



The Frequency of Employing Learning Management System in Teaching General English to Non-English Majors

Tran Thi Nhan, Nguyen Thi Kieu Thu

Ho Chi Minh City University of Technology (HUTECH) – Vietnam

Received: 17 Apr 2023; Received in revised form: 13 May 2023; Accepted: 20 May 2023; Available online: 31 May 2023
©2023 The Author(s). Published by Infogain Publication. This is an open access article under the CC BY license
(<https://creativecommons.org/licenses/by/4.0/>).

Abstract— *In the information age, the demand for technological means which can support the teaching and learning process is increasing rapidly. Learning Management System (LMS) is introduced as a special software facilitating learning and teaching activities. Although in recent years, studies about teachers' attitudes towards LMS are increasing significantly, there are limited studies regarding the frequency of using LMS features, especially in higher education. Therefore, this study aims to explore teachers' frequency of using LMS (Richmond and Google Classroom) and to investigate whether there is any correlation between teachers' frequency of using LMS and demographic elements. The data was collected at the University of Science – Vietnam National University – Hochiminh City with the participation of 32 lecturers teaching general English to non-English majors. The mixed-methods approach involving collecting both quantitative and qualitative data was applied to obtain data. Descriptive statistics and content analysis were employed for the data analysis process. The findings revealed the low level of using LMS features. Besides, the frequency of using LMS features had neither a significant correlation with age nor LMS skills proficiency. Additionally, the frequency of using learning skills feature was not influenced by age, gender, or experience, while gender influenced the frequency of using communication feature significantly. The study also made some recommendations for improving the frequency of using the system in terms of teachers' use.*

Keywords— *employment, general English, Google Classroom, LMS, non-English majors, Richmond*

I. INTRODUCTION

E-learning systems have become very popular in all fields of education since they offer great solutions for many areas faced by many organizations in general and by educational institutions in particular. With the help of the systems, education can take place anytime and anywhere as long as the user is equipped with a computer and internet connection (Cavus, 2010). It is not surprising that computer designers in the 1950s believed that it was necessary to apply LMS for educational purposes (Reiser, 1987, as cited in Watson & Watson, 2007, p. 28). In the mid to late 1990s, LMSs have evolved and promoted learner choice with a wide range of media and communication tools (Coates,

James, & Baldwin, 2005; Rodinadze & Zarbazovia, 2012; Kehrwald & Parker, 2019).

However, LMS adoption and usage encounter many barriers, one of them is the lack of technical skills from the faculty members which limits them from fully adopting the system in their teaching practices. Therefore, investigating the factors affecting users' current use of LMS is important (Alghamdi & Bayaga, 2016). Though teachers and students are both end-users of web-based learning systems, it is believed that the role of teachers outweighs students' role in terms of the success of using the system. Selim (2007) claimed that whether students were willing to use the system or not, they were obliged to use it as long as their teachers employed the system in all parts of their

teaching practices. When using any web-based learning system at any educational institution, especially in higher education, investigating the use of the system should be prioritized due to teachers' major contribution to the success of the system implementation. Therefore, this study aims to explore teachers' frequency of using LMS and to explore whether there is any correlation between the frequency of using LMS and teachers' demographic elements. The study attempted to address the following research questions:

- (1) How often is Learning Management System employed in teaching general English to non-English majors at the University of Science – Vietnam National University – Hochiminh City?
- (2) Is there any correlation between teachers' frequency of employing LMS features and demographic elements?

II. A BRIEF LITERATURE REVIEW

There is a variety of LMS definitions. According to Watson and Watson (2007), the term LMS was used to describe a wide range of computer-based applications which were employed in education to facilitate teaching and learning processes. While Basal (2016) defined LMS as a software or web-based technology utilized to facilitate online and blended learning and teaching by providing a platform with easy access to learning content and learning resources. Naz and Khan (2018) maintained that LMS was an online platform or a mechanism that powered E-learning and enabled users to do many E-learning-related tasks.

With respect to LMS types, Cavus (2010) categorized LMS into two main types, one was open-source systems that could be obtained for free (but not always) such as Moodle, Claroline, and ATutor, and the other was commercial systems which were obtained through payment like Blackboard, WebCT, and Sakai. Though most open-source systems do not require any payment, users must download the code. Besides, most of these systems are designed in a one-size-fits-all format. Whereas, commercial systems are generally designed based on users' needs under specific standards, and users must pay a fee usually on an annual basis so as to keep them up-to-date (Kasim & Khalid, 2016).

Richmond, along with Google Classroom is the LMS adopted to facilitate teaching and learning activities at the University of Science, Vietnam National University – Hochiminh City. Basically, Richmond is a commercial learning system and it is designed as a module-based platform providing assignments, student tracking, mini-tests, communication, and online lessons which are similar to the lessons in the paper textbook. Google Classroom, on

the other hand, is an open-source system allowing users to run online classes, create assignments, share materials, and grade assignments.

With regard to LMS features, Wichadee (2015) and Kasim and Khalid (2016) mentioned the three main functions of LMS which were learning skills feature, communication feature, and productivity feature. Learning skills feature (LF) provides students with learning-related tools such as quizzes, online presentations, and module assignments. Communication feature (CF), such as sending announcements for upcoming events, and posting and replying to messages, enables the interaction between learners and teachers and among students. The productivity feature (PF), on the other hand, helps teachers in document management, student performance management, or conducting surveys.

It is an undeniable fact that the success or failure of any web-based learning management system depends largely on teachers. In the same vein, the role of English teachers is crucial in employing LMS in teaching English. An LMS, Moodle for example, brings obvious benefits to both teachers and students with a variety of features such as providing electronic tests, creating and collecting students' assignments, and enabling teachers to track student's learning processes (Prasetya, 2021). Google Classroom, on the other hand, enables English teachers to establish virtual classes, share materials, create assignments, grade students, or give students feedback (Philipose & Rajagopal, 2019). However, one big downside of using LMS in teaching English is the diminishing of teacher-and-student communicative connection (Prasetya, 2021).

III. METHODOLOGY

3.1. Research site and participants

The survey was conducted at the Center for Foreign Languages of the University of Science - Vietnam National University - Hochiminh City. There were 33 lecturers and 49 classes in total. Each semester lasts approximately 16 weeks. Richmond, along with Google Classroom was the LMS employed in teaching English at the center. The survey was conducted at the end of the first semester of the academic year 2022-2023. Thirty-two lecturers participated in the survey after omitting one lecturer who was involved in the pilot study. The number of females outweighed males with 23 participants, accounting for 76.7%; whereas, the number of male participants was 7, making up 23.3%. The age of most participants ranged from 31 to 40, accounting for 56.7%. While the percentage of participants aged from 26 to 30 and above 40 were 23.3% and 16.7% respectively. Only one participant was under 26, accounting for 3.3%. The majority of participants had more

than two years of experience in using LMS (53.5%). The second highest percentage (23.3%) had only 3 to 6 months of experience. The figure for participants with 1 and 2 years of experience were 6.7% and 16.7% respectively. As for the current LMS skills level, the dominant group was intermediate with 76.7%; whereas, beginner and advanced participants constituted 10% and 13.3% respectively.

3.2. Research instrument

To acquire data about teachers’ frequency of employing LMS features in teaching English, the questionnaire and the semi-structured interview were conducted. There are two sections involved in the questionnaire. Section 1 is to collect respondents’ demographic information including age, gender, level of LMS proficiency, and years of experience in using LMS (Richmond and Google Classroom). In the second section, there are 10 items in total dealing with the first research question. These items were categorized into three groups of features, namely learning skills feature, communication feature, and productivity feature. This classification was based on the classification of Wichadee (2015) and Kasim and Khalid (2016). The items were scored on a 5-point Likert scale ((1) Never, (2) Rarely, (3) Sometimes, (4) Often, (5) Always). The researchers had chosen some question items in Domain 3 of Tawalbeh’s study (2018, p. 8), and the other items were taken from features listed in the official websites of Richmond ([https:// richmondlp.com/](https://richmondlp.com/)) and Google ([https://support.google.com/edu/classroom/answer/ 6020279?hl=en](https://support.google.com/edu/classroom/answer/6020279?hl=en)). Cronbach’s Alpha measurement returned a score of .75 which indicates that the question items were reliable. The interview was applied to corroborate the answers in the questionnaire.

3.3. Procedures for data collection and analysis

Before the actual survey, a pilot study was conducted so as to make modifications if necessary. After

Table 4.1: Descriptive statistics of 3 LMS features employed in teaching English

No.	The frequency of using LMS features	N = 30		
		Mean (M)	Standard Deviation (SD)	Level (extent)
1	Learning Skills Feature (LF)	2.61	.75	Moderate
2	Communication Feature (CF)	1.52	1.05	Low
3	Productivity Feature (PF)	2.54	.86	Low
	Total	2.22	.88	Low

Regarding learning skills feature, “assigning assignments available on the textbook” which was integrated into LMS was used at a moderate rate (M=3.17, SD=.95). While “creating and assigning more assignments” and “give students quiz tests” received low scores with

excluding one lecturer who participated in the pilot study and two unreliable responses, the sample population was reduced to 30 participants and they all took part in the questionnaire survey. Ten out of thirty lecturers were willing to participate in the semi-structured interview. Regarding the quantitative data, statistics on frequency, mean, standard deviation, and multivariate linear regression were conducted by applying Statistical Package for the Social Sciences (SPSS) version 22. As for the qualitative data, the researchers followed the process of qualitative data analysis listed in Braun and Clarke’ study (2006, p. 87). Interviewees were coded T1, T2, T3, T4, T5, T6, T7, T8, T9, T10. The researchers encoded interviewees’ responses into codes and categorized them into general themes.

IV. RESULTS AND DISCUSSION

4.1. Results

In this section, the researchers report on the results after analyzing the quantitative and qualitative data. These results were then reviewed to answer the research questions. Quantitative data were presented first, followed by qualitative data. Table 4.1 below displays the total mean scores and the standard deviations of three main LMS features. (LF) was used at the moderate level and achieved the highest mean score (M=2.61, SD=.75) compared to the lowest mean score of (CF) (M=1.52, SD=1.05). Having a high standard deviation (more than 1) implies there was wide dispersion of respondents’ answers regarding communication feature. While (PF) was used at the low level (M=2.54, SD=.86). Generally, the results indicate that lecturers’ preferred LMS feature was learning skills feature while communication feature and productivity feature were rarely used.

(M=2.60, SD=1.07) and (M=2.07, SD=1.05) respectively. High standard deviations (greater than 1) indicate that respondents held significantly different answers towards these items. The interview also showed the same outcomes. Nine out of ten interviewees agreed that the most used

feature of LMS was giving students assignments: *“The LMS feature which I use the most often is giving assignments since students are automatically received feedback on their performance regarding whether the answers are right or wrong, the total scores they get with the percentage of the answers they have done correctly.”* (T1); *“I give students assignments every day so giving students assignments is the LMS feature that I use the most often.”* (T4); *“With regard to the first question, the feature which I use the most often is giving students assignments, mostly multiple choice assignments, in order to test vocabulary and grammar. This is very convenient since the LMS system responds to students’ answers immediately.”* (T5); *“Every day I assign homework to my students; therefore, this is the most used feature. This is quite flexible in terms of time.”* (T6); *“Currently, the LMS feature which I use the most often is assigning homework to students and conducting in-class progress tests.”* (T8).

With respect to communication feature, the mean scores of all three items received noticeably low results including “posting announcements” (M=1.73, SD=1.41), “giving direct and real-time feedback” (M=1.63, SD=1.19), and “participating in course chat rooms concerning learning issues” (M=1.20, SD=1.27). All three items had high standard deviations, which can come to conclude that the spread of respondents’ answers was quite wide. The quantitative results are in line with the qualitative results obtained from the semi-structured interview. Six out of ten interviewees mentioned the communication feature as the least used LMS feature. Some comments are listed as follows: *“The LMS feature which I almost never use is interacting with students due to its inconvenience. Sending lecturers’ announcements through LMS requires students to regularly check their emails; therefore, it is unavoidable for students to miss announcements.”* (T1); *“I never make an announcement through LMS since it seems that students never check their emails. As for interacting with students, I use a more convenient platform to communicate with them such as Zalo or Facebook.”* (T5); *“I never use LMS to interact or make announcements. Instead, I use another platform like Zalo or Facebook Messenger whenever I need to contact my students.”* (T8).

As for productivity feature, “viewing class reports” was at a moderate level (M=2.8, SD=0.89) compared to the low frequency of “uploading additional course materials” (M=2.03, SD=1.33). Whereas, “grading students” (M=2.70, SD=1.21) and “viewing individual student reports” (M=2.63, SD=1.03) were both at a moderate level. Except for “viewing class reports”, the other items had high standard deviations which indicates that there were differences existed in respondents’ answers. The researchers believe that the automatic-grading mechanism

of the LMS was the prerequisite element that influenced lecturers’ behavior when using the feature of assigning homework or conducting tests. This was linked directly to the frequency of using learning skills feature in terms of assigning assignments and giving quiz tests. Surprisingly, the mean score of “grading students” received quite a low result despite the fact that six out of ten interviewees gave positive comments about this specialized feature of LMS that made them satisfied. There was one interviewee gave a detailed explanation for not using LMS to upload additional materials: *“I am moderately satisfied with this current LMS. I am at an advanced level of using LMS and I have plenty of LMS experience. I think this LMS has a lot of limitations compared with other LMS like Moodle or Canvas. For example, when I uploaded a picture, it disappeared after a few days. The capacity of this LMS is really limited.”* (T9)

When it comes to the second research question, in order to figure out the correlation between dependent variables ((LF), (CF), (PF)) and independent ones (gender, age, experience in using LMS, current LMS skills level), multivariate linear regression analysis was applied based on the data gained from the questionnaire survey. The results are shown in Table 4.2.

It is apparent that gender had no influence on (LF) and (PF), but influenced significantly on (CF) ($p=0.038$). Figure 4.1 shows the distribution of (CF) by gender, in which females tended to use this feature more often than males. The data obtained from the interview yielded the same outcome with two male interviewees emphasizing that they never used LMS to interact with students, and they rarely communicated with students except for important announcements. As for experience, respondents with two years of experience of using the system had neither a significant correlation with (LF) nor (CF) but had significant correlation with (PF) ($p=0.027$). Figure 4.2 presents the distribution of (PF) by experience. It can be seen that respondents with 2 years of experience in using LMS tended to use this feature less often than other groups. Noticeably, the two highest frequency of using PF was the group with highest experience (more than 2 years) and the lowest one (3-6 months). Whereas, the correlation of other experience groups with (LF), (CF) or (PF) was insignificant ($p>0.05$). Participants’ age and their LMS skills level were not significantly linked with (LF), (CF) or (PF) ($p>0.05$).

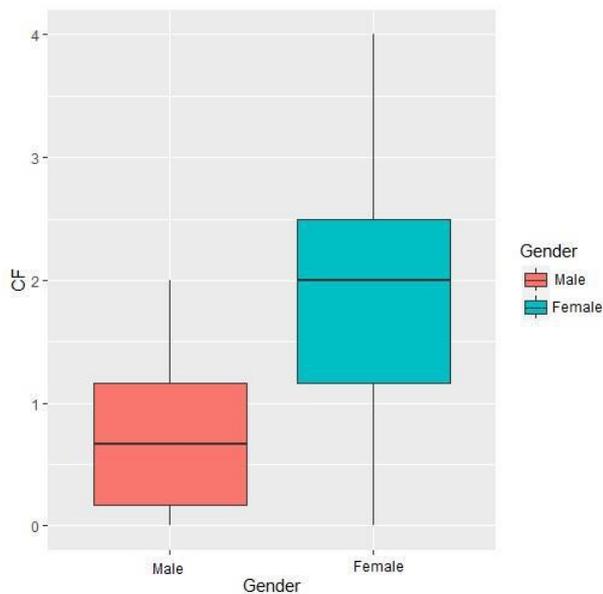


Fig.4.1 The distribution of (CF) by gender

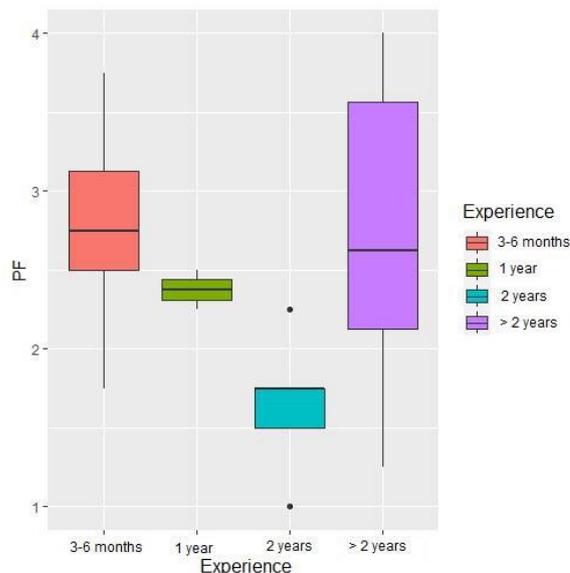


Fig.4.2 The distribution of (PF) by experience

Table 4.2 Factors affecting variables related to the frequency of using LMS features

		P value of variable		
		LF	CF	PF
Gender	Male	Reference		
	Female	0.757	0.038	0.655
Age	< 26	Reference		
	26-30	0.879	0.333	0.181
	31-40	0.723	0.716	0.156
	> 40	0.967	0.186	0.494
Experience	3 – 6 months	Reference		
	1 year	0.819	0.566	0.583
	2 years	0.456	0.209	0.027
	> 2 years	0.615	0.386	0.383
LMS skills level	Beginner	Reference		
	Intermediate	0.267	0.185	0.934
	Advanced	0.226	0.088	0.905

4.2. Discussion

In general, the frequency of employing LMS features in teaching English was very low. This finding was supported by Fathema et al. (2015).

In respect of learning skills feature, lecturers used LMS to assign homework to students quite often compared with creating more assignments or conducting tests which were rarely used. The results are in alignment with the results of the interview. Nine out of ten interviewees asserted that they used LMS to assign homework (T1, T2, T4, T5, T6, T7, T8, T9, T10) compared to two and one were the number of interviewees mentioned using LMS to create more assignments (T3, T8) and to conduct progress tests (T8) respectively. This finding is supported by Alghamdi

and Bayaga (2016) stating that the majority of faculty members did not use LMS to conduct online examinations.

In terms of communication feature, the results from the questionnaire indicated that communication between lecturers and students through the current LMS was limited. In a study conducted by Frymier and Houser (2000), university students asserted that communication with their teachers affected their learning and motivation significantly. Frymier and Houser (2000) also claimed that “the evidence is growing that effective teaching means personal communication between teachers and students as well as expertise and effective delivery of the content” (p. 217). Lack of frequent communication might be one of the

factors which caused the low frequency of using the system among lecturers.

Results from the questionnaire in terms of the frequency of using productivity feature indicate that lecturers seldom used this feature in their teaching activities. There is no previous study investigating this issue, while the semi-structured interview showed similar outcomes. Only one interviewee (T10) responded that she usually used LMS to check students' progress. Though automatic grading was the special function of the current LMS, it seems that the interviewees just considered this function as the factor supporting their use of learning skills feature in assigning homework or conducting tests. The interviewee coded as T6 stated that she rarely used LMS to view students' reports, while the interviewee coded as T10 mentioned the limited capacity of the current LMS as the main reason for not uploading additional course materials.

Concerning the high standard deviations (greater than 1) of almost all items related to teachers' frequency of using LMS (8 out of 10), it is unlikely to explain the reason behind this result if based only on the current research. The researchers suppose that each lecturer held his/her own explanation for his/her response. Therefore, it is necessary to conduct more research at the center to shed light on this issue, thereby lowering the value of standard deviations.

With regard to the correlation between teachers' frequency of using LMS features and the demographic elements, age was not significantly correlated with the frequency of employing LMS features in teaching English. The result was in line with Mahdi and Al-Dera (2013) which indicated that teachers' age did not affect the implementation of information and communication technology. Teachers' LMS skills level did not correlate with teachers' frequency of using the system. The result is dissimilar from Fathema et al. (2015) and Teo (2008). In their studies, they asserted that faculty members (or teachers) who were confident about their LMS skills used LMS more often than those with less LMS skills confidence.

With respect to LMS features, learning skills feature was not influenced by age, gender, or experience on the use of LMS or LMS skills level, while communication feature was significantly influenced by gender. This finding was in accordance with the data collected from the semi-structured interview and with Mahdi and Al-Dera' finding (2013). Female teachers in this study appeared to interact with students more often than males. This result was far different from the finding of Mahdi and Al-Dera (2013) since they found that male teachers used this function more often compared with females. It seems appropriate that Mahdi and Al-Dera' study (2013) was conducted in Saudi

universities where subjective norms related to gender could affect their findings significantly.

Productivity feature, on the other, was significantly linked with teachers' experience in using LMS. Apparently, the more experience teachers had in using the system, the more they cared for the productivity feature. While a study conducted by Mahdi and Al-Dera (2013) produced different results. They stated that there was no profound impact on integrating technology in language teaching between experienced and less experienced teachers. Unexpectedly, teachers who were quite new to the system (3-6 months) showed their interest in productivity feature. There were no such findings in other previous studies in the field; therefore, the researchers suppose that teachers with low experience in using the system tended to use it more often so as to get used to its operation.

V. CONCLUSION

As for the first research question concerning teachers' frequency of using LMS features in teaching general English to non-English majors, data obtained from lecturers teaching at the Center for Foreign Languages of the University of Science – Vietnam National University – Hochiminh City indicate that the employment of LMS in teaching was quite low. The least used feature was communication feature, while learning skills feature and productivity feature had higher frequencies of use but still under the average level. Learning skills feature was used the most often as assigning homework was the mandatory activity for the assessment for learning. Whereas, communication feature received the least concern from lecturers as its inconvenience. The productivity feature still received some of the lecturers' concerns but the frequency of using this feature was very low.

Age and LMS skills level of teachers were not significantly correlated with the frequency of using LMS. Gender, on the other, was found to have a significant connection with the frequency of using communication feature. Female teachers tended to use this feature more than male teachers. Besides, experience of using the system was significantly correlated with using productivity feature. Teachers with 2 years of experience gained negative attitudes towards productivity feature. The result was significantly different from results collected from highly experienced teachers (more than 2 years) and those who were quite new to the system (3-6 months) with moderate attitudes towards using this feature.

Several recommendations were made based on the study's findings. The researchers assumed that the lack of communication between teachers and students was one of the reasons causing the low frequency of employing LMS

in teaching. As for the current LMS itself, the researchers raise a concern with its communication feature. Since the communication between teachers and students has a profound impact on students' learning motivation, the researchers believe that by improving the LMS communication feature, teachers and students would have more chance for system exposure. Increasing the frequency of using communication feature may help increase the productivity of students and encourage the interaction between teachers and students; thereby, increasing the incentives of employing the system in users as a consequence. The researchers suggest that it is important to collect lecturers' feedback on quality-related issues, problems that may occur during using LMS, and teachers' recommendations for LMS's improvement. These efforts could help the administrators gain better insights into teachers' thoughts and thereby being able to explain the low level of using the system. Consequently, the administrators and the LMS designers can improve the system so as to harness its full potential and gradually increase the frequency of employing the system in teaching English.

This study reveals several limitations. Firstly, in addition to conducting the survey at only one English center, the sample size was relatively small with the participation of 32 teachers, which may result in diminishing the generalization of the findings. Secondly, since the study was designed as a cross-sectional study, it is unlikely to achieve the stability of teachers' attitudes. Thirdly, due to the constraints of time, the researchers merely employed two research instruments to collect data. As a result, the scope of this study was limited and the study was unable to collect as much data as the researchers expected.

REFERENCES

- [1] Alghamdi, S. R., & Bayaga, A. (2016). Use and attitude towards learning management systems (LMS) in Saudi Arabian universities. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(9), 2309-2330.
- [2] Basal, A. (2016, November 17-18). Extending the functionality of LMS for English language teaching. *Conference proceedings. ICT for language learning*, (pp. 142-146). *libreriauniversitaria. it Edizioni*.
- [3] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- [4] Cavus, N. (2010). The evaluation of Learning Management Systems using an artificial intelligence fuzzy logic algorithm. *Advances in Engineering Software*, 41(2), 248-254.
- [5] Coates, H., James, R., & Baldwin, G. (2005). A critical examination of the effects of learning management systems on university teaching and learning. *Tertiary education and management*, 11(1), 19-36.
- [6] Fathema, N., Shannon, D., & Ross, M. (2015). Expanding the Technology Acceptance Model (TAM) to examine faculty use of Learning Management Systems (LMSs) in higher education institutions. *Journal of Online Learning & Teaching*, 11(2).
- [7] Frymier, A. B., & Houser, M. L. (2000). The teacher-student relationship as an interpersonal relationship. *Communication Education*, 49(3), 207-219. <https://doi.org/10.1080/03634520009379209>
- [8] Kasim, N. N. M., & Khalid, F. (2016). Choosing the right learning management system (LMS) for the higher education institution context: A systematic review. *International Journal of Emerging Technologies in Learning*, 11(6).
- [9] Kehrwald, B. A., & Parker, B. (2019). Implementing online learning, stories from the field. *Journal of University Teaching & Learning Practice*, 16(1).
- [10] Mahdi, H. S., & Al-Dera, A. S. (2013). The Impact of Teachers' Age, Gender and Experience on the Use of Information and Communication Technology in EFL Teaching. *English Language Teaching*, 6(6). <https://doi.org/10.5539/elt.v6n6p57>
- [11] Naz, T., & Khan, M. (2018). Functionality gaps in the design of learning management systems. *International Journal of Advanced Computer Science and Applications*, 9(11).
- [12] Philipose, C. M., & Rajagopal, S. (2019). Google Classroom as a learning management system (LMS) for teaching English. *FORTELL*, 38, 81-90.
- [13] Prasetya, R. (2021). Effectiveness of Teaching English for Specific Purposes in LMS Moodle: Lecturers' Perspective. *Journal of English Language Teaching and Linguistics*, 6(1), 93-109.
- [14] Rodinadze, S., & Zarbazoia, K. (2012). The advantages of information technology in teaching English language. *Frontiers of Language and Teaching*, 3(5), 271-275.
- [15] Selim, H. M. (2007). Critical success factors for e-learning acceptance: Confirmatory factor models. *Computers & education*, 49(2), 396-413.
- [16] Tawalbeh, T. I. (2018). EFL Instructors' Perceptions of Blackboard Learning Management System (LMS) at University Level. *English Language Teaching*, 11(1), 1-9.
- [17] Teo, T. (2008). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*, 24(4). <https://doi.org/10.14742/ajet.1201>
- [18] Watson, W. R., & Watson, S. L. (2007). An argument for clarity: What are learning management systems, what are they not, and what should they become? *TechTrends*, 51(2), 28-34.
- [19] Wichadee, S. (2015). Factors Related to Faculty Members' Attitude and Adoption of a Learning Management System. *Turkish Online Journal of Educational Technology-TOJET*, 14(4), 53-61.