and homoscedasticity (Pallant, 2011). After the entry of the five variables, the total variance explained by the model (adjusted R square) was 0.41.

Table 4 shows that learner-learner; learner-instructor; learner-content; and self-regulation were significant predictors in explaining student satisfaction. Internet self-efficacy did not significantly contribute to the prediction of student satisfaction. Comparing the contribution of each independent variable, Table 4 shows that when the variance explained by all other variables in the model was controlled, learner-content interaction made the strongest contribution to explaining satisfaction ($B = 0.36$). Beta values for three other variables (self-regulation, learner-learner, and learner-instructor interactions) indicated relatively similar contributions (0.17, 0.15, and 0.11, respectively).

The adjusted R square value of 0.601 indicates that the model explains 60.1% of the variance in perceived satisfaction. The learners' perceived improvement in most language skills was a significant predictor in explaining their satisfaction. However, this did not apply to speaking ($p > 0.05$). The improvement of background knowledge was also a significant predictor; however, enhancement in grammar and vocabulary was not. Comparing the contribution of each independent variable, Table 5 shows that when the variance explained by all other variables in the model is controlled, improvement in background knowledge made the strongest contribution to explaining satisfaction ($B = 0.30$). This was followed by enhancement in listening and writing skills ($B = 0.25$ and 0.23 , respectively). Beta values for three other variables (reading, speaking, and grammar and vocabulary) indicated small contributions (0.08, 0.05, and 0.03, respectively) to student satisfaction. These regression results confirm the descriptive and correlational analyses.

Table 5. Multiple regression of predictors of learner-content interaction on satisfaction

	Beta	T	Sig.	Tolerance	VIF
Constant		1.900	0.058		
Listening	0.253	6.892	0.000	0.434	2.306
Reading	0.082	2.065	0.039	0.375	2.667
Writing	0.226	5.608	0.000	0.361	2.769
Speaking	0.052	1.366	0.173	0.409	2.446
Grammar + Vocabulary	0.031	0.775	0.439	0.374	2.676
Background Knowledge	0.300	7.588	0.000	0.375	2.669
Adjusted R square: 0.601					

ANOVA Analysis

One-way ANOVA analyses explore the differences and effects of students' background (gender and prior online language learning experience) on their overall satisfaction with the course. Levene's test of equality was conducted to test the assumption of equal variance. The gender variable violated the assumption, possibly because there were more female students than male ones at the university; hence, the "equal variances not assumed" values were used.

As shown in Table 6, gender and prior online language learning experience did not predict course satisfaction. There was no significant difference in scores for female and male satisfaction with the course. Similarly, there was no significant difference in the scores for students with experience in online language learning and those without experience.

DISCUSSION

Our study investigated the effect of key predictor variables on student satisfaction in an online language learning course. We utilized Moore's (1989) interaction model and also included Internet self-efficacy and self-regulated learning variables. The results of this study will be now compared to the findings of previous studies.

The study confirmed the importance of interaction (Gameel, 2017; Kuo et al., 2014; Lumsden, 2017). All three types of interaction were significantly correlated with student satisfaction. Learner-content interaction was the strongest predictor of student satisfaction, supporting Kuo et al. (2014). Learner-learner interaction was the second strongest predictor of student satisfaction. Learner-

Table 6. One-way ANOVA of gender and prior online language learning experience in course satisfaction

Gender						
Female (535)		Male (146)		T	Eta value	Sig.
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
2.93	0.627	2.84	0.721	1.291	0.002	0.157
Prior Online Language Learning Experience						
Yes (362)		No (319)			0.001	0.194
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
2.93	0.677	2.88	0.616	-.942		

instructor had the smallest contribution. Small powers of relationship between the latter two variables (0.15 and 0.11) that explained variance in satisfaction supports Shen et al. (2013).

The quality of course content must meet learner expectations to promote learning-content interaction. A key element of course content is the design, which has proven important in student satisfaction (Kintu et al., 2017; Zaili et al., 2019). In this online course, the learners had to complete the required percentage of interaction and move from one task to the next. Abrami, Bernard, Bures, Borokhovski, & Tamim (2011) suggested that it was necessary to impose rules and structures from the start of the learners' online learning process. However, studies by Grandzol and Grandzol, (2010), Kuo et al (2014) recommend the otherwise. Standards for online teaching need not contain arbitrary thresholds for required interaction. Flexibility of interaction with course content could impact student satisfaction. The lack of flexibility could have a negative impact.

Both learner-learner and learner-instructor interactions were significant predictors for student satisfaction, but the contribution was relatively small. Although this finding supports Lumsden, 2017; Shen et al., 2013, it contravened Gameel, 2017 and Kuo et al., 2014. The small contribution of these two types of interactions is explained by the fact that the learners met with one another and their instructors face-to-face, diminishing the need to interact online (Marden & Herrington, 2011). In addition, both the learners and instructors in this course were not required to take part in the discussion forums.

Instructors' teaching presence is key to increasing learner-instructor interaction, especially providing pedagogical instructions and/or using different interactional matrices, technological tools, and learning analytics (Chen et al., 2018; Cox et al., 2015; Gómez-Rey et al., 2017; Yükselir, 2016). In a language course, valuable in-text written, audio, personalised, or holistic feedback to both individuals and groups of learners provides a more meaningful interaction (Cox et al., 2015; Kim, 2017). In other words, instructors should share high-quality messages to encourage learners' interaction (Ghadirian et al., 2017; Gómez-Rey et al., 2017). These findings support the conceptual premise to provide instructors with necessary pedagogical, social, and technical skills in online teaching (Yükselir, 2016). In addition, in Asian culture, learners view their teachers as a respectable authority, role model, and ultimate source of knowledge (Loi, 2016; Raymond & Choon, 2017).

Learners' satisfied interaction with peers is attributed to receiving feedback, commenting on other posts, perceived usefulness, and meaningfulness of interaction. The respondents in this study scored a low average mean for the learner-learner interaction (2.56/4.0), with the lowest mean for the subscale of commenting on other posts (2.47/4.0). This finding comports with Chiu and Hew's (2018) study, which found that learners would rather read messages in the discussion forums than give comments because it takes longer. In addition, learners are likely to struggle with asking for clarification or presenting their viewpoints (Dan et al., 2018). Regarding the usefulness of interaction, Ghadirian et al. (2017) observed that learners' participation in an online discussion forum depended on their perception of helpfulness. Phirangee (2016) stressed the importance of meaningful, truthful peer interaction to discourage feelings of isolation and/or disconnection.

Our study found that self-regulation is a predictor of satisfaction; however, the influence level was weak (Beta value = 0.167). This result differed from Kuo et al., 2014, but comported with Puzziferro (2008) and Yilmaz (2017), which found that self-directed learning skills acquired by learners promotes satisfaction with an online course. Similarly, in reviewing studies on the relationship between self-regulated learning strategies and online learning grades, Broadbent and Poon (2015) found that self-regulation had a significant (but weak) association with online learning grades. In Vietnam, the few studies on autonomous learning indicated that it is not easy for learners and instructors to realise and implement changes regarding their roles in online learning and the teaching process (Loi, 2016).

Our study did not show a statistically significant influence of Internet self-efficacy on student satisfaction. There was, however, a positive association between these two variables. Our finding does not support the results of previous research (Chu & Chu, 2010; Zaili et al., 2019). It does, however, comport with other studies on the relationship between these two variables (Kuo et al., 2014; Robles,

2006; Shen et al., 2013) in which anxiety toward an e-learning environment, particularly the ability to handle tools in a course management system, was a vital factor in e-learner satisfaction. Therefore, institutions may choose to provide learners with an interactive orientation before introducing an online course to minimise their technical challenges (Cleveland-Innes & Ally, 2013).

Regarding the differences and effects of student background (i.e., gender, prior online English language learning experience) on course satisfaction, our study did not show any significant differences or effects of gender on student satisfaction. This contravenes findings that gender was a significant predictor of self-efficacy variables and course satisfaction (Ozudogru & Hismanoglu, 2016; Shen et al., 2013). Similarly, we did not find significant differences and effects of prior online language learning experience on course satisfaction. Like the gender variable, this result contravened research that found that learners experienced in distance learning were more self-efficacious and successful (Shen et al., 2013).

Regarding online language learning environments, limited data was found on the correlation between the three types of online interaction, Internet self-efficacy, self-regulation, and student satisfaction. Our study adds to the literature, finding that language learners' self-regulation and learner-content interaction were predictors of course satisfaction. Su et al. (2018) found that learners with better self-regulatory skills tended to be more self-efficacious. Self-evaluation was the most significant predictor of performance in listening, speaking, and reading. Hsu (2017) added that students' goal setting was a significant contributor to the development of writing skills. We suggest that online self-regulation is one of key factors to learners' satisfaction in an online language learning environment.

CONCLUSION, IMPLICATION, AND LIMITATIONS

Our study investigated student satisfaction in an online language learning course at a Vietnamese university. The study utilized descriptive, correlational, and regression analytical techniques to explore key predictors on student satisfaction. We found that the student's interactions with content, peers, and instructors, as well as their self-regulation, were significant predictors of course satisfaction. Secondly, participants placed a strong value of interaction with course content on the improvement of their background knowledge. And, third, the interaction with course content contributed more to student's receptive skills of listening and reading than productive skills of speaking and writing. However, gender and differences in prior online language learning were not significant factors influencing students' satisfaction with the course.

This study contributes to the knowledge in student satisfaction in online learning. In fact, it extends a growing body of research in understanding the effectiveness of online learning. Student satisfaction is a key element to evaluate online courses (Alqurashi, 2019). Our study revealed an understanding of student satisfaction in online learning, particularly online language learning. It confirms previous findings and contributes evidence to explore and enhance course content (e.g., design, usefulness of interaction, flexibility of delivery), instructors (e.g., pedagogy, online presence), and learners (e.g., online presence, self-regulation). Regarding online language teaching and learning, instructors should be trained on several matters, including EFL learner's self-regulation, moderating techniques, and prompt and valuable feedback. Second, while this study did not confirm the role of Internet self-efficacy, it did substantiate the need to conduct interactive orientations before the implementation of an online course. Continuous technical support should also be provided during the course implementation. The combination of academic and technical experts is recommended to ensure quality and usability of course materials and design, which promote student satisfaction with an online course.

Our findings are subject to three limitations. First, the data applied to learners' perceptions about the online course. To understand learner interaction with course content, peers, and instructors, future studies should include valid data on grades, time spent on tasks, and online messages. Second, the study was conducted in an online language learning environment; hence, the findings may not transfer

to teaching and learning of other disciplines. Third, the research did not survey instructors, who serve as content facilitators, designers, and promoters of social interaction and life skills promoters (Gómez-Rey et al., 2017). Future research should investigate instructor perceptions about their experience in online supervision and related factors in online teaching and learning environment.

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