Article

Not peer-reviewed version

Implementation of learning management systems (Moodle): effects on students' language acquisition and attitudes towards learning English as a Foreign Language

Husam Ahmad Qaddumi * and Matt Smith

Posted Date: 14 March 2024

doi: 10.20944/preprints202403.0878.v1

Keywords: Attitudes, Moodle, LMS, EFL, language, sophomore students

Article

Implementation of Learning Management Systems (Moodle): Effects on Students' Language Acquisition and Attitudes towards Learning English as a Foreign Language

Husam Ahmad Qaddumi [1] *, Matt Smith [2]

[1] Uni 1 (Palestine)*
[2] Uni 2 (UK); matt.smith@wlv.ac.uk
* Correspondence: hussam_eteach@yahoo.com

Abstract: Among the most popular learning management systems available worldwide is Moodle [1]. This current study examines how learners' attitudes toward English as a foreign language (EFL) and their language proficiency are affected by Moodle's interactive language learning activities. Thirty-three undergraduate students participated in this study. We investigated the effects of engaging language learning exercises that were practiced on Moodle using an experimental research design. To find out if the experimental and control groups differed significantly from one another on pre- and post-measures regarding the development of language skills and attitudes toward language classrooms, a number of statistical tests were employed. We conducted data analysis using SPSS software. Results demonstrated that there were differences favoring the experimental group in the language skills developments and attitudes of learners toward the language classroom. There were no apparent differences in the forming structures, speaking, or listening of the control group's learners. On the other hand, there were notable differences in the overall score, writing and reading skills, and lexical item mastery. Additionally, significant differences in the language acquisition growth of the experimental and control groups were found using an Independent Samples T-test in the post-test, with the experimental group benefiting.

Keywords: Attitudes; moodle; LMS; EFL; language; sophomore students

1. Introduction

Developments in information and communication technology (ICT) have accelerated, especially when it comes to language teaching [2]. The Ministry of Higher Education (MOHE) in Palestine has implemented numerous innovations in ICT for education through professional development programs; however, teachers express dissatisfaction when surveyed [3]. Even in virtual classrooms, the instructor is the only one speaking [2], while students remain seated, listen mainly in silence, and take notes to commit to memory in a non-interactive manner. Numerous detrimental effects on students' language proficiency may result from this teacher-centered learning environment [4–6]. In traditionally didactic teacher-led learning, there are few opportunities for authentic classroom interactions; as a result, students rarely utilize their language skills in real-world contexts [7]. In Palestinian university contexts, research on how well Learning Management Systems (LMS) work to accelerate language learning and investigate how it affects learners' attitudes toward language acquisition is still extremely uncommon.

1.2. Problem Statement and Research Questions

Research on the use of LMS and their effects on language acquisition and learners' attitudes has not been done in Palestinian education. So, this study seeks to find out whether and how using an LMS (Moodle) affected the language proficiency of Palestinian students. The study also aimed to demonstrate how learners' attitudes toward English language instruction and the classroom are

 doi:10.20944/preprints202403.0878.v1

affected by the use of LMSs. By putting the following theories to the test, this study aims to close the gaps.

HYPOTHESES

H1: There are no apparent shifts in the experimental group's learners' attitudes or their progress in their English language proficiency among pre- and post-tests.

H2: Regarding the participants in the control group, no significant differences in the attitudes and the English language development for either the learners in pre- or post-test.

H3: There are no significant differences in learners' development in English language skills on post-measure between experimental and control groups.

H4: No significant variations among the experimental and control groups' pre- and post-measure student attitudes regarding the English language.

1.3. Literature Review

We contend that the growth of social media and ICT has increased the opportunities for academic success. Given today's unrestricted access to vast amounts of information, creative pedagogical approaches are required to help students navigate digital content and gain knowledge on their own [8]. Utilizing educational technologies could help teachers and students identify the unique learning obstacles that arise in different settings and at different times. Purwanto asserts that students can visit and access their classes from anywhere at any time. ICT is used in every educational process in the third decade of the 2000s [10,11]. In the virtual learning environment, the new web-based learning model presents challenges and opportunities for both educators and students. Online English learning is one example of how digital educational websites can help improve teachers' methods of illustrating the content. Students should be ready to pick up ideas from reputable websites and the instructor's example. In order to conduct virtual classes online as effectively as in traditional classrooms, the teacher's role in delivering the lesson is crucial [12].

Modern educational institutions, ranging from elementary to advanced levels, use technological tools and educational websites like networks for learning to manage teaching tasks [13]. Every subject that students learn in school or at university is supported in this manner. To avoid leaving students without direction during the recent critical pandemic era, the majority of educators worldwide turned to digital education [14,15]. Since technology is ubiquitous, this century is known as "the age of technology" and its advancements have had an impact on all facets of human life, particularly education. Teachers across the globe are encouraged to use technology in their lessons because it affects students' academic performance. As a result, teachers need to support and insert technology into their lesson plans [16].

Technology is used by educational institutions at all levels to facilitate distant instruction and learning, such as teaching and learning of English [17]. People are encouraged to use technology even more in this era of globalization [18,19]. Consequently, educators need to integrate it into their lesson plans [20]. In the wake of the current pandemic, this is still true. Therefore, one of the most important strategies for encouraging students to study English online and increase their achievement is to use technology to emphasize the quality of teaching and learning resources [21].

English proficiency has become essential, certainly in Palestine, since it can be used for international communication anywhere in the world. In addition, learning English can improve relationships across the nation, among other benefits. In Palestine, English is thus taught in preschool, elementary school, secondary school, and tertiary education. Studying at every level leads to new objectives and deeper learning. English is taught to kindergarten and elementary school pupils through simple exercises and hands-on games [22]. The primary level concentrates on learning grammar and vocabulary associated with a range of subjects, such as families, animals, food and drink, sports, and games [23]. At higher levels it has been noted that academic skills and increasing

 doi:10.20944/preprints202403.0878.v1

students' ability to meet expectations should be included in the English course requirement in secondary high schools [24].

Because they can be finished at any time and thus take less time and dedication than in-person learning environments, online courses are frequently preferred by students [25]. Social networking sites have drastically changed how people communicate and exchange knowledge within communities [26]. They have spread over most of the world and eliminated many national boundaries, allowing people in most countries to express their own opinions as well as learn about the beliefs and lifestyles of others [27]. Instructors and students can stay in touch with each other through web applications at any time of day or place, even outside of the classroom. A multitude of tools are at one's disposal to facilitate the acquisition and integration of educational materials. Due to the widespread use of social networking, websites and apps of this kind can be integrated with smartboards to offer educators and students alike exciting and safe environments for collaborating, interesting, discussing, and sharing data [28].

Academic activities, such as teaching and learning, were significantly impacted by the start of COVID-19 [29]. So as to make easy and safe access to online learning through digital sites for students and instructors without necessitating in-person interaction, the Palestinian educational institutions directed that teaching should be conducted digitally [30]. Following the widespread shift to online learning, numerous analysts highlighted several significant advancements that were in some ways invigorating – things were surfaced which may have remained suppressed for a long time, and modifications are underway which some see as past due [15]. Since the pandemic, there has been a return to some semblance of normalcy, and in many cases, home study is encouraged to keep students actively learning in the modern digital world. It is imperative that educators and students be equipped to handle both present and future crises, including those involving Palestine and the Ukraine [6,31,32]. With today's technology, students can study online without having to interact with teachers directly [33]. These days, educational advanced technologies include software, digital sites, and web-based media [33]. An institutionally-specific educational framework, content, sessions, opportunities for interaction, dialogue, and co-creation, assessments, and spaces for students to upload work are all provided by the learning management system (LMS) platform, a digital platform that serves as a foundation for student interactions with their education. This has been referred to as a "one stop shop" [34].

There are evident effects on learners' attitudes and language acquisition when using online digital classrooms [35]. While in-person classes in Palestine used chalkboards to support the teaching-learning process, learning management systems are very beneficial to higher education institutions, and this was especially true during the pandemic. Postsecondary education make prolific use of online learning management systems, which are intended to engage students through a variety of pedagogical and communicative methods [36]. Even though each LMS has unique qualities, they can be customized to meet the needs and circumstances of particular institutions [34]. Moodle has emerged as the most widely used LMS for managing teaching and learning procedures, especially for English courses [37].

Moodle is an online learning environment that helps students improve their comprehension and abilities by assigning meaningful tasks that foster collaboration, creativity, problem-solving, and interaction in English classes [38]. Online learning can be made easier with feedback by using Moodle as a digital learning tool [39]. The most recent official statistics from Moodle (Moodle, 2019) show that more than sixty percent of schools and institutions used Moodle for both online and offline teaching methods.

With its ability to let teachers and students collaborate to enhance the learning environment, Moodle positions itself as a tool of immense importance in the educational process. Utilizing the Moodle learning platform, students may also be able to build information relevant to their level from other educational sources. The fact that LMS significantly affects the current interactive learning environment is another benefit of using it. By fostering independence and empowering students to be more flexible in their learning, especially while studying the English language, LMS can boost students' engagement.

 doi:10.20944/preprints202403.0878.v1

In order to help students better comprehend the English course and prepare for their future professions, the vocational stream of English language instruction aims to help them. In addition, four English language skills are the main focus of English language instruction in Palestine [40]. A seamless interactive learning pace in the classroom is accelerated by effectively and efficiently using an interactive online platform. This makes it possible for students to work with English topics digitally. Given the speed at which technology is developing, learning management systems could be a suitable way to provide and access web-based educational resources [41].

Through LMSs like Moodle, English teachers can give their students instructional resources including videos, material written material, recorded materials, and webpages and these, alongside a wider use of technological tools, have the potential to make educational environment better [43]. According to a study by Annisa et al. [44], students believe that the English language is a crucial subject that they concentrate on to eventually pass final exams and get better grades. Furthermore, the vast majority of students said that studying English will help them achieve their academic objectives in the future. They recognized that, in order to improve their performance, they needed to increase their self-efficiency in emergency preparation, motivation, and consciousness. One important factor that is expected to boost motivation in Moodle-based online courses is the attitude concept.

The students responded in a positive and favorable way to the questionnaire and interview sessions. The most efficient way to carry out educational tasks, such as studying the English language, according to subjects in the Covid-19 breakdown out, was through e-learning. In terms of language learners using Moodle, Setlik & da Silva looked at the impact of teacher preparation. Positive influence came to light. It was determined that the Moodle platform teacher training had a positive influence on the students' progress in learning English as a second language. More specifically, Logroño & Costelo-Abrea investigated how EFL students perceived the difficulties they encountered using Microsoft Teams and Moodle for their coursework. The findings showed that some of the students' opinions about online learning were unfavorable. Some of the difficulties they reported encountering included the lack of social interaction, technical issues, and distractions.

Regarding Moodle's significant impact as an online learning platform, more research is required to examine Moodle's dependability in the Palestinian educational institutions during the crisis. Consequently, the present research examined how university students experience concerning using the Moodle platform as an interactive tool for learning, to emphasis the English language classes.

2. Materials and Methods:

2.1. Design, Participants, and Procedures

This study used two groups: the experimental and the control. It was thought that a quasi-experimental research design would be the most useful to use in such a setting. We used pre- and post-implementation designs to investigate how learners' attitudes and language proficiency developed in relation to the LMS (Moodle). We used Moodle, an online learning platform that gives students the ability to participate, communicate, interact, and provide quick feedback, to instruct the experimental group. Concurrently, the control group participated in traditional lectures where the lecturer was the focal point of the class: often referred to in Palestine as "the Sage on the Stage" [47]. The experiment took place at (Anonymized) University in Palestine over the course of one semester (15 weeks). We employed the Wilks' Lambda Measure, Person Correlation Coefficient, and Sidak post hoc tests as the statistical techniques in this study.

A. Study Participants

Two participant classes from the University's English Language course were chosen. Out of the 35 participants, 33 gave their consent and agreed to participate in the research. There were 17 participants in the experimental group and 16 in the control group. We used the intelligence quotient (IQ) as a control variable to ensure the participants' internal consistency and equivalence (as explained below).

B. Participants' Age:

 doi:10.20944/preprints202403.0878.v1

All the students were approximately of the same age: between 230 and 240 months.

C. Participants' Intelligence Quotient:

To guarantee internal consistency and equivalency among the participants, we employed the intelligence quotient, or IQ, as a control variable. We ensured that the participant groups' natural intelligence levels were equal by controlling the IQ disparity between the two groups.

D. Measure of the study variables

In such studies it is better to control the experiment and ensure that the groups are equivalent so as to avoid bias and to ensure equivalence. In order to determine whether there were any differences, we calculated the mean values for each research group. For every language skill, we used the total achievement test score.

2.2. Data Collection

Instrumentation development

In this study we developed two instruments: one to measure students' development and the other to record students' attitudes. So as to decide the students' progress, we designed a test to see whether students developed after both forms of instruction. We developed a survey questionnaire so that we could determine the students' attitudes about their language classes, classroom environment and their language skills.

Achievement Test

To check for any differences in language development between the groups, we created an exam to assess learners' language learning progress. The test was carried out twice: once via Moodle prior to instruction and again after the instruction. We created achievement test questions in order to reinforce the exam's validity. After that, we sent the test to a number of experts at Palestinian institutions for revision. We requested that the reviewers verify whether the test was appropriate for the students' level. Every recommendation that was offered was taken into account.

They proposed, for instance, splitting the attitudinal questionnaire into categories like learners' attitudes toward developing language skills and attitudes about the English language classroom. We examined the difficulty factor and indexing to make sure the test items were not either too simple or too hard for the participants. We estimated the factors based on the conclusion made by Roohollah et al. that the optimal range for the test difficulty factor is between 50% and 80%. The test's difficulty index ranged from 0.50 to 0.83, and its ability to discriminate factor varied from 0.1 to 0.8. These measures of discrimination and difficulty were appropriate for using in the study's test. We employed the test-retest approach with Cronbach Alpha (0.81) to verify the test's reliability.

There were 100 items on the test. The test was multiple choice throughout and included aspects on speaking, listening, writing and structural patterns. We integrated the instructional design of the LMS application into the lessons taught by the experimental group. The instructional materials provided in the course were used to instruct both groups. The control group's instructions and activities were exactly in line with the conventional didactic approach. Our goal was to evaluate the language proficiency of the experimental and control groups.

We complied with several protocols when we first began to design the test. First, we went over the language lessons and the units covered in the textbook for Intermediate English. Subsequently, we converted the content analyses of the first three units into lesson counts and language proficiency. Next, we created a table of specifications based on how many lessons each skill was distributed across in the textbook. According to the analysis and distribution of the textbook, we assigned a set of questions to each language skill. We made sure the test was free of grammatical errors and covered all the necessary material.

Questionnaire

According to earlier research, using learning management systems (LMSs) like Moodle encourages students to view learning positively [43,49,50]. We used the relevant literature (e.g., [51–53]) to gather ideas to create a five-point Likert survey questionnaire.

After collecting all the materials, our research team decided to include a questionnaire with 25 items divided into four sections. Section 1 collected data on demographics. Participants were asked

 doi:10.20944/preprints202403.0878.v1

to score the questionnaire items in the final three sections on a scale of 1 to 5. Students' attitudes toward English language instruction were gauged in the second section (items 1-6); their attitudes toward acquiring the fundamentals of language were gauged in the third section (items 7–14); and their attitudes toward Moodle were gauged in the fourth section (items 15–25). Using internal consistency, we adjusted each item's correlation coefficient to assess the credibility of the questionnaire. Two forms of the survey questionnaire were created by us. With the exception of section 4, which gauges students' opinions of Moodle, the two versions are identical. This second edition was distributed to the experimental group only as they used the Moodle in their study.

3. Results and Discussion

We implemented tests so that we could analyze the data. For example, the degree to which the experimental group's attitudes and language abilities have grown between before and after the tests can be determined using Wilks' Lambda. The means are displayed in Table 1 below, and the Wilks' Lambda results are explained in Table 2.

As demonstrated by the figures in Table 1, there are variations between the experimental group's pre- and post-test results, and the students' language has undergone a notable development. Table 2 illustrates how we employed the Sidak post-hoc test to pinpoint the precise variations in language development that were present.

Table 1. The experimental group's students' language skills development (means, SD on both the pre- and post-tests).

Development	**Pre**		**Post**	
	M	SD	M	**SD**
The ability to speak	4.69	1.56	7.00	**1.06**
The ability to listen	3.66	0.61	9.52	**0.48**
New lexical items	8.66	4.57	15.56	**3.29**
Structure formation	11.55	3.31	16.52	**3.61**
Reading comprehension	14.11	5.00	17.48	**6.57**
rhetoric	4.15	1.95	4.90	**2.56**
Total	**46.82**	**16.95**	**70.98**	**17.57**
Development	Wilks' Lambda Value	F	DF	Error	**Sig.**
The ability to speak	0.40	16.83	2.00	25.00	**0.0001***
The ability to listen	0.02	554.45	2.00	25.00	**0.0001***
New lexical items	0.23	39.29	2.00	25.00	**0.0001***
Structure formation	0.45	15.81	2.00	25.00	**0.0001***
Reading comprehension	0.31	25.38	2.00	25.00	**0.0001***
rhetoric	0.26	32.79	2.00	25.00	**0.0001***
Total	**1.67**	**85.08**	**2.00**	**25.00**	**0.0001***

Table 2. Results of the sidak post-hoc test on the experimental group's post-measure of learners' english language proficiency.

English language skills development	**Measures**	**Pre-test**	**Post- Measure**
The ability to speak	Pre		-1.24*
	Post		
The ability to listen	Pre		-4.90*
	Post		
New lexical items	Pre		-5.01*
	Post		
Structure formation	Pre		-4.01*
	Post		
Reading comprehension	Pre		-3.31*

 doi:10.20944/preprints202403.0878.v1

	Post		
rhetoric	Pre		-0.69
	Post		
Total score	Pre		-22.83*
	Post		

The above table's Sidak post-hoc test results on total score demonstrate that there were notable variations in the experimental group students' English proficiency between the pre- and post-test results. The variance for the experimental group showed clear progression in the post scores. This result could have been influenced by interactive language learning activities, since students are learning in a risk-free setting with their peers. The environment that is created by students using technology is one in which high levels of inspiration and engagement are easily observed [54]. According to Tai & Chen [55], there is an improvement among the advancement of learners and the Moodle-based lesson plans [56], indicating that the engaging technological setting promotes deeper content understanding. The students' reading abilities significantly improved, according to the post-measure results. Furthermore, learners' development was positively impacted by Moodle's interactive language learning activities more so than by traditional teaching methods [57]. When writing skills were tested, the results showed a significant impact at the post-measure stage; this suggests that online and more collaborative learning environments are better for students' acquisition of writing skills.

According to Karaaslan et al. [58], the result confirms that Moodle's instructional interactive language learning exercises have an effect on students' performance. A Sidak post-hoc test was used to identify minor variations in learners' development that were significant in relation to speaking ability on the post.

Tests of listening abilities revealed an improvement in posttest results. This result emphasizes how important it is to teach listening skills using Moodle during the pandemic, as these skills are primarily neglected in in-person instruction. In post-measures, students who received instruction through the LMS demonstrated improved listening skills. Additionally, students in the control group—where instruction is given in a conventional manner—showed less advancement in their language proficiency [59].

Following the assessment, there were no noticable differences in vocabulary development. According to Zainuddin et al. [60], Moodle provided a range of interactive language exercises for students in the group that participated in the experiment. There were no discernible changes in the structural patterns in the post-measures. This outcome demonstrates that students using Moodle to learn English will be motivated to learn the language and make an effort to attend all of their classes.

The above table's Sidak post-hoc findings on total score show that noticeable differences in the experimental group's students' advancement in their English-speaking proficiency between the pre- and post exist. The experimental group experienced a positive difference at post-measure. We used the Wilks' Lambda test for the repeated measures as indicated in tables 3 and 4.

Table 3. Means and the SD of the control group's learning development, for each of the pre- and post-measures.

English language skills development	**Pre**		**Post**	
	M	**S D**	**M**	**S D**
The ability to speak	4.01	1.50	3.55	**2.04**
The ability to listen	3.05	1.45	2.45	**1.75**
New lexical items	10.10	3.75	15.35	**4.47**
Structure formation	13.90	4.29	15.24	**4.00**
Reading comprehension	16.05	3.32	19.45	**5.05**
Rhetoric	3.88	1.04	4.00	**2.10**

 doi:10.20944/preprints202403.0878.v1

Total	**50.99**	**15.35**	**60.04**	**19.41**

Table 4. Results of the Wilks Lambda test showing variations in the growth of learners in both the pre- and post-measures for the control group.

English language skills development	Wilks' Lambda	F	DF	Error	Sig.
The ability to speak	0.93	0.41	2.00	24.00	**0.62**
The ability to listen	0.91	1.00	2.00	24.00	**0.34**
New lexical items	0.37	17.46	2.00	24.00	**0.0001***
Structure formation	0.87	1.25	2.00	24.00	**0.26**
Reading comprehension	0.68	4.85	2.00	24.00	**0.01***
Rhetoric	0.72	3.81	2.00	24.00	**0.02***
Total score	**4.48**	**28.78**	**2.00**	**24.00**	**0.0001***

There was no apparent distinction in the control group's students' speaking, listening, or structural pattern proficiency among pre- and post-test scores. There was a slight variations in the overall score, writing, reading, and terms scores between both tests results.

Table 5. Results of the Sidak post-hoc analysis pertaining to variations in the growth of EFL progress in the control group's pre- and post-test.

language skills and areas	Tests	Pre-test	Post- test
New lexical items	Pre Test		-5.22*
	Post Test		
reading comprehension	Pre Test		**-3.30***
	Post Test		
rhetoric	Pre Test		**-0.12**
	Post Test		
Total score	Pre Test		**-7.66***
	Post Test		

We tracked the control participants' advancement with their English language skills both before and after the intervention using Sidak post-hoc. There were not any notable deviations from the ones mentioned. Nonetheless, a variation in the reading proficiency of the students was found in the post-measure. We hypothesize that this is because the control group received traditional instruction in reading skills, with teachers modeling questions and answers through memorization and translation. In an educational environment where the primary source of knowledge is the teacher, this demonstrates how the conventional instructional effect is worse when carried out by the teacher [61]. The overall result demonstrates that while traditional instruction does not promote speaking or dialogic skills, it does aid in the development of some receptive skills, such as reading. On the other hand, Moodle provides ample chances where students interact and practice their listening skills through forum discussions and dialogic co-creation of assignments [63]. Using the statistics of paired t-measures, we were able to determine the attitudes of students toward the Moodle and language proficiency on both measures for the group of experiment, as indicated in Table 6.

 doi:10.20944/preprints202403.0878.v1

Table 6. The attitudes of the students toward the English language classroom, Moodle, and English language skills in the experimental group's pre- and post-assessments differ.

Variables	Pre		Post		t	sig.
	M	SD	M	S D		
Attitudes towards English language class	4.12	0.63	4.21	0.69	0.65	**0.51**
Learners' Attitudes towards English	3.21	0.68	.3.82	0.56	1.62	**0.11**
overall score for attitudes regarding English language instruction and proficiency	3.97	0.52	4.11	0.52	1.30	**0.20**
Total attitude score Moodle	**3.76**	**0.29**	**4.04**	**0.34**	**1.35**	**0.18**

For the experimental group, there were no significant shifts in learners' attitudes toward Moodle, classes, or English language proficiency between the pre- and post-measures.

Table 7. Students' attitudes toward English language instruction in the classroom and their proficiency in the language in the post-measure of control and experimental group**.**

Variables	Experimental (17)		Control (16)		t	Sig.
	M	SD	M	D		
Learners' Attitudes (the English classes)	4.10	0.65	4.05	0.55	0.73	**0.41**
Learners 'Attitudes (skills)	4.01	0.51	3.70	0.41	2.18	**0.02***
Total score	**4.05**	**0.58**	**3.75**	**0.48**	**1.62**	**0.21**

As demonstrated by Table 6's results, there are no significant differences among the views of both groups about their classes or English-speaking abilities. The experimental group performed better overall on the post-test, showing a variance among the two groups' perceptions of their ability to speak English. The findings confirm with the research carried out by Ghazal et al. with students, which discovered that Moodle-based learning significantly improved students' attitudes toward learning the English language. It is clear that instructors and students alike have enthusiastic opinions about using Moodle to teach and learn English. On the other hand, students display a wide range of attitudes. The findings of Indriani & Widiastuti are further supported by the findings of our investigation. Both studies came to the conclusion that Moodle can have an impact on promoting and assisting learners in becoming self-sufficient. The results also suggest that language is perceived positively by learners that use Moodle to enhance their language proficiency.

4. Implications and Limitations, and Future Steps

The findings of this study have several implications for English as a Foreign Language educators, curriculum developers, and institutional policymakers. The higher posttest scores attained in experimental group suggest the potential for wider use of LMS-based learning and teaching on EFL language learning programs. We posit that educators can leverage the potential on LMSs such as Moodle for enhanced language learning experiences that support EFL learners, especially in the development of speaking and listening and foreign language dialogic skills, further promoting engagement and motivation in language acquisition.

We suggest that curriculum developers might consider incorporating the opportunities for off-site, asynchronous and group work that learning managements systems offer to create effective language learning environments that support autonomous learning behaviors among EFL learners. Policymakers can further use these implications to advocate for the wider use of LMSs in their institutions, leveraging their potential to transform language education practices and address the evolving needs of language learners in the digital age and, in Palestine particularly, to offset some of the difficulties inherent in the tense and fractious geopolitical context.

Whilst we support the findings of this study, we also acknowledge certain limitations. The study's specific context and sample size may lead to a limited generalisability from the results: the

 doi:10.20944/preprints202403.0878.v1

study was conducted in a single educational setting with a particular group of EFL learners. This research could be usefully replicated in a wider range of settings and with a larger sample size of participants (both experimental and control) to boost the external trustworthiness and transferability of the findings to other contexts and settings. Future research could also explore a wider range of the possibilities offered by LMS platforms, such as the integration of mobile applications, gamified learning and natural language processing tools. Investigating this broader set of opportunities could allow researchers, curriculum designers and policymakers to better understand the potential benefits and any limitations of the wider use of learning management systems for language learning.

5. Conclusion

This study investigated at the way a select number of students' attitudes toward the language class and the effectiveness of using Moodle to teach English language skills were affected. Even though the study only looked at a small number of participants and examined these variables for a short period of time, stakeholders and educational policymakers can clearly learn from these findings if larger and more comprehensive studies confirm them. It seems that students pick up English more quickly and effectively when an LMS like the Moodle platform is integrated through the method of instruction, especially when it comes to speaking, listening, reading, and writing. It also serves to inspire students and provide them with opportunities to engage in critical thinking in English through discussion boards and idea sharing.

To sum up, our study's findings imply that utilizing Moodle for English instruction in the classroom may improve students' language skills. Additionally, it encourages students to interact with the technology, which results in increased motivation, reading proficiency, vocabulary acquisition, comprehension of grammatical structures, improved speaking and debate performance, improved fluency, clear pronunciation, and coherent writing. Our experiment's findings show that when language educators employ an LMS—in this case, Moodle—especially in emergency situations, they not only facilitate English learning but also appear to encourage student interaction. Through the utilization of the course's engaging language immersion activities, students can engage in active learning where they can exchange ideas, listen to and record themselves in the language, ask questions on the forum, and restate their opinions. These exercises can all assist students in changing their mindset regarding their English language education.

These peer-to-peer activities may enhance and magnify students' speaking abilities. [21 and 6] are two instances of this in Palestine. The use of the Moodle platform Interactive Language Acquisition Activities, as opposed to teacher-directed tasks, appears to have the potential to assist shy learners in overcoming the difficulty of communicating in a foreign language through interaction with and discussion of co-created content on topics of their own choosing.

The findings demonstrate a strong correlation between students' increased speaking proficiency and their use of Moodle. It was clear from comparing the two groups' means that the experimental group grew more than the control group. Without a doubt, the Palestinian Ministry of Education must play a significant role in encouraging instructors and students to use LMSs in their classrooms. It is advised that university instructors take into account pedagogical innovations, such as Moodle, to support Moodle-based interactive learning activities. This will enable them to play important roles in utilizing Moodle for language learning, encouraging students to use the Moodle platform for language learning, using technology to get students involved, and influencing students' attitudes.

Author Contributions: All authors have read and agreed to the published version of the manuscript.
Funding: This research received no external funding
Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of [WITHHELD].
Acknowledgments: We thank students and teachers who helped us carry out our experiment.
Conflicts of Interest: The authors declare no conflicts of interest.

 doi:10.20944/preprints202403.0878.v1

References

1. Akter, M., Suwartono, T., & Khan, M. L. H. (2021). EFL Student Challenges, Preferences, and Reactions towards Moodle-Based Online Learning under the New Normal in Indonesia. In ISTED 2021: Proceedings of the 1st International Seminar on Teacher Training and Education, ISTED 2021, Purwokerto, Indonesia (p. 394). European Alliance for Innovation.
2. Author Q (2021)
3. Chang, Y., Wang, X., Wang, J., Wu, Y., Yang, L., Zhu, K., ... & Xie, X. (2023). A survey on evaluation of large language models. ACM Transactions on Intelligent Systems and Technology.
4. Yasmin, M., Naseem, F., & Masso, I. C. (2019). Teacher-directed learning to self-directed learning transition barriers in Pakistan. Studies in Educational Evaluation, 61, 34-40.
5. Author S (2023a)
6. Author S (2024)
7. Hsu, T. C., Chang, C., & Jen, T. H. (2023). Artificial Intelligence image recognition using self-regulation learning strategies: effects on vocabulary acquisition, learning anxiety, and learning behaviours of English language learners. Interactive Learning Environments, 1-19.
8. Yu, Z. (2021). The effects of gender, educational level, and personality on online learning outcomes during the COVID-19 pandemic. International Journal of Educational Technology in Higher Education, 18(1), 14.
9. Purwanto, A. (2020). University students online learning system during Covid-19 pandemic: Advantages, constraints and solutions. Sys Rev Pharm, 11(7), 570-576.
10. Shoraevna, Z., Eleupanovna, Z., Tashkenbaevna, S., Zulkarnayeva, Z., Anatolevna, L., & Nurlanbekovna, U. (2021). Teachers' views on the use of Information and Communication Technologies (ICT) in education environments. International Journal of Emerging Technologies in Learning (iJET), 16(3), 261-273.
11. Masood, K., & Qaddomi, H. (2022). Digital and Face to Face Assessment Implementation in Higher Education Institutions: Lessons for Teacher Educators.
12. Bashir, F., & Warraich, N. F. (2023). Systematic literature review of Semantic Web for distance learning. Interactive Learning Environments, 31(1), 527-543.
13. Azorín, C., Harris, A., & Jones, M. (2020). Taking a distributed perspective on leading professional learning networks. School Leadership & Management, 40(2-3), 111-127.
14. Handayani, E. T., & Aminatun, D. (2020). STUDENTS'POINT OF VIEW ON THE USE OF WHATSAPP GROUP TO ELEVATE WRITING ABILITY. Journal of English Language Teaching and Learning, 1(2), 31-37.
15. Author S (2022a)
16. Li, Y., Garza, V., Keicher, A., & Popov, V. (2019). Predicting high school teacher use of technology: Pedagogical beliefs, technological beliefs and attitudes, and teacher training. Technology, Knowledge and Learning, 24(3), 501-518. https://doi.org/10.1007/s10758-018-9355-2
17. Romero-Hall, E., & Jaramillo Cherrez, N. (2023). Teaching in times of disruption: Faculty digital literacy in higher education during the COVID-19 pandemic. Innovations in Education and Teaching International, 60(2), 152-162.
18. Guan, C., Rani, T., Yueqiang, Z., Ajaz, T., & Haseki, M. I. (2022). Impact of tourism industry, globalization, and technology innovation on ecological footprints in G-10 countries. Economic Research-Ekonomska Istraživanja, 1-17. https://doi.org/10.1080/1331677X.2022.2052337
19. Lewandowski, P., Park, A., Hardy, W., Du, Y., & Wu, S. (2022). Technology, skills, and globalization: Explaining international differences in routine and nonroutine work using survey data. The World Bank Economic Review, 36(3), 687-708.
20. Cha, H., Park, T., & Seo, J. (2020). What should be considered when developing ICT-integrated classroom models for a developing country?. Sustainability, 12(7), 2967.
21. Authors Q & S (2023)
22. Tang, D., Li, M., & Crowther, D. T. (2023). What matters? A case study of elementary english language learners in STEM education. Research in Science & Technological Education, 41(3), 819-837.
23. Espinoza, A. Q., & Peña, P. (2024). The influence of the gender variable on chilean EFL primary students' lexical availability. MLS Educational Research (MLSER), 8(1).
24. Kumayas, T., & Lengkoan, F. (2023). The Challenges of Teaching Grammar at the University Level: Learning From the Experience of English Lecturer. Journal of English Culture, Language, Literature and Education, 11(1), 98-105.
25. Ong, S. G. T., & Quek, G. C. L. (2023). Enhancing teacher–student interactions and student online engagement in an online learning environment. Learning Environments Research, 1-27.
26. Sutisna, F., Handra, T., & Jap, Y. P. (2023). The Influence of Social Media Marketing on Purchase Impulses with Brand Attentiveness as A Mediating Variable on UMKM X. Aptisi Transactions on Technopreneurship (ATT), 5(2), 136-144.
27. Tuten, T. L. (2023). Social media marketing. Sage Publications Limited.

28. Chow, E. J., Uyeki, T. M., & Chu, H. Y. (2023). The effects of the COVID-19 pandemic on community respiratory virus activity. Nature Reviews Microbiology, 21(3), 195-210.
29. Ray, J. L., Srinath, R., & Mechanick, J. I. (2023). The negative impact of routine, dietary pattern, and physical activity on obesity and dysglycemia during the COVID-19 pandemic. American journal of lifestyle medicine, 17(2), 219-230.
30. Busetta, G., Campolo, M. G., & Panarello, D. (2023). Economic expectations and anxiety during the COVID-19 pandemic: A one-year longitudinal evaluation on Italian university students. Quality & Quantity, 57(1), 59-76.
31. Cattelino, E., Testa, S., Calandri, E., Fedi, A., Gattino, S., Graziano, F., ... & Begotti, T. (2023). Self-efficacy, subjective well-being and positive coping in adolescents with regard to Covid-19 lockdown. Current Psychology, 42(20), 17304-17315.
32. Oktaviani, L., & Mandasari, B. (2020). Powtoon: A digital medium to optimize students' cultural presentation in ELT classroom. Teknosastik, 18(1), 33-41.
33. Durairaj, M., Jayakumar, S., Karpagavalli, V. S., Maheswari, B. U., & Boopathi, S. (2023). Utilization of Digital Tools in the Indian Higher Education System During Health Crises. In Multidisciplinary Approaches to Organizational Governance During Health Crises (pp. 1-21). IGI Global.
34. Sari, T., & Nayır, F. (2020). Challenges in distance education during the (Covid-19) pandemic period. Qualitative Research in Education, 9(3), 328-360.
35. 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).
36. Gok, D., Bozoglan, H., & Bozoglan, B. (2023). Effects of online flipped classroom on foreign language classroom anxiety and reading anxiety. Computer Assisted Language Learning, 36(4), 840-860.
37. Graf, S. (2013). Dynamic student modelling of learning styles for advanced adaptivity in learning management systems. International Journal of Information Systems and Social Change (IJISSC), 4(1), 85-100.
38. Turnbull, D., Chugh, R., & Luck, J. (2021). Issues in learning management systems implementation: A comparison of research perspectives between Australia and China. Education and Information Technologies, 26(4), 3789-3810.
39. Mubarak, S. A. (2022). Case Study of Hybrid Learning at Kindergarten in UAE-Abu Dhabi (Doctoral dissertation, The British University in Dubai).
40. Devi, K. S., & Aparna, M. (2020). Moodle–An effective learning management system for 21st century learners. Alochana Chakra Journal, 9(6), 4474-4485.
41. Kincal, R. Y., Ozan, C., & İleritürk, D. (2019). Increasing Students' English Language Learning Levels via Lesson Study. English Language Teaching, 12(9), 88-95.
42. Maulana, N. R., & Lintangsari, A. P. (2021). The use of Moodle in English language learning during the pandemic: The students' voice. The Journal of English Literacy Education: The Teaching and Learning of English as a Foreign Language, 8(1), 27-41.
43. Natalia, K., & Julia, O. (2018). New use of MOODLE tools for distance English language learning (experience of Krasnoyarsk State Agrarian University). International Multidisciplinary Scientific GeoConference: SGEM, 18(5.4), 225-232.
44. Zabolotniaia, M., Cheng, Z., Dorozhkin, E., & Lyzhin, A. (2020). Use of the LMS Moodle for an effective implementation of an innovative policy in higher educational institutions. International Journal of Emerging Technologies in Learning (iJET), 15(13), 172-189.
45. Annisa, N. (2023). Penerapan Model Blended Learning Pada Materi Masalah Ekonomi Dalam Sistem Ekonomi Untuk Meningkatkan Hasil Belajar Siswa. Jurnal Pendidikan Tambusai, 7(2), 18950-18960.
46. Setlik, J., & da Silva, H. C. (2023). Texts and reading practices in physics education: Analysis of the voices of subjects in initial teacher education. Teaching and Teacher Education, 127, 104112.
47. Logroño, O. C., & Costelo-Abrea, A. M. (2023). ESL Teachers' and Students' Experience of Online Learning via Microsoft Teams. East Asian Journal of Multidisciplinary Research, 2(7), 2983-2998.
48. King, A. (1993). From sage on the stage to guide on the side. College teaching, 41(1), 30-35.
49. Roohollah, T., Hamid, R. T., & Mahdi, S. (2018). Index of difficulty which is an effective factor on especial skill formation in basketball free throw: index of learning difficulty hypothesis. Physical education of students, 22(2), 83-90.
50. Al Bataineh, K. B., Banikalef, A., & H Albashtawi, A. (2019). The effect of blended learning on EFL students' grammar performance and attitudes: an investigation of Moodle. Arab World English Journal (AWEJ) Volume, 10.
51. Ghounane, N. (2020). Moodle or Social Networks: What Alternative Refuge Is Appropriate to Algerian EFL Students to Learn during COVID-19 Pandemic. Arab World English Journal, 11(3), 21-41.

 doi:10.20944/preprints202403.0878.v1

52. Psycharis, S., Chalatzoglidis, G., & Kalogiannakis, M. (2013). Moodle as a learning environment in promoting conceptual understanding for secondary school students. Eurasia Journal of Mathematics, Science and Technology Education, 9(1), 11-21.
53. Gulbinskienė, D., Masoodi, M., & Šliogerienė, J. (2017). Moodle as virtual learning environment in developing language skills, fostering metacognitive awareness and promoting learner autonomy. Pedagogika, 127(3), 176-185.
54. Shahzad, S. K., Hussain, J., Sadaf, N., Sarwat, S., Ghani, U., & Saleem, R. (2020). Impact of Virtual Teaching on ESL Learners' Attitudes under COVID-19 Circumstances at Post Graduate Level in Pakistan. English Language Teaching, 13(9), 1-9.
55. Martín-Gutiérrez, J., Mora, C. E., Añorbe-Díaz, B., & González-Marrero, A. (2017). Virtual technologies trends in education. Eurasia journal of mathematics, science and technology education, 13(2), 469-486.
56. Tai, T. Y., & Chen, H. H. J. (2023). The impact of Google Assistant on adolescent EFL learners' willingness to communicate. Interactive Learning Environments, 31(3), 1485-1502.
57. González-Lloret, M. (2020). Collaborative tasks for online language teaching. Foreign Language Annals, 53(2), 260-269.
58. Waheed, M., Kaur, K., Ain, N., & Hussain, N. (2016). Perceived learning outcomes from Moodle: An empirical study of intrinsic and extrinsic motivating factors. Information Development, 32(4), 1001-1013.
59. Karaaslan, H., Kilic, N., Guven-Yalcin, G., & Gullu, A. (2018). Students' reflections on vocabulary learning through synchronous and asynchronous games and activities. Turkish Online Journal of Distance Education, 19(3), 53-70.
60. Rojabi, A., Setiawan, S., Munir, A., & Purwati, O. (2022). The camera-on or camera-off, is it a dilemma? Sparking engagement, motivation, and autonomy through microsoft teams videoconferencing. International Journal of Emerging Technologies in Learning (IJET), 17(11), 174-189.
61. Zainuddin, Z., Muluk, S., & Keumala, C. M. (2019). How do students become self-directed learners in the EFL flipped-class pedagogy? A study in higher education. Indonesian Journal of Applied Linguistics, 8(3), 678-690.
62. Magableh, I. S. I., & Abdullah, A. (2020). On the Effectiveness of Differentiated Instruction in the Enhancement of Jordanian Students' Overall Achievement. International Journal of Instruction, 13(2), 533-548.
63. Fazza, H., & Mahgoub, M. (2021). Student engagement in online and blended learning in a higher education institution in the Middle East: Challenges and solutions. Studies in Technology Enhanced Learning, 1(2).
64. Author S (2023b)
65. Ghazal, S., Al-Samarraie, H., & Aldowah, H. (2018). "I am still learning": Modeling LMS critical success factors for promoting students' experience and satisfaction in a blended learning environment. Ieee Access, 6, 77179-77201.
66. Indriani, K. S., & Widiastuti, N. M. A. (2021). STUDENTS'ATTITUDE TOWARDS ENGLISH ONLINE LEARNING THROUGH MOODLE DURING THE COVID-19 PANDEMIC. Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics, 8(2), 190-205.