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English Learners' Incidental Vocabulary Learning and Word Retention in Different Reading Task Types

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Abstract

Reading is widely recognized as an important source of vocabulary acquisition for second language learners, yet the effects of different reading tasks on incidental vocabulary learning remain underexplored in the Vietnamese context. This study examines the effects of reading with multiple-choice questions (MCQs), short-answer questions (SAQs), and fill-in-the-blank questions (FBQs) on university learners' incidental vocabulary acquisition and their attitudes toward these tasks. 60 first-year Vietnamese EFL students at a public university participated, with data collected through a vocabulary test and interviews. Results showed that learners in the MCQ and FBQ groups outperformed those in the SAQ group, and most learners had positive attitudes toward the tasks. The findings provide useful insights for material developers, teachers, and learners in selecting and adapting effective reading tasks.

Keywords: incidental vocabulary acquisition; reading task types; learner attitudes; learner preference

1. Introduction

1.1. Contextual and theoretical background of the study

Vocabulary knowledge is a prerequisite for any second language (L2) learner. According to Nation (2001), "Vocabulary learning is not a goal in itself; it is done to help learners listen, speak, read, or write more effectively" (p. 362). The limitation of vocabulary knowledge may hinder learners from making complete sense of what they hear or read, let alone expressing their ideas in words. The significant role of vocabulary teaching and learning has been well-recognized by researchers and educators, and vocabulary development is vital to language learning success (Kaivanpanah & Zandi, 2009; Nation, 2001). At the beginning level, most learners develop their vocabulary through intentional and explicit learning of new lexical items directed toward the various

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aspects of word features (e.g., form, meaning, and use) (Silverman, 2007). The learners learn new words mainly by rote learning or completing vocabulary exercises. However, direct vocabulary instruction fails to account for the substantial vocabulary knowledge of intermediate and advanced learners who generally process new information in a second language, do not acquire specific words with deliberate attempts, and consider the words to glean meanings from visual and verbal input (Namaziandost et al., 2021). When reading, learners may acquire certain words in such endeavors - incidental vocabulary learning in which the acquisition of the words is a by-product of another main cognitive activity (Hulstijn & Laufer, 2001; Pellicer-Sánchez, 2015). Incidental learning was experimented to develop vocabulary and is considered a viable alternative to intentional learning (Calvo-Ferrer & Belda-Medina, 2021).

The past decade has witnessed great attempts to develop sound approaches to best foster the learners' vocabulary acquisition. Many studies have examined the effect of different methods on vocabulary learning (Nation, 2001; Shapiro & Waters, 2005; Sagarra & Alba, 2006). The appeal for research of incidental vocabulary acquisition gains fresh insights from studies on textual aids (Ramos & Dario, 2015; Vidal, 2011), accommodating rigorous theoretical and empirical interest in the relationship between incidental vocabulary acquisition and learning tasks. Teaching vocabulary with a reading text plus exercises and activities would be more effective (Zimmerman, 1997). It should be supported with exercises to connect new knowledge to existing knowledge (Chastain, 1975), which direct learners to specific vocabulary items and help them understand the meaning of these words in specific contexts (Hashemzadeh, 2012). Thus, it may be justified to claim that doing different exercises and activities as a follow-up practice after reading a text is one of the effective ways to enhance learners' vocabulary knowledge.

Previous studies highlighted the importance of using different exercises and activities following a text to increase learners' vocabulary knowledge. These exercises and activities enhance learners' vocabulary knowledge to a great degree. However, there is still no consensus among researchers on this issue. Therefore, focusing on the effects of different exercises deserves further attention. There is still a question of which exercise type is the most effective in increasing learners' vocabulary knowledge. Hence, the present study compares the effects of three reading tasks - multiple-choice, short-answered, and fill-in-the-blank - on EFL learners' incidental vocabulary acquisition and explores learner attitudes towards these three reading tasks. The context of teaching and learning English reading at the university where this study was conducted reveals that reading is an important skill; however, most reading lessons rely on the textbook. The teachers and curriculum designers have set goals. At the same time, significant attempts to adapt the reading exercises to be more effective for learners' vocabulary development have not been encouraged or considered. In Vietnam, vocabulary learning is shaped by the Ministry of Education and Training policies that emphasize grammatical knowledge

and reading-based vocabulary, especially for exam preparation (MoET, 2008; MoET, 2018). While the 2008 National Foreign Language Project promoted communicative competence, classroom practices remain largely test-driven, with a focus on rote memorization and textbook-based learning (Vu & Peters, 2021). The lack of extensive reading programs, teacher training in communicative approaches, and resource availability further limit opportunities for incidental learning. As a result, students may perform well on written vocabulary tests but struggle to use vocabulary effectively in speaking or real-life contexts. Very little research has been done in the Vietnamese educational context even though it would be necessary and interesting to conduct an empirical research study investigating the effects of different reading tasks on EFL learners' incidental vocabulary acquisition. It is also believed that learners' attitudes and preferences toward different task types would shed light on stakeholders' selection of materials and instructional methods. In this way, the result of this study can benefit language teachers and material writers by allowing them to use more effective reading task types to improve EFL learners' vocabulary knowledge. The current study, consequentially, aimed to answer the following questions:

RQ1. How much does reading task type affect language learners' incidental vocabulary learning?

RQ2. To what extent does each task type facilitate learners' vocabulary retention?

RQ3. What are Vietnamese university students' attitudes toward the reading task types?

Based on the research questions, the following hypotheses were formulated:

H1. Reading task type has a significant effect on learners' incidental vocabulary acquisition.

H2. Certain task types lead to significantly greater vocabulary retention than others.

H3. Learners show significantly different attitudes and preferences toward different reading task types.

1.2. Related studies on incidental vocabulary learning and reading task types

Tasks are viewed differently depending on different perspectives. Some researchers look at tasks from a pure classroom interaction. For example, according to Long and Crookes (1992), a task is an activity, usually of a particular objective, undertaken as part of a course. Nunan (1989) regarded tasks as classroom work that "involves learners in comprehending, manipulating, producing, or interacting in the target language while their attention is principally focused on meaning rather than form"

(p. 10). Willis (1996) defined a classroom task as "a goal-oriented activity in which learners use language to achieve a real outcome" (p. 53). Some other researchers look at tasks from both classroom interaction and research perspectives. Skehan (1996) considered classroom tasks to be the primary focus of activities and generally bear some resemblance to real-life language use. Ellis (2003) similarly viewed a task as a work plan that has a clear aim and requires learners to employ cognitive processes to carry out and achieve a product. Based on the different definitions of "tasks", this study defines reading tasks as activities or work plans that are part of the reading syllabus. To complete the reading tasks, learners must employ reading skills to comprehend, manipulate, produce, and interact with the text and have a clear outcome. Reading tasks, consequently, refer to reading with multiple-choice comprehension questions, SAQs, and fill-in-the-blank exercises.

Vocabulary is classified into two types: receptive and productive. According to Waring (1997), receptive vocabulary refers to the ability to provide a specific translation of an L2 word. In contrast, productive knowledge refers to the ability to provide a specific L2 equivalent for an L1 word. This dichotomy is further developed by Laufer et al. (2004), who describe receptive knowledge as retrieval of the word form and productive knowledge as retrieval of the word meaning. Receptive vocabulary knowledge refers to recognizing the form of a word and defining or finding a synonym for it (Webb, 2008). In contrast, productive vocabulary knowledge refers to recalling the form and meaning of an L2 word. Authors, including Nation and Carter (1989), explain the distinction between receptive versus productive vocabulary knowledge. The standard character of these definitions of receptive vocabulary knowledge is recognizing the form and retrieving the meaning in listening and reading (Nation & Carter, 1989). The translation task into L1 is often used to verify this ability because receptive knowledge is considered a mental activity that cannot be measured directly. The main feature of productive vocabulary knowledge is the capacity to produce and use the target language. Research has also focused on receptive and productive vocabulary size (Laufer, 1998; Laufer & Paribakht, 1998) or whether receptive knowledge is gained before productive knowledge (Channell, 1988; Melka, 1997). Receptive vocabulary size is normally significantly larger than productive vocabulary size. In addition, the larger the receptive vocabulary size L2 learners have, the larger the productive vocabulary size they are more likely to have (Laufer & Paribakht, 1998; Laufer, 1998; Laufer & Goldstein, 2004; Webb, 2008; Zhong, 2009). These findings support Melka (1997), stating that productive knowledge is more advanced and is often acquired later than receptive knowledge. However, Zhong (2009) revealed a different developmental pattern: productive vocabulary may grow faster than receptive vocabulary among Chinese students. The contrasting results suggest that needs may drive vocabulary learning, proficiency level (Laufer, 1998), and learning tasks

(Webb, 2008). Figure 1 illustrates the conceptualization of vocabulary typology as discussed above.

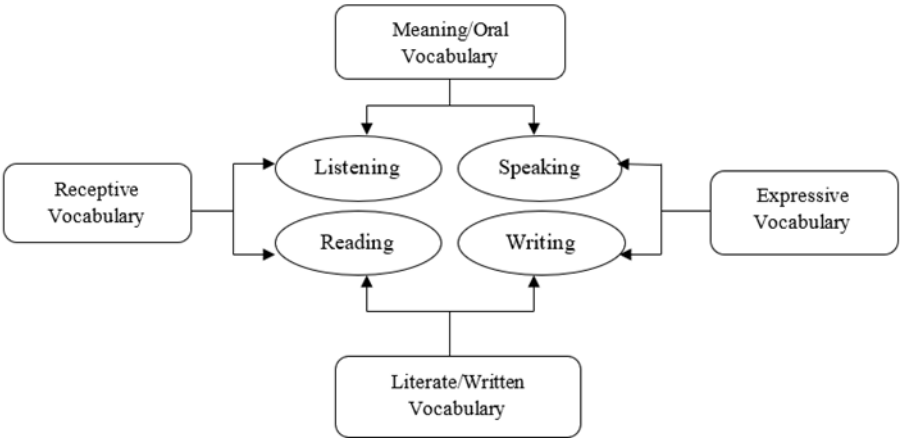

Figure 1. Conceptualization of vocabulary typology

Most researchers agree that knowing a word involves much more than simply knowing its meaning and forms, and they have proposed various criteria for vocabulary knowledge (Laufer, 1998; Nation, 2001). Knowing a word entails knowledge of its spoken and written form, morphological and semantic aspects, collocational, idiomatic, and social constraints (Nation, 2001; Richards, 1976). Vocabulary knowledge can also be viewed in terms of breadth and depth. Breadth or quantity refers to an estimated number of words a learner knows. Vocabulary size offers information regarding learners' ability in reading (Laufer, 1998; Qian & Schedl, 2004), speaking (Daller et al., 2003), writing (Laufer & Nation, 1995), listening (Stæhr, 2009) and general academic performance (Harrington & Carey, 2009; Zareva et al., 2005). Depth or quality, according to Read (1993), focuses on the knowledge that learners have beyond a superficial understanding of the meaning. It is assumed that words are stored in insets in the mind, and the depth dimension considers vocabulary knowledge development as network building (Haastrup & Henriksen, 2000; Read, 2004). The network-building approach examines the number of words that could be linked and the strength of links (Meara & Fitzpatrick, 2000; Meara & Wolter, 2004). The more links between one word and another, the stronger the links are; the deeper the word knowledge becomes (Meara & Wolter, 2004). Hence, in this study, receptive word knowledge refers to an ability to provide a correct Vietnamese translation, and productive word knowledge relates to writing the target word in a semantically appropriate sentence with correct colligation, word classes including nouns, verbs, and adjectives.

The acquisition of vocabulary in a second language (L2) has garnered significant interest among researchers, educators, and material developers in recent years. This growing attention reflects the recognition of vocabulary as a fundamental component of language proficiency and the need for effective instructional programs to facilitate its acquisition (Coady & Huckin, 1997; Gairns & Redman, 1986; Lewis, 1993; McCarthy, 1990; Nation & Carter, 1989). Unlike first language (L1) acquisition, which predominantly occurs through spoken input and develops naturally without explicit instruction, vocabulary acquisition in an L2 context often relies on written input and direct instruction (Huckin & Coady, 1999). Incidental vocabulary acquisition has been conceptualized in various ways. Nagy et al. (1985) initially introduced the concept in the context of L1 acquisition, asserting that a significant proportion of vocabulary growth occurs through contextual exposure rather than explicit instruction. Krashen (1989, 1998) further contributed to this discussion through his Input Hypothesis, arguing that vocabulary acquisition occurs unconsciously when learners are exposed to comprehensible input in reading, thereby aligning with the principles of incidental acquisition. Building on these foundational perspectives, Laufer and Hill (2000) defined incidental learning as acquiring vocabulary while engaging in tasks not explicitly focused on vocabulary retention. Similarly, Nation (2001) emphasized that learners acquire vocabulary by focusing on the meaning conveyed by language rather than on lexical items themselves. Joe (1998) reinforced this view, noting that incidental learning occurs when learners prioritize comprehension over vocabulary acquisition. Moreover, research suggests that incidental vocabulary learning is particularly effective in facilitating long-term retention and enhancing contextual understanding (Paribakht & Wesche, 1999). Incidental vocabulary learning occurs when learners acquire vocabulary unintentionally while performing other tasks, such as reading texts or listening to spoken language (Laufer & Hulstijn, 2001). These scholars distinguish between two types of incidental learning. The first type, commonly employed in experimental research, involves learners processing new vocabulary without any intention to memorize it, often without forewarning of a subsequent retention test. The second, more general type of incidental learning occurs in naturalistic educational settings, where vocabulary acquisition is an unintended by-product of another cognitive activity, such as reading for comprehension. In both cases, learners may attend to words by using contextual clues, looking them up in dictionaries, or engaging in meaning negotiation, yet they do not deliberately attempt to commit them to memory (Laufer, 2003).

Incidental learning through reading provides a richer understanding of vocabulary usage compared to traditional paired-associate exercises. It enables simultaneous engagement in two cognitive activities, reading comprehension and vocabulary acquisition, making it pedagogically efficient. Additionally, exposure to vocabulary in meaningful contexts facilitates a deeper understanding of collocations and

colligations, which are often challenging to acquire in formal language instruction (Bahns & Eldaw, 1993). In line with Laufer's (2003) definition, the present study conceptualizes incidental vocabulary acquisition as the acquisition of vocabulary as a by-product of engaging in activities not explicitly designed for lexical learning. Specifically, participants will complete a reading task involving unfamiliar words without prior notification that their retention of these words will be tested afterward. This operationalization aligns with the theoretical perspectives outlined above and provides a framework for investigating how incidental vocabulary learning occurs in different reading task conditions. By refining the understanding of incidental vocabulary acquisition, this study aims to contribute to the broader discourse on vocabulary learning strategies and inform instructional practices that optimize vocabulary development in L2 learners.

Research on testing methods and reading tasks have deduced how different assessment formats influence learners' performance and vocabulary acquisition. Bachman (1990) identified key facets of test methods, arguing that test performance is shaped by the characteristics of the assessment approach, with constructed-response tasks being more complex than selected-response tasks. Empirical studies support this view, showing that MCQs generally lead to higher performance than open-ended or cloze-test formats (Shohamy, 1984; Wolf, 1993). These effects are particularly pronounced for lower-proficiency learners, who find MCQs more manageable. However, some scholars have raised concerns about MCQs, noting that they allow for test-taking strategies that may bypass actual reading comprehension (Johns, 1978; Katz et al., 1990; Hannon & Daneman, 2001). Unlike MCQs, open-ended questions require learners to generate responses, making them more reflective of real classroom communication and learning processes (Ozuru et al., 2007). Given the common belief that reading contributes to vocabulary acquisition and that different reading tasks influence learning outcomes, researchers have increasingly examined how task types shape vocabulary learning in foreign language contexts.

Research on L2 vocabulary acquisition through reading has consistently shown that task type and engagement level significantly influence retention. Studies have demonstrated that integrating specific reading tasks or vocabulary-focused exercises leads to deeper and more stable vocabulary learning than passive reading alone. Hulstijn et al. (1996) found that marginal glosses, especially when words appeared multiple times in a text, enhanced Dutch learners' retention more than dictionary use or reading without support. Similarly, Joe (1998) emphasized the role of generative processing, showing that ESL learners who actively recalled and reconstructed texts gained more vocabulary knowledge than those who only read. Xu (2009) reinforced this, figured out that blank-filling and sentence-making tasks led to better vocabulary retention than multiple-choice comprehension questions, likely due to their demand for deeper cognitive

engagement. Kakvand, Aliasin, and Mohammadi (2022) found down that bottom-up processing was more effective than top-down processing for L2 vocabulary learning and retention. The combined approach yielded the highest vocabulary gains, suggesting that integrating both processes enhances learning. However, bottom-up processing alone proved most effective for long-term retention. Overall, studies on the relationship of reading and vocabulary retention shared common findings that using new words in eclectic approaches combining reading with contextualized communication could efficiently extend and consolidate learners' language acquisition.

The impact of reading purpose and task repetition has also been well-documented. Studies by Sternberg et al. (1982), Wilson et al. (1986), and Stallman (1991) revealed that directing learners to focus on key ideas or unknown words while reading improved vocabulary acquisition. Folse (2006) provided further evidence, showing that repeated exposure through multiple fill-in-the-blank exercises resulted in higher retention rates than a single exposure or production-based tasks. In the same vein, Amiryousefi and Kassaian (2010) found that learners who combined reading with vocabulary exercises outperformed those who engaged in reading comprehension alone, suggesting that task-induced interaction with new words strengthens lexical acquisition. Uchihara, Webb, and Yanagisawa (2019) found a moderate effect of repetition on incidental vocabulary learning, with learner variables, learning conditions, and methodological differences influencing its impact. Teng and Xu (2022) refreshed this meta-analysis by switch the focus to productive vocabulary mastery, showing that productive tasks were more effective than receptive ones and that repetition initially enhanced learning but had diminishing returns after several retrievals. Together, they suggest that while repetition is beneficial for vocabulary learning, its effectiveness depends on task type, learner engagement, and optimal frequency. These findings have direct implications for instructional design, emphasizing the importance of task variety and active engagement in L2 vocabulary learning.

Several studies have explored different methods of vocabulary instruction and the effectiveness of existing materials used in Vietnamese classrooms. One of the significant studies in this area, conducted by Vu and Peters (2020), investigated the effectiveness of three different reading modes, including reading-only, reading-while-listening, and reading with textual input enhancement, on Vietnamese EFL learners' vocabulary acquisition. The study found that all three approaches led to vocabulary gains, but reading with textual input enhancement proved to be the most effective. This suggests that visually highlighting key lexical items can enhance learners' ability to recognize and retain new words. Interestingly, the study also noted that form recognition had the highest learning gains, whereas form recall was the weakest, indicating that Vietnamese learners may struggle with active word retrieval despite improved passive recognition. Their subsequent review provided a broader examination of vocabulary knowledge,

teaching methodologies, and testing in Vietnam (Vu & Peters, 2021). Their analysis revealed that Vietnamese EFL learners generally have limited knowledge of both single words and formulaic language. The review also highlighted gaps in vocabulary instruction, suggesting a need for pedagogical reforms to enhance learners' exposure to and retention of vocabulary. Given the limited lexical knowledge of learners, the study recommended more contextualized and meaningful vocabulary teaching strategies to bridge the gap between theoretical knowledge and practical language use.

In terms of material development, Nguyen (2020) critically evaluated the vocabulary-related features of reading passages in Vietnam's high-school English textbooks. The findings indicated that many reading passages contained an overwhelming number of new words, most of which were not cognitively and affectively comprehensible. Moreover, these words rarely recurred across different texts, reducing opportunities for reinforcement and incidental vocabulary learning. The study also noted that the presence of useful contextual clues was minimal, making it difficult for students to infer word meanings from context. These findings underscore the need for textbook improvements to ensure that vocabulary instruction aligns more effectively with learners' cognitive processes and language acquisition needs. While reading remains a valuable tool for vocabulary acquisition, the effectiveness of different instructional approaches varies. Enhancing textual features, allowing meaningful repetition, and refining teaching methodologies can significantly improve vocabulary retention. Furthermore, textbook developers must consider lexical frequency and contextual clues to create reading materials that foster easier task elicit for classroom practitioners. Existing studies on reading-based vocabulary learning have provided valuable insights into the effects of various blended reading skills and textbook materials on vocabulary development. To further enrich available literature, more research is needed to explore how different reading task types influence both immediate vocabulary learning and long-term retention among EFL learners. This study aims to contribute to this area by examining the effectiveness of integrated reading task types in facilitating incidental vocabulary acquisition and retention.

2. Method

2.1 Research design

The present study included both quantitative and qualitative phases. The first phase adopted a quasi-experimental and quantitative design based on the vocabulary pre-test and post-test and an intervention of applying three task types for three respective groups. The following research phase was directed toward students' attitudes toward the experiments. Semi-structured oral interviews were performed to survey the students' attitudes after the participants had finished the post-tests.

2.2 Participant recruitment

The participants in the present study were 60 first-year students at a university in the Mekong Delta of Vietnam. At the time of the conduction of the study, these students were in their second semester. They were selected based on the previous semester's final English exam scores. All of them gained a general point average of approximately 7.0 out of ten on their English test in their first semester. The students were 18-19 and had learned English for at least 5 years at high school.

A total of 60 participants were chosen to ensure a manageable and balanced sample size across the three treatment groups, with 20 students assigned to each group using convenience sampling. This number was considered adequate to conduct inferential statistical analyses and observe treatment effects with moderate effect sizes, as supported by sample size recommendations in applied linguistics research (Dörnyei, 2007; Plonsky & Oswald, 2014).

For the qualitative phase, six students were invited for follow-up semi-structured interviews. To represent different learning outcomes, two students from each experimental group were selected: one high-achieving and one low-achieving student based on their vocabulary test scores. This purposive sampling strategy allowed for a more nuanced understanding of learners' perceptions and experiences with the reading tasks (Dörnyei, 2007).

2.3 Materials and instruments for data collection

The materials consisted of four short reading texts related to the topic of health. These texts were selected and adapted from http://dethi.violet.vn/, a widely used educational website for English teaching and learning in Vietnam. Each text was approximately 200 words in length. Vocabulary load was carefully controlled to ensure comparability across the texts. The texts were selected based on two main criteria: (1) the overall language difficulty was appropriate for learners at the high-A2 to low-B1 level on the CEFR scale, and (2) the topics were familiar enough to be comprehensible but contained key vocabulary items that were likely unknown or only partially known to the learners. To ensure this, a preliminary analysis was conducted using the CEFR-J Wordlist and consultation with two experienced English teachers. Ten target vocabulary items (2–3 per text) were selected for testing based on the following conditions: (a) they were low-frequency words not typically introduced at the lower secondary level, (b) they were not part of the students' English textbook curriculum, and (c) they were central to understanding the meaning of the text. This selection strategy ensured that the vocabulary items were plausible candidates for incidental learning, words that learners could infer from context but would not likely know explicitly beforehand. It also allowed

for better measurement of vocabulary acquisition directly related to the treatment conditions rather than prior knowledge.Reading Tasks

Each experimental group was given a particular task, including:

Task 1: Students performing Task 1 were given a text with five MCQs based on the reading passage. These questions either incorporated some target words or paraphrased the original sentences in which these target words occurred. Successful completion of this exercise facilitated the understanding of the target lexical items.

Task 2: The students performing Task 2 were given the exact reading text followed by five SAQs converted from the MCQs in Task 1.

Task 3: The students performing Task 3 were given the same reading passage in which ten lexical items were deleted from the text, leaving ten gaps to be filled in. The participants had to read the reading and fill in the ten gaps with the words given in a box.

2.4 Pre- and posttest

A pretest was administered before the experiment to select the target words for the study, aiming at identifying the lexical items unfamiliar to the participants. The test consisted of a list of fifty words chosen from the reading texts selected for the experiment, which was handed out to the participants. They were asked to write down the Vietnamese equivalents of any items they knew

In the present study, an immediate post-test and a delayed post-test were administered to measure the participants' vocabulary knowledge right after completing the tasks and one week after they performed them. Vocabulary tests were developed based on the new words in each exercise. They were designed to test students' receptive and productive knowledge of the target words. After completing tasks for each reading passage, the participant's knowledge of the words presented in each task type was tested. They were required to do the immediate post-test, which contained five unknown words from the reading. One week after completing tasks for the four reading passages, the delayed Post-test containing twenty unknown words identical to those in the four immediate Post-tests, yet with a rearranged order, was administered to the learners to see whether the vocabulary gains significantly differed after using different reading tasks. A modified version of the Vocabulary Knowledge Scale (VKS) by Paribakht and Wesche (1997) was used for both the immediate Post-test and delayed Post-test to measure incidental vocabulary acquisition in the current study. This modified version of the VKS includes three levels of word knowledge that could reflect the different levels of vocabulary knowledge. This adapted scale had been used in a previous study and had proved reliable (Vidal, 2003).

Example of the Vocabulary Knowledge Scale: For each target word, the participants were asked to respond to the following prompts:

A. I don't know what this word means.

B. I know this word. It means ……. (give the meaning in English or Vietnamese).

C. I can use this word in a good sentence. (write a sentence) ……

(Adapted from Paribakht & Wesche, 1997)

2.5 Interviews

This study used semi-structured oral interviews with the students to elicit more information about their attitudes toward the reading tasks. The interviews aimed to obtain additional qualitative data for the study. Each interview consisted of six questions concerning the students' attitudes toward the reading tasks, the problems they encountered when doing the tasks, their preference, and their suggestions for specific reading tasks implemented in this study. Six participants were selected for the interviews based on their scores in the delayed Post-test. They were representatives of two levels of vocabulary acquisition based on their scores on the delayed Post-test: three were in the group ranked 'highest mark,' and the other three were 'lowest mark'.

2.6 Data collection procedure

This research was conducted in an EFL learning setting at a university in the Vietnamese region of the Mekong Delta, where three groups of participants were selected among those enrolled in the General English Course in their second semester at the university and those who had a score of 7 and above in their previous course. The study lasted six weeks. In the week before the experiment, the pretest was conducted with the participants to select the target words for the study – a test to identify the lexical items that were all unfamiliar to the participants. One week after the pretest, the experiment began. Within four weeks, the participants completed the tasks of four short reading texts. Three experimental groups were randomly assigned to perform one of the three reading tasks in their regular English class sessions. The immediate Post-tests were implemented on the participants after completing each reading. One week after the experiment, the participants were asked to do a delayed post-test on their knowledge of the target words.

Data obtained from the tests were submitted for statistical analysis using the Statistical Package for the Social Science (SPSS) version 20.0 software. To compare the effect of task on vocabulary retention, the scores of the immediate and delayed Post-tests were also submitted to the one-way ANOVA. A paired-sample t-test was used to see which type of the three reading exercises most effectively taught EFL learners' incidental

vocabulary. A paired samples t-test was again used to see whether there are differential gains in learners' vocabulary knowledge in immediate and delayed vocabulary Post-tests. Although statistical tests were used appropriately for comparison purposes, it should be noted that the relevant statistical assumptions (e.g., normality, homogeneity of variances) were not formally tested in this study. This may lead to the limitation of the generalizability or robustness of the findings.

Furthermore, six experiment participants were interviewed in follow-up semi-structured interviews one week after the Post-test. Data from the students' oral semi-structured interviews were submitted for qualitative analysis to seek patterns of the students' attitudes towards the three reading tasks. The procedures were described in detail: First, after the transcribed interview data, all students' responses were grouped into similar and different answers. Then, the most salient patterns of the students' attitudes were identified and presented.

3. Results

3.1. Effects of task types on incidental vocabulary acquisition

Table 1 presents the results of the one-way ANOVA tests conducted to determine whether there were statistically significant differences among the three task conditions, multiple-choice, short-answer, and fill-in-the-blank, in both the immediate and delayed post-tests.

Table 1. Comparisons of immediate and delayed post-tests of three task types

Tests	Tasks	M	SD	F	p
Immediate post-test	Multiple-choice	16.10	2.49	5.77	.01
	Short-answered	14.15	1.76		
	Fill-in-the-blank	16.30	2.32		
	Total	15.52	2.38		
Delayed post-test	Multiple-choice	11.5	1.88	10.06	.00
	Short-answered	9.5	1.93		
	Fill-in-the-blank	12.7	2.61		
	Total	11.23	2.89		

According to the ANOVA results, significant differences were found among the task groups in both the immediate post-test ($p = .01$) and delayed post-test ($p = .00$). Tukey's post hoc tests were conducted to identify specific group differences. The results showed significant differences between the multiple-choice and short-answer groups ($p =$

.02), and between the fill-in-the-blank and short-answer groups (p = .00), indicating that the short-answer group performed significantly worse in the immediate post-test. A similar pattern emerged in the delayed post-test, with the short-answer group again underperforming compared to the other two groups (p < .05).

These results suggest that short-answer questions posed greater challenges for learners' vocabulary retention compared to multiple-choice and fill-in-the-blank tasks. The latter two tasks may have been less cognitively demanding, allowing learners to perform better by relying on textual clues and recognition strategies. In contrast, short-answer tasks required more complex processing and retrieval, likely leading to lower scores for learners who struggled with comprehension. These findings are consistent with previous research. For instance, Hulstijn (1992) found that multiple-choice exercises supported better vocabulary retention compared to glossed reading. Similarly, Folse (2006) showed that repeated fill-in-the-blank exercises were more effective than sentence-writing tasks. Kargozari and Ghaemi (2011) also concluded that multiple-choice tasks outperformed sentence writing and fill-in-the-blank exercises. Although the difference in performance between the multiple-choice and fill-in-the-blank tasks was not statistically significant, the fill-in-the-blank group scored slightly higher on both the immediate (M = 16.30) and delayed (M = 12.70) post-tests. This may be attributed to the more elaborate lexical processing involved in fill-in-the-blank tasks, which demand attention to multiple word features such as form, meaning, and grammatical category, factors known to enhance retention.

To assess vocabulary retention over time, a paired-sample t-test was conducted to compare immediate and delayed post-test scores within each task group.

Table 2. Comparisons of immediate and delayed post-test results of three task categories

Group	Test	N	M	SD	p
Multiple-choice	immediate	20	16.10	2.49	.00
	delayed	20	11.50	1.88	
Short-answered	immediate	20	14.15	1.76	.00
	delayed	20	9.50	1.93	
Fill-in-the-blank	immediate	20	16.30	2.32	.00
	delayed	20	12.70	2.89	

In all three task groups, scores on the delayed post-test were significantly lower than those on the immediate post-test (p = .00), indicating a decline in vocabulary retention over time. This decline is expected, as participants did not have regular opportunities to use the target vocabulary in everyday communication. The overall

results confirm that while the reading tasks supported incidental vocabulary learning, retention diminished without continued exposure.

The mean scores also demonstrate a noteworthy trend: reading tasks significantly contributed to vocabulary gain, particularly in the immediate post-test. These findings are consistent with prior research (Stoller & Grabe, 1993; Joe, 1998; Paribakht & Wesche, 1999; Amiryousefi & Kassaian, 2010), which highlights the positive impact of post-reading exercises on vocabulary acquisition. Importantly, specifying a reading purpose, implied through task type, may have guided learners' attention and enhanced vocabulary learning, in line with findings by Swanborn and de Glopper (2002). Nonetheless, the drop in delayed post-test scores suggests that short-term exposure is insufficient for long-term retention. This supports studies by Watanabe (1997), Hulstijn & Laufer (2001), and Webb (2008), who emphasized the importance of repetition and spaced review. As Sokman (1997) noted, repeated encounters with new words—spaced over time, are key to effective vocabulary retention. Therefore, language instruction should include frequent, meaningful exposures to new vocabulary in varied contexts to deepen learners' word knowledge.

3.2. Attitudes toward reading with MCQs

Both successful and less successful participants assigned to the group reading with MCQs expressed positive attitudes toward this reading task. A student who had a low test score stated,

> *"I do not intend to learn new words when I do the task. I read the options carefully, find the ideas in the texts, and select the correct answer. However, I can remember some new words in the text."*

Interestingly, the students had different reasons for showing positive attitudes toward the task. Specifically, the high-score learner believed she could comprehend the reading passages better. She said,

> *"I like multiple choice comprehension questions because they help me understand both the general and specific ideas in the reading."*

Meanwhile, the less successful participant mentioned the factor of "luck" that might help her select the right answer. She remarked,

> *"I like multiple choice questions because reading is easier than other tasks. Ah… Because sometimes, I do not understand the four options and do not know how to select the right answer. I select randomly. However, sometimes I still have the correct answer."*

Similar to what Darke and Freeman (1997) indicated in their study, multiple-choice tasks gave students a probability of getting the correct answer. For instance, they

have more than a 30% chance of being correct in a three-option question. Therefore, random answering may sometimes result in some marks.

Moreover, both successful and less successful participants agree that reading with MCQs improves their vocabulary knowledge. One student said,

> *"Ah, with MCQs, I have to encounter many words. I have to read the four options carefully and select one correct answer. It makes me read more carefully and learn something from the text."*

Learning vocabulary intentionally through multiple-choice reading tasks sometimes helps students promote their lexicon knowledge (Stewart, 2014).

According to the participants' reports, problems may occur when they complete the task. Remarkably, several options confused a successful participant. She said,

> *"Normally, in MCQs, there are two incorrect options, a nearly correct one and the correct one. It often makes me confused."*

On the other hand, the less successful participant had difficulty with vocabulary. She stated,

> "Maybe vocabulary is a problem. There are so many new words. Moreover, sometimes I feel confused with the word choice, such as synonym or antonym."

Testing and improving students' reading comprehension skills through a reading task simultaneously is always an ideal thought. The multiple-choice task was approved to be like that in this current study. However, instead of giving students chances to get high marks with luck only, this task also brought some difficulties, especially with their lexicon knowledge.

3.3. Attitudes toward reading with SAQs

Like the participants in the reading with MCQs, the successful participants in the reading with short-answered question group showed positive attitudes toward the assigned reading task. Participant 3 expressed her positive attitude toward the reading task and her strategies for completing it.

> *"I like this reading task because I think I can do it better. I think it is a rather simple task, and I have experience doing it. I often pay attention to the type of question, Wh-question, or Yes-No questions. Words like "who, what, when, and where" can help me find the appropriate answer. Moreover, by doing this task, I know what to focus on; therefore, it is easy to get the main points and detailed information in the text."*

The participants generally viewed reading while answering comprehension questions as a helpful tool for constructing the meaning of the text. Bensoussan and

Kreindler (1990) indicated that questions might aid comprehension by turning the students' attention to specific points in the text. Answering questions may relieve students from having to locate important points by themselves. The participants would match the expressions in the questions with the language in the text and figure out the main idea to write the correct answer. However, the less successful participants showed negative attitudes toward reading and answering comprehension questions at a certain level. Participant 4 stated:

> *"I think it is ok. Ah… I do not hate it, but I am also not fond of it. I concentrate on the questions, and to fulfill the task, I do not care much about the text, and of course, I do not always like the reading."*

One point that should be noticed in this reading task is that the participants mainly focus on fulfilling the task, not comprehending the text or learning new vocabulary. As expected, the participants in the group reading with short-answered comprehension questions reported themselves gaining vocabulary knowledge. However, compared with the reading with multiple-choice comprehension question group, the degree to which they improved their vocabulary was not high. This might be explained by the different characteristics of multiple-choice comprehension questions and answering comprehension questions. In reading with multiple-choice comprehension questions, the participants needed to address four options in each question and compare the ideas among the options and the idea in the text to select the correct answer. In other words, the participants had chances to access more words, which may have led to their vocabulary development and a feeling of improvement. In contrast, in reading and answering comprehension questions, the participants mainly focused on the keywords in the questions. They figured out the correct answers in the text, so they did not feel much vocabulary improvement. Notably, they said,

> *"Maybe I can learn new words, but not many words. When I do this reading task, I often find the keywords in the questions and collate these words with the words in the text. I find where they stand and which line and give the answer. I can remember the keywords in the questions and the text."*

> *"When I do this task, I often underline the keywords and find them in the text. The information is certainly somewhere in the text, not from my personal experience or vague guessing. However, it is not always easy to find where it is. Moreover, when I read, again and again, the information in the reading text, I think my vocabulary knowledge is improved a little…"*

When asked about the problem that may occur in task completion, the successful and less successful participants had the same opinion that it is a lack of efficient lexicon knowledge. They said,

"Sometimes I do not understand the questions, maybe because I do not know many words. At that time, I did not know the main point of the question, and I found that to be nearly the same as the question in the reading text. Of course, I write long answers, but I do not know whether there is enough information to answer the questions. One more thing, I think besides the vocabulary knowledge, the other problem is grammar. I do not often use the correct structure."

"I think my major problem is the vocabulary. When I read a text, there are often many new words, so I cannot understand the entire content of the text. Next, maybe my writing skills, reading, and answering comprehension questions require several other skills to formulate an appealing answer (vocabulary, writing skills, etc.) rather than just reading. However, in fact, I am not good at writing…"

It was evident that vocabulary was regarded as a significant problem for the students in completing their reading tasks. Students' problems with the new vocabulary may have led to their misunderstanding or lack of understanding of the text, and therefore, they could not fulfill their tasks successfully.

3.4. Attitudes toward reading with FBQs

Interestingly, the participants from the reading with the fill-in-the-blank group who performed the best on the post-test expressed a negative attitude to the reading task. On the one hand, they recognized the use of this reading task, as Participants 5 and 6 reported,

"I think I can know more words by completing this reading task…"

"I think it is beneficial for my vocabulary knowledge."

Similar to the aforementioned reading tasks, increasing students' lexicon knowledge is one of the significant benefits of the fill-in-the-blank task. According to Alavinia and Rahimi (2019), completing this reading task helps learners increase their consciousness for exploring the new words occurring in the task.

The positive comments above showed students' appreciation of how reading with fill-in-the-blank facilitated their vocabulary improvement. On the other hand, they still disliked it because it was difficult. They said,

"No. I do not like it because I think it is hard to complete the task."

"Ah… I do not like it because I think it is a difficult reading task. Uhm… I think this one requires learner with a wide range of knowledge including vocabulary, grammar, language, etc."

Similar to the participants in reading with multiple-choice question groups and reading with short-answered question groups, the central problem of the participants in reading with the fill-in-the-blank group is limited vocabulary knowledge. They stated,

"I think vocabulary is my problem. When studying vocabulary, I often use it in each sentence, but when using it in reading text, it seems to have a different meaning."

"I have to use all of my knowledge about the English language to complete this reading task. It is one of the language skills, and I need time to practice."

Even though the students were assigned different reading tasks, they had a common problem. As can be seen, the major problem that the students faced when doing the tasks was their insufficient lexicon knowledge. Vocabulary knowledge has been proven to be crucial in language learning, especially in reading, and the difficulty of vocabulary for EFL learners has been revealed to researchers. As Jun Zhang and Bin Annual (2008) suggested, students' vocabulary knowledge correlates to reading comprehension. Similarly, Gorsuch and Taguchi (2008) found that reading in a foreign or second language is often a laborious process, often caused by underdeveloped word recognition skills, and that one major component of reading fluency is fast and accurate word recognition.

In conclusion, the interview data revealed that most participants had positive attitudes towards the tasks assigned. Meanwhile, some students did not enjoy doing the tasks because of problems with the reading task itself or the limitation of vocabulary knowledge. In addition, the students reported their suggestions concerning the reading tasks, which were worth considering when designing the reading tasks in reading classrooms.

4. Discussion

This study investigated the effects of different reading tasks, multiple-choice, short-answer, and fill-in-the-blank, on EFL learners' incidental vocabulary acquisition and their attitudes toward those tasks. The results offer empirical support for the claim that foreign language learners can enhance their vocabulary knowledge through reading-based tasks, thereby reinforcing the notion that incidental vocabulary learning can be effectively promoted through carefully designed, text-based activities (Huckin & Coady, 1999). The findings also align with Brown's (1993) assertion that different task types may elicit a lexical gap, encouraging learners to bridge this gap and acquire new vocabulary. The significant differences observed in both immediate and delayed post-tests suggest that task type plays an influential role in vocabulary uptake. Specifically, multiple-choice and fill-in-the-blank tasks proved to be more effective than short-answer tasks in promoting vocabulary acquisition. This is consistent with prior findings by Folse (2006), Kargozari and Ghaemi (2011), and Calvo-Ferrer & Belda-Medina (2021), who also noted the effectiveness of recognition-based tasks over productive ones in vocabulary learning. One possible explanation is that such tasks demand less cognitive effort, allowing learners to focus more on comprehension and contextual cues that support word

learning. Conversely, short-answer tasks, which rely on productive recall and inference, may overwhelm learners with limited vocabulary knowledge, leading to lower performance.

The interview data corroborated these findings, revealing that learners generally held positive attitudes toward their assigned tasks, particularly multiple-choice activities, though their motivations varied. High-achieving students appreciated the role of MCQs in improving comprehension, while others were drawn to the perceived simplicity or chance element of the format. Despite this, some learners expressed difficulties with lexical ambiguity and distractor options, highlighting the cognitive demands even within recognition-based formats. These insights support Stewart's (2014) observation and Kakvand et al. (2022) that reading tasks can contribute to incidental learning by increasing exposure and drawing attention to form–meaning relationships.

Notably, while the results of the immediate post-tests were encouraging, the delayed post-test results revealed a significant decline in vocabulary retention across all groups. This finding aligns with prior research by Hulstijn and Laufer (2001), Webb (2008), and Teng & Xu (2022), who emphasize that a small number of incidental encounters is rarely sufficient for durable word learning. According to Nation and Ming-Tzu (1999), a minimum of ten exposures is typically needed for a word to become a strong candidate for long-term acquisition. Therefore, although reading tasks can initiate vocabulary learning, retention requires repeated encounters, ideally spaced over time and embedded in meaningful contexts. From a pedagogical perspective, the results suggest that reading tasks, particularly multiple-choice and fill-in-the-blank formats, can serve as useful tools for incidental vocabulary development in EFL contexts. Teachers and materials designers should consider integrating these task types into reading lessons to guide learners' attention toward unfamiliar lexical items. As students in the study demonstrated better vocabulary uptake when these task types were used, incorporating them into reading instruction could enhance both comprehension and vocabulary knowledge.

Moreover, given the students' self-reported struggles with vocabulary, the findings underscore the need for greater emphasis on vocabulary development in reading curricula. Instruction should not merely focus on completing tasks but should aim to ensure that learners engage with new words deeply and repeatedly. One promising strategy would be to revisit the same lexical items across different texts and activities, thereby fostering both receptive and productive knowledge of the target vocabulary. Based on the comparative effectiveness of the task types, teachers should consider prioritizing MCQ and fill-in-the-blank tasks when designing lessons aimed at enhancing vocabulary acquisition. However, tasks should be tailored to suit learners' proficiency levels to ensure comprehensibility and maximize learning gains. As suggested by Swanborn and de Glopper (2002), purpose-driven reading tasks can guide learners'

attention, improve comprehension, and facilitate vocabulary learning more effectively than tasks that simply test understanding. The study's results also reveal a significant pedagogical challenge: vocabulary retention without continued exposure remains low. As such, teaching should move beyond one-off vocabulary encounters and include strategies for recycling lexical items over time. Teachers could adopt a range of follow-up exercises, such as games, quizzes, or communicative tasks, at spaced intervals to reinforce retention through elaboration and retrieval practice.

5. Limitations and Recommendations for future research

While this study contributes to understanding the relationship between reading task type and incidental vocabulary learning, several limitations must be acknowledged. First, the study was conducted over a relatively short four-week period, which limited the opportunity to observe long-term vocabulary retention. A longer intervention, with a delayed post-test conducted after four or more weeks, would yield more robust insights into the durability of vocabulary learning. Second, the sample was restricted to a small, homogenous group of first-year university students, mostly female, of similar age and language proficiency. Consequently, the findings may not be generalizable to broader populations of Vietnamese or international EFL learners. Future studies should recruit more diverse samples, including learners of different ages, genders, and proficiency levels, to enhance external validity. Third, the study employed only four reading passages, which may not sufficiently represent the variety of texts learners typically encounter. Some students may have found specific texts more engaging or accessible than others, potentially influencing their performance. Subsequent research should include a wider range of genres and topics to ensure greater ecological validity and account for text-specific effects on vocabulary acquisition.

Furthermore, future research could investigate additional moderating variables, such as learners' motivation, reading strategies, and task familiarity. It would also be valuable to examine the impact of digital task formats or integrated multimedia supports, especially as technology becomes increasingly central to language instruction. Lastly, different methodological approaches could yield complementary insights. Mixed-methods designs that integrate eye-tracking, lexical decision tasks, or think-aloud protocols, for example, could deepen our understanding of the cognitive processes underlying incidental vocabulary learning across task types.

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