MOODLE QUIZ TO SUPPORT VOCABULARY RETENTION IN EFL TEACHING AND LEARNING

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Abstract:

This paper reports on a quasi-experimental study on the effect of vocabulary practice using the Moodle Quiz module on students' vocabulary learning. Two intact classes including 73 tenth graders were randomly assigned as the experimental group and the control group. Both groups received formal face-to-face English instruction based on an English textbook for tenth Graders. The difference is that the control group did the usual paper-based vocabulary quizzes, whereas the experimental group worked on the same quizzes which were manipulated by Moodle Quiz. Vocabulary achievement tests were administered to measure the vocabulary retention of the participants before the intervention, at the end, and after a delayed period. The results showed that the experimental group had better vocabulary retention than the control group. Cohen's effect size test further indicated that the effect on vocabulary retention was of a large degree. Further exploration showed that the participants were engaged and motivated to practice vocabulary on Moodle. Findings of the study and confirm the effectiveness of blended learning in EFL instruction, and lend support to the use of technology to compensate limited classroom instruction, and create enhanced practice opportunities for EFL learners.

Keywords: blended learning; supplementary vocabulary practice; vocabulary retention; Moodle quiz; effect size

1. Introduction

Because vocabulary capability is an indicator of success in language proficiency development (Schmitt, 2000), foreign language (FL) learners need to acquire vocabulary knowledge as an integral component of acquiring the target language skills.

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Consequently, insufficient vocabulary knowledge may create huge barriers to communicative competence development and pose challenges for FL learners to express their thoughts as well as understand other speakers effectively (Alqahtani, 2015). Unfortunately, complete mastery of vocabulary knowledge is a long-term and demanding process, which poses a great challenge to vocabulary instruction in the classroom.

In an English as a foreign language (EFL) context such as Vietnam, the traditional English classroom provides explicit instruction of controlled sets of vocabulary, and mostly fails to create adequately supportive conditions for vocabulary acquisition due to limited class time allocation. To compensate for this, blended learning presents a potentially efficient learning solution (Isisag, 2012). In fact, blended learning as a mode of technology-enabled learning has been applied to enhance learners' vocabulary achievement (Dastjerdi, 2011; Khodaparast & Neyshabur, 2015; Vasbieva, Klimova, Agibalova, Karzhanova, & Bírová, 2016). Moodle, an open learning management system, has also proved to be an effective language teaching mode when combined with traditional face-to-face instruction in offering a learning space for out-of-class learning (Ayan, 2015; Alavi & Keyvanshekouh, 2012; Lasic-Lazic, Ivanjko, & Grubjesic, 2017). Few studies have yet to be conducted to verify the effect on vocabulary retention of Moodle Quiz used as after-lesson vocabulary practice, especially in the context of EFL instruction at high schools like Vietnam. The current study aimed to fill this gap by examining the relevant effect on the vocabulary retention of Grade-10 students. It is expected that further evidence is added to enrich insight into blended learning, particularly the use of Moodle in language teaching and learning.

2. Theoretical background and literature review

Vocabulary acquisition and vocabulary teaching have been regarded as a crucial part of foreign language learning and teaching. This section aims to review the theoretical framework of vocabulary knowledge and vocabulary acquisition and discusses how technology can offer optimal learning conditions.

2.1. Vocabulary knowledge and learning conditions
Knowing a word means mastering all aspects related to the word. Vocabulary is not comprised of only meaning, spelling and pronunciation, but other elements such as word structure, grammatical properties, collocations, and contextual factors affecting its proper use (Schmitt; 2000; Nation, 2001). Aspects of vocabulary knowledge which should be acquired, according to Nation and Newton (1997) consists of meaning, form (written, spoken and morphological structure), and use involving collocations with other words. According to Christina (2010), these components of vocabulary knowledge cannot be fully acquired at one time; some aspects can be learnt before others, and a specific aspect which has been learnt may be forgotten later. Christina (2010) further explains that vocabulary knowledge needs to be gradually expanded and deepened in the long-term process. Likewise, Schmitt (2000) argues that vocabulary acquisition requires a gradual

and continuing process. As learners may forget the words they have already learned before, language classroom instruction will gain better outcomes if it offers rich rehearsal opportunities with a variety of after-lesson review techniques for boosting the acquisition of vocabulary knowledge. To facilitate vocabulary retention, or the ability to recall words after an interval of time, Schmitt (2000) suggests that when a specific vocabulary item is studied, it should be repeated systematically. Language learners need effective techniques to ensure the retention of newly-learned vocabulary items.

Several researchers assert that no single way of vocabulary teaching and learning is the most effective, but a combination of methods both implicit and explicit best facilitate vocabulary acquisition. As Christina (2010) puts it, vocabulary can be learned incidentally through indirect exposure to words and intentionally via explicit instruction and use of learning strategies. Rasouli (2016) particularly stresses that effective L2 vocabulary instruction may gain greater benefits from the following four principles: repetition, a focus both on form and meaning, engagement, and interaction or negotiation. Learners' mastery of vocabulary knowledge is not merely attributable to solitary teaching, but mostly the learner's work as well (Rasouli, 2016). Schmitt (2000) likewise indicates that sole teaching may not make significant contributions to learner learning, but effective vocabulary learning, according to Nation (2001), can be achieved by after-lesson practice.

Nation and Newton (1997) suggest that vocabulary exercises need to be practiced repeatedly by students to ensure vocabulary is effectively retained. They also note that vocabulary exercises should be planned carefully as a useful element of a course, systematically covering specific aspects of vocabulary knowledge. They proposed a framework which the current study based on for vocabulary practice design. The framework consists of three aspects of vocabulary namely meaning, form and use and six principles of a good vocabulary practice. First, teaching should focus on useful and high-frequency words. Second, practice should focus on aspects of vocabulary that burdens learning. Third, using and reencountering words can help establish mental connections. Fourth, providing facilitative learning conditions which involves generative use of vocabulary. Besides, learners need to be actively engaged, search for and evaluate target words in the practice. Finally, a good practice avoids interference of unknown words or partly known words.

Conditions in traditional language classrooms have yet failed to possess these concrete foundations for vocabulary instruction. In the traditional classroom setting, controlled sets of vocabulary are taught while learners need to learn a variety of vocabulary for effective communication. Additionally, face-to-face language classrooms allocate a limited amount of time for vocabulary learning, especially in the EFL classroom where vocabulary is integrated into all skills. Although one of the aims of traditional FL classrooms is to develop learners' vocabulary capacity, there remains inadequate vocabulary practice for learners' vocabulary acquisition (Osguthorpe and Graham, 2003; Marczok, Braukhoff, & Amann, 2015). In fact, FL learners lack opportunities for recycling the vocabulary they have learnt, which may constrain vocabulary acquisition. It seems thus that traditional FL classrooms fail to provide optimal conditions for vocabulary

retention. After-lesson practice and regular repetition of vocabulary are effective ways for enhancing vocabulary acquisition (Ellis, 1995; Schmitt, 2000), which can be supported by technology.

2.2. Technology-enabled learning and Moodle

Given the large amount of vocabulary FL learners need to acquire and the restricted time of traditional FL classrooms, technology becomes an indispensable option to compensate for these demerits, at least by fostering supplementary vocabulary learning opportunities (Miles & Kwon, 2008). Information and communication technology (ICT) used in language learning could offer an efficient learning solution (Mubarak & Smith, 2008) and ICT provides learners with unlimited repetitions of language knowledge until complete mastery is gained (Isisag, 2012). Blending face-to-face classroom components with online activities offers great potentiality to compensate for the inadequate practice in traditional FL classes (Osguthorpe & Graham, 2003).

In terms of vocabulary learning, numerous studies have discovered the effects of blended learning. Kilickaya and Krajka (2010) proved that online vocabulary learning contributed to better retention of vocabulary knowledge than traditional vocabulary learning, and depending upon specific vocabulary learning strategies, the influence differed. Besides, they found online vocabulary learning enhanced learners' motivation and autonomy. Khodaparast and Neyshabur (2015) conducted a study involving 100 English-majored students, revealing the significant impact on vocabulary achievement. Similarly, Vasbieva, Klimova, Agibalova, Karzhanova, and Bírová (2016) concluded that blended learning yielded outweighing benefits compared to face-to-face learning in improving students' vocabulary achievement. Dastjerdi (2011) further confirmed the effect of blended learning, reporting that it resulted in a higher level of vocabulary recognition and recall than traditional learning.

Moodle can be an effective tool for blended learning since it may create an encouraging and renewable language education environment (Ayan, 2015) by providing means for a combined face-to-face and online learning. The Moodle Quiz module allows students to reattempt a quiz multiple times, which is not practical with a paper quiz (Cole & Foster, 2007). With Moodle Quiz, feedback on students' performance, a critical part of language learning, is provided immediately, which could help learners learn more successfully (Cole & Foster, 2007). Ayan (2015) concluded that using Moodle promoted learners' motivation and autonomy and enhanced their language skills. Alavi and Keyvanshekouh (2012) also found that MoodleReader improved learners' incidental vocabulary acquisition. According to Lasic-Lazic, Ivanjko, and Grubjesic (2017), Moodle was an effective supplement to face-to-face classes. The findings of their study showed that Moodle modules facilitated learners' development of autonomy and their achievement in optimal conditions for learning a foreign language. Yet, the studies above have not measured the impact of Moodle learning on learners' vocabulary retention. Further evidence about it needs to be investigated.

To sum up, given that vocabulary learning is of paramount significance and that much of research has attended to vocabulary retention; however, a paucity has explored

the effect of a specific module such as Quiz in supporting students to learn vocabulary, especially in the context of EFL learning and teaching at school. The current study was thus conducted to fill this gap.

This quasi-experimental study aimed to answer the following research question: *To what extent does practice on Moodle vocabulary quizzes affect EFL Grade-10 students' vocabulary retention?*

3. Method

3.1. Research design

The current study followed a quasi-experimental design with two groups, using a pretest, a posttest and a delayed posttest to confirm the effect. The two groups of participants were two intact classes from a high school assigned as the experimental group and the control group. The intervention of the study lasted for 8 weeks. During the eight-week intervention, both groups received traditional face-to-face instruction of English based on three units of a coursebook (Tieng Anh 10). In the experimental group, supplementary practice for vocabulary learning (independent variable) was implemented on Moodle quiz, whereas the control group practiced the same supplementary exercises on paper as usual, and the participants' vocabulary retention (dependent variable) was measured. In order to collect quantitative data for the study, two versions of a pretest, a posttest and a delayed posttest were designed in the form of multiple-choice vocabulary achievement tests and administered to both groups.

3.2. Context and Participants

The current study involved 73 EFL Grade-10 students from two intact classes at a high school located in a district of a capital city in the Southwest region of Vietnam. These two classes were assigned as the experimental group and the control group. The experimental group included 36 students, nineteen of whom were female and seventeen of whom were male. The control group consisted of 37 students with 25 females and 12 males. The students' age ranged from 16 to 17. All the participants used the same coursebook 'Tieng Anh 10' (Hoang, 2015) for the ten-year school curriculum of English. In the semester when the data were collected, the students studied 5 units within 15 weeks, each unit comprising 8 lessons. They received three 45-minute lessons of English per week, and vocabulary instruction is integrated in skills lessons, specifically reading and listening.

3.3. Data collection

Two instruments were employed to collect the data for the study. The first instrument was a vocabulary screening task which was administered to select the targeted words for the intervention and test design. The second instrument was a vocabulary achievement test deigned into two equivalent versions and used as the pretest, the posttest and delayed posttest. The pretest was administered to measure the vocabulary retention of EFL Grade-10 students prior to the intervention. The posttest was then provided to measure the vocabulary retention of EFL Grade-10 students immediately after they

received the eight-week intervention. The delayed posttest followed five weeks after the intervention was finished.

3.3.1. Vocabulary screening

Within the Response to Intervention framework, screening is a fundamental step to identify the strengths and weaknesses of students so that appropriate supplementary interventions could be provided (Jenkins, Hudson, & Johnson, 2007; Johnson, Jenkins, Petscher, & Catts, 2009; McInerney, & Elledge, 2013; Marcotte, Clemens, Parker, & Whitcomb, 2016). Ridgeway, Price, Simpson, and Rose (2012) state that an appropriate supplementary intervention should be based on universal screening, a type of measurement which is administered to all students to reveal specific learning deficits of learners. Therefore, screening for vocabulary was administered to measure the participants' vocabulary deficit.

In the current study, vocabulary screening was essential in assisting the researcher in identifying words that the students had no knowledge of so that the intervention was designed. The vocabulary screening test in the study, which consisted of 120 key words, selected from the three units from unit 6 to unit 8 of the same coursebook (Tieng Anh 10), was administered before the participants performed the pretest and received the intervention. All the participants were asked to write down the Vietnamese meanings or equivalents of these 120 words within 60 minutes. The results showed that the participants had provided the correct Vietnamese meanings of 40 words and had no knowledge of the other 80 words. Based on the results of screening, 40 known words were excluded from the treatment. This ensured the validity of the pretest, posttest and delayed posttest.

3.3.2 Vocabulary achievement tests

A vocabulary achievement test was then designed in two versions using 40 out of 80 words screened: one for the pretest and one for the posttest. The words were unknown to students and were the key words extracted from unit 6 to unit 8 of the curriculum. The tests were administered as the pretest, posttest and delayed posttest. They were based on discrete, selective and context-dependent vocabulary assessment, following the framework for L2 vocabulary assessment suggested by Read (2000) and the theoretical framework of Nation and Newton (1997). The tests were designed in the multiple-choice format and consisted of forty items. Each item had one correct answer and three distractors, aiming to measure vocabulary knowledge of a specific word. The posttest and delayed posttest differed from the pretest in that a similar context was created to fit the same vocabulary item intended. The score of 1 was awarded for each correct answer and the score of 0 for an incorrect answer. The total scores for each test were 40.

3.3.3. Data collection procedures

The study encompassed three phases. Phase 1 lasted three weeks before the intervention. An eight-week intervention then followed. Phase 3 was conducted after the intervention administration and lasted six weeks.

A. Phase 1

In this phase, preparations were made for the study.

In week 1, the students from the two intact classes at a high school at which the researcher was teaching were invited to participate in the study. All the students of both classes accepted the invitation from the researcher. Then the researcher randomly assigned the two classes into the experimental group and the control group by inviting the monitors of the two classes to pick up two cards, one of which contained the phrase "Moodle quiz" and the other contained the phase "exercises on paper". After the role assignment, vocabulary screening was conducted. The participants of both groups were asked to do a screening test. Next, the participants of the experimental group were enrolled in Moodle platform.

In week 2, the pretest was piloted by 35 students from an intact class at a different high school in the same city. Simultaneously, the teacher teaching English to those 35 students in this class was asked to check the face validity of the pretest. Then, the results of the piloted pretests were computed and analyzed by a Scale Test to check the reliability. When the reliability of the pretest was ensured, it was administered to the experimental group and the control group of the study on paper without prior notification in the same week. The participants of the experimental group were arranged into 2 exam rooms. The participants of the control group were arranged in the same way. Totally, the pretest was administered in 4 different examination rooms, each of which was monitored by an invigilator. Then the experimental group was familiarized with Moodle Quiz, while the pretest was graded by two independent raters. The scores were entered into SPSS to check the reliability of samples by using Independent-Samples T-Test.

In week 3, the experimental group continued to be familiarized with Moodle Quiz. Then, the researcher checked whether there were any questions about how to practice the quiz on Moodle to ensure that the experimental group had a good grasp of how to do it. Therefore, problems with computer technology which could negatively affect the data of the study were excluded and the intervention of the study could be administered.

B. Phase 2

In this phase, the researcher conducted the intervention over an equivalent time length allocated to 3 units of the coursebook and satisfied the duration for an effective intervention as suggested by McInerney and Elledge (2013). During the phase, the experimental group did the Moodle quizzes as supplementary practice for vocabulary learning and checked the feedback by themselves after a lesson was taught in the face-to-face class. The first five minutes of the next lesson was allocated to questions and answers about unclear procedure or technical problems. Simultaneously, the participants of the control group did paper-based supplementary quizzes. Each quiz supplemented each lesson after the lesson was taught in the face-to-face class. In the first five minutes of the next lesson, feedback on was provided on the previous one.

C. Phase 3

Phase 3 started in week 12 when the posttest was administered. The participants in both groups were not notified of the administration of the posttest, and the administration procedure was the same as that in the pretest. Five weeks after the posttest, the delayed posttest was delivered in the same way.

3.4. Intervention

The formal face-to-face instruction of English for the control group and the experimental group was conducted by the researcher. According to Hoang (2015), the coursebook for Grade 10 used in the study has the total time of 105 forty-five-minute periods. Eighty-eight 45-minute classes are allocated for face-to-face teaching and seventeen 45-minute classes are allocated for review lessons, tests and reserves. Each unit includes 8 lessons: Getting Started, Language (Vocabulary, Pronunciation, and Grammar), Reading, Speaking, Listening, Writing, Communication and Culture, and Looking Back and Project. Each lesson is instructed in one 45-minute class. Each review lesson is provided in two 45-minute classes. The formal face-to-face instruction of English for both groups in this study involved unit 6, unit 7 and unit 8 of the coursebook for grade 10. The total time allocated to teaching these three units was twenty-four 45-minute lessons, which was equivalent to 8 weeks.

The supplementary quizzes were designed both on Moodle Quiz and on paper. Based on the contents in the coursebook, and the backgrounds as well as level of English proficiency of the participants, the researcher designed relevant quizzes for the intervention. In order to ensure the validity and reliability of the treatment effect, the two types of supplementary practice were designed in the same format except for the environment of practice: the practice on Moodle Quiz for the experimental group and the practice on paper for the control group. As a result, the types of quiz selected were: 1) Drag and drop to the text, 2) Matching, 3) Multiple choice, and 4) Short answer. The question types used for the intervention of the control group were 1) gap-fill, 2) matching, and 3) multiple choice. In conclusion, the choice of those question types for the intervention employed in the experimental group and the control group would enhance the result transparency achieved from the intervention.

Given that the participants received the formal face-to-face instruction of English of three units with the total of twenty-four lessons, the intervention also consisted of twenty-four supplementary exercises. Each supplementary exercise included five questions, focusing on five key words of the lesson the participants had just been taught. Only forty of these key words included in the supplementary exercises were the targeted words to be assessed in the posttests and delayed posttests. It was hoped that the decision on choosing more words in the supplementary exercises than the targeted words would impede the participants from guessing the correct answers to the questions of the posttests and delayed posttests without remembering the targeted words.

3.5. Data analysis

The quantitative data was gained from the pretest, posttest and delayed posttest. The data was analyzed, using Statistics Package for the Social Sciences version 20 (SPSS 20). First, the Scale Test was employed to check the reliability of the pretest, the posttest and the delayed posttest. Second, a Correlation Test was employed to check the relationship between the pretest and the posttest. Third, an Independent-Samples T-Test was run to analyze the Means of the pretest gained by the experimental and the control group to check the reliability of the samples, and compare the Mean scores of the posttest and the delayed posttest of the experimental group with those of the control group respectively to observe whether there was any statistically significant difference in vocabulary retention between the groups. Finally, Cohen's d effect measure was employed to measure the effect of Moodle quiz on vocabulary retention of the experimental group.

4. Results and Discussion

4.1. The reliability of the vocabulary tests

The results of Scale Tests in Table 2 showed the reliability coefficients of the pretest, posttest and delayed posttest were acceptable (α = .721, α = .911, α = .913 respectively) which ensured the reliability and validity of measurement. Further checked by the Pearson Correlation Test, the reliability was confirmed, with the correlation coefficient between the pretest and the posttest being statistically significant (r = .494, p = .000) at the significance level of 0.01.

4.2. The sample homogeneity

The scores of the pretest gained by the experimental and the control group were analyzed by using an Independent-Samples T-Test with an aim of checking the sample homogeneity. Table 1 below showed that no statistically significant difference in vocabulary retention between the experimental group and the controlled group as measured by the pretest (t = 1.266, df = 71, p = .210) was observed. It was concluded that the test scores of the experimental group equal to those in the control group. Therefore, the homogeneity of the participants in the current study was verified and the results gained from the posttest and delayed posttest ensure measurement of the effect.

Table 1: The sample homogeneity

| Test	Condition	N	Mean	SD	t	df	Sig. (2-tailed)
Pretest	Experimental	36	12.1944	4.80963	1.266	71	.210
	Controlled	37	10.7297	5.06978			

4.3. Between-group difference in vocabulary retention

The Independent-Samples T-Tests run to analyze the Means of the posttest and the delayed posttest gained by both groups as shown in Table 2 showed that a statistically significant difference in the vocabulary retention was observed between the experimental group and the control group in the posttest (t = 5.391, df = 71, p = .000) and the delayed

posttests (t = 5.254, df = 71, p = .000). This statistically significant difference indicates that the experimental group had better vocabulary retention than the control group.

Table 2: Vocabulary retention measured by the posttests and delayed posttests

Test	Condition	N	Mean	SD	t	Df	Sig. (2-tailed)
Posttest	Experimental	36	30.86	6.18	5.391	71	.000
	Controlled	37	21.64	8.24			
Delayed Posttest	Experimental	36	29.69	7.15	5.254	71	.000
	Controlled	37	20.24	8.16			
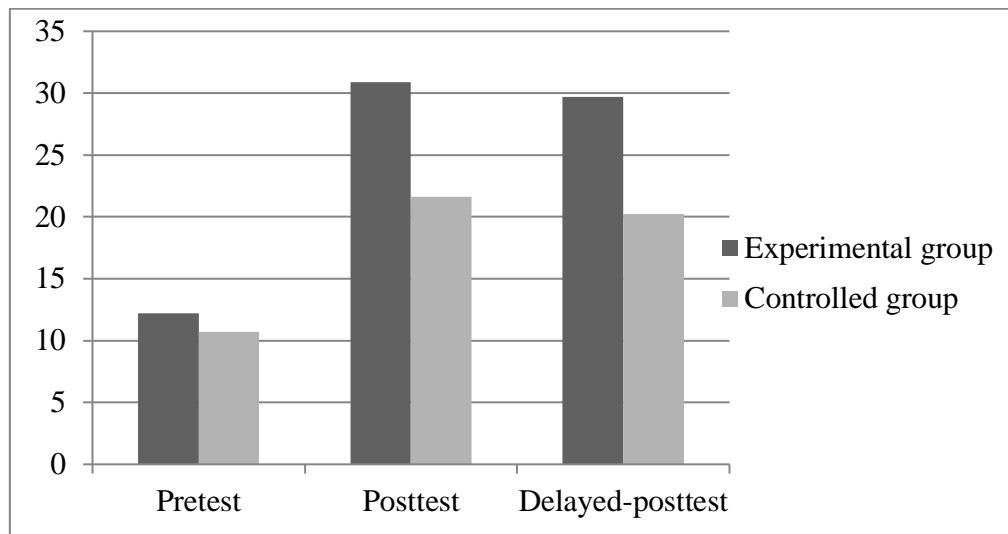
Figure 1: Means of the posttests and delayed posttests gained by both groups

The Means of the posttest and the delayed posttest gained by both groups, as revealed in Figure 1 below, were higher than those of the pretest. However, the Means of the delayed posttests of both groups were lower than the Means of the posttests. Yet, the Means of the posttest and delayed posttest of the experimental group were higher than those of the control group respectively.

4.4. Effect on vocabulary retention of the experimental group

Cohen's d Effect Size Measure was calculated to compare the Means of the posttests and delayed posttests of both groups and measure the effect of Moodle quiz on vocabulary retention of the experimental group in the posttest and the delayed posttest. Cohen's d formula for the Independent-Samples T-Test was employed as follows:

$$Cohen's\ d\ = \frac{(Mgroup1 - Mgroup2)}{SDpoole}$$

$$SDpooled = \frac{\sqrt{(SD12 + SD22)}}{2}$$

The results of Cohen's d for the posttests and the delayed posttests were:

$dposttest = 21.6486 - 30.8611) / 7.284853 = 1.26461$

$ddelayed - posttest = (20.2432 - 29.6944) / 7.677253 = 1.231065$

Based on the magnitudes of effect (*d* = 0.01 to 2.0), as initially suggested by Cohen (1988) and expanded by Sawilowsky (2009), the results gained above means that the treatment effect in the posttests and the delayed posttests was very large (d = 1.26461, d = 1.243596 respectively).

The data analysis in the posttests and the delayed posttests above indicated that there was a significant effect of Moodle quiz practice on vocabulary retention of the participants. The experimental group achieved a higher level of vocabulary retention scores than the control group. Also, the effect lasted after a period of time for the experimental group. This finding lends support to the conclusion that blended vocabulary learning outweighs traditional vocabulary learning. More specifically, blended vocabulary learning improves learners' vocabulary achievement as indicated in previous studies (Miles & Kwon, 2008; Kilickaya & Krajka, 2010; Dastjerdi, 2011; Utami, 2012; Khodaparast & Neyshabur, 2015; Shoaei & Alavi, 2016; Vasbieva, Klimova, Agibalova, Karzhanova & Bírová, 2016). Moodle Quiz in the current study facilitated students' learning, and thus improved their vocabulary retention (Alavi & Keyvanshekouh, 2012). The new learning mode (for students) as opposed face-to-face and textbook-based instruction brought them 'fresh wind', urging them to do practice. Besides, the shuffle function in the quiz module automatically refreshed and reordered the questions, which reduced the boredom of mundane repeated practice, hence pushing the students to revisit vocabulary frequently. The students also had control of their practice, with immediate feedback upon completing an attempt. While working, they could further employ resources online (e.g., dictionaries or concordancers) for support to complete the quizzes; thereby they had chances to get exposed or access to the words frequently.

5. Conclusions

The current study was conducted to investigate the extent to which vocabulary practice on Moodle affected the vocabulary retention of EFL Grade-10 students. Together with previous research, the study provided evidence to confirm the positive effects of blended modes of learning in foreign language teaching. It was also revealed that the Moodle quizzes promote the participants' autonomy, engagement and motivation, lending further support to the effect of technology-enhanced language teaching on student learning. The study suggests that Moodle could offer an alternative effective solution to creating practice opportunities for school students in Vietnam and similar contexts, who mainly study English as a school subject without intrinsic motivation. The limitation of this study lied in the failure to tap productive knowledge of vocabulary. Future research

could employ measures to test vocabulary acquisition through productive, communicative tasks. Other Moodle modules could be exploited to expose learners to multiple sources of input such as texts, videos, audios through which incidental vocabulary learning can be facilitated.

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References

Alavi, S, & Keyvanshekouh, A, 2012. The Effect of Using MoodleReader on Incidental Vocabulary Acquisition of Iranian EFL Learners. Extensive Reading World Congress Proceedings, 1: 93-96.

Alqahtani, M, 2015. The Importance of Vocabulary in Language Learning and How to Be Taught. International Journal of Teaching and Education, 3 (3): 21-34.

Ayan, E, 2015. Moodle as Builder of Motivation and Autonomy in English Courses. Open Journal of Modern Linguistics, 05 (1): 6-20. doi:10.4236/ojml.2015.51002

Cohen, J, 1988. Statistical power analysis for the behavioral sciences. Hove: Lawrence Erlbaum Associates.

Cole, J, & Foster, H, 2007. Using Moodle: Teaching with the popular open source course management system. O'Reilly Media, Inc.

Cristina, A, 2010. Vocabulary and Language Teaching. Universitatea din Oradea Facultatea de Stiinte Economice. Jel Code Y, 8: 170-174.

Dastjerdi, H V, 2011. An Investigation into the Impact of Traditional vs. Blended Teaching on EFL Learners' Vocabulary Acquisition: M-learning in Focus. International Journal of Humanities and Social Science, 1(15): 202-207.

Ellis, N C, 1995. The psychology of foreign language vocabulary acquisition: Implications for CALL. Computer Assisted Language Learning, 8 (2-3): 103-128.

Hoang, V V, 2015. The Development of the Ten-Year English Textbook Series for Vietnamese Schools under the National Foreign Language 2020 Project: A Cross-Cultural Collaborative Experience. VNU Journal of Science: Foreign Studies, 31(3): 1-17.

Isisag, K U, 2012. The Positive Effects of Integrating ICT in Foreign Language Teaching. International Conference "ICT for Language Learning", 5th edition.

Jenkins, J R, Hudson, RF, & Johnson, E S, 2007. Screening for at-risk Readers in a Response to Intervention Framework. School Psychology Review, 36(4): 582-600.

Khodaparast, F, & Neyshabur, I, 2015. On the Effect of Online/Offline Approaches on Vocabulary Achievement. International Journal of Education and Research, 3(9): 269-280.

Kilickaya, F, & Krajka, J, 2010. Comparative usefulness of online and traditional vocabulary learning. TOJET: The Turkish online journal of educational technology, 9(2): 55-63.

Lasic-Lazic, J, Ivanjko, T, & Grubjesic, I, 2017. Using Moodle in English for Professional Purposes (EPP) teaching at the University North. 2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO).

Marcotte, A M, Clemens, N H, Parker, C, & Whitcomb, S A, 2016. Examining the classification accuracy of a vocabulary screening measure with preschool children. Assessment for Effective Intervention, 41(4): 230-242.

Marczok, Y M., Braukhoff, M H, & Amann, E, 2015. Impact of Incentive Orientated Blended Learning on Students' Learning Behavior and Outcomes. In Managing Intellectual Capital and Innovation for Sustainable and Inclusive Society: Managing Intellectual Capital and Innovation: Proceedings of the MakeLearn and TIIM Joint International Conference 2015, pp. 891-899. ToKnowPress.

McInerney, M, & Elledge, A, 2013. Using a Response to Intervention Framework to Improve Student Learning: A Pocket Guide for State and District Leaders. Implementing ESEA Flexibility Plans. American Institutes for Research.

Miles, S, & Kwon, C J, 2008. Benefits of using CALL vocabulary programs to provide systematic word recycling. English Teaching- Anseonggun 63(1): 199-2011.

Mubarak, R, & Smith, D C, 2008. Spacing Effect and Mnemonic Strategies: A Theory-Based Approach to E-Learning. *e-Learning*, pp. 269-272.

Nation, P, 2001. Learning Vocabulary in Another Language. Cambridge: CUP.

Nation, P, & Newton, J, 1997. Teaching vocabulary. Second language vocabulary acquisition, 238254.

Osguthorpe, R T, & Graham, C R, 2003. Blended learning environments: Definitions and directions. Quarterly review of distance education, 4(3): 227-33.

Rasouli, F, 2016. A Deeper Understanding of L2 Vocabulary Learning and Teaching: A Review Study. International Journal of Language and Linguistics, 4(1): 40. doi:10.11648/j.ijll.20160401.16

Read, J, 2000. Assessing vocabulary. Cambridge: Cambridge University Press.

Ridgeway, T R, Price, D P, Simpson, C G, & Rose, C A, 2012. Reviewing the Roots of Response to Intervention: Is There Enough Research to Support the Promise?. Administrative Issues Journal: Education, Practice, and Research, 2(1): 83-95.

Sawilowsky, S S, 2009. New Effect Size Rules of Thumb. Journal of Modern Applied Statistical Methods, 8(2): 597-599.

Schmitt, N, 2000. Vocabulary in language teaching. Cambridge: Cambridge University Press.

Shoaei, F, & Alavi, M, 2016. The Impact of Computer-Assisted Language Learning Applications on Incidental Vocabulary Recall and Retention. Bulletin de la Société Royale des Sciences de Liège, 85: 1674-1686.

Utami, H, 2012. The Effect of Computer Assisted Language Learning (CALL) on Vocabulary Learning. Jurnal Interaktif, 3(2). Retrieved from https://media.neliti.com/media/publications/243057-the-effect-of-computer-assisted-language-6029f62a.pdf

Valiathan, P, 2002. Blended learning models. Learning circuits, 3(8): 50-59.

Vasbieva, D G, Klimova, I, Agibalova, E L, Karzhanova, N V, & Bírová, J, 2016. Enhancement of Students' Vocabulary Learning Through a Blended Learning Approach. International Electronic Journal of Mathematics Education, 11(5): 1195-1203.