



High Involvement, High Impact: Investigating Vocabulary and Motivation Gains in Reading-based Tasks

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Abstract. *Although vocabulary knowledge plays a central role in second language proficiency, vocabulary instruction in many Indonesian EFL classrooms remains focused on surface-level recognition, with little emphasis on cognitive engagement or learner motivation. While the Involvement Load Hypothesis (ILH) has been used to explain vocabulary retention in global contexts, limited research has explored its application in Indonesia or its simultaneous impact on motivation. This study addresses that gap by investigating how varying levels of task-induced involvement affect vocabulary acquisition and motivation among 75 third-semester English-major students at a university in Malang. Participants were assigned to three groups (Low, Medium, and High ILH) and received four weeks of reading-based vocabulary instruction. Pre- and posttests included a 20-item multiple-choice vocabulary test and a sentence construction task, while motivation was measured using a 50-item questionnaire adapted from Dörnyei's L2 Motivational Self System (L2MSS) and the Motivated Strategies for Learning Questionnaire (MSLQ). Quantitative data were analyzed using paired-sample t-tests, ANOVA, MANOVA, and post-hoc tests. Results showed that all groups improved significantly, but the High ILH group experienced the greatest gains in both vocabulary and motivation. These findings support ILH's predictive validity and demonstrate that deeper task involvement fosters both lexical development and affective engagement. The study highlights the importance of designing cognitively demanding, context-rich vocabulary tasks in EFL contexts where authentic input is limited.*

Keywords: EFL Instruction, Involvement Load Hypothesis, Learner Motivation, L2 Motivational Self System, MSLQ, Vocabulary Acquisition.

1. INTRODUCTION

Vocabulary learning lies at the heart of successful second language (L2) acquisition. As one of the essential building blocks of language, vocabulary serves as a bridge between receptive and productive skills, enabling learners to comprehend texts, express ideas, and participate in meaningful communication (Afzal, 2019; Feng & Webb, 2020; Nezhad et al., 2015). For English as a Foreign Language (EFL) learners, in particular, vocabulary knowledge is a strong predictor of reading comprehension, academic performance, and overall language proficiency. Without a sufficiently large and accessible lexicon, learners struggle to make sense of input and to produce accurate and fluent output (Horst et al., 1998; Lestari & Hardiyanti, 2020; Peters & Webb, 2018; Susanto et al., 2020). Thus, vocabulary acquisition continues to occupy a central role in the field of applied linguistics and language pedagogy.

Despite its importance, vocabulary instruction in many EFL classrooms—particularly in Indonesian university settings—often remains passive, teacher-centered, or incidental (Saputro et al., 2021; Van den Branden, 2016). Learners are frequently expected to acquire new words by reading texts and inferring meanings with minimal explicit instruction or contextual use (Webb & Nation, 2017). While this approach can lead to partial vocabulary gains over time, it may not be sufficient to produce long-lasting and deep lexical knowledge, especially when

learners are not immersed in English-speaking environments. Moreover, such instruction often lacks the motivational and cognitive challenge necessary to foster learner engagement (Maulana, 2021; Susanto et al., 2020). This raises an important pedagogical question: What types of vocabulary learning tasks are most effective in enhancing both word acquisition and learner motivation, especially in EFL contexts with limited exposure?

A promising response to this question lies in the Involvement Load Hypothesis (ILH), a theoretical model proposed by Hulstijn & Laufer (2001) and Laufer & Hulstijn (2001). ILH conceptualizes vocabulary learning as a function of task-induced involvement, which is determined by three key components: *need*, *search*, and *evaluation*. "Need" refers to the motivational drive to learn a word (either self-imposed or externally assigned), "search" involves the effort to find meaning or form, and "evaluation" entails a cognitive comparison or contextual use of the word. The hypothesis posits that tasks which involve a greater load—by incorporating strong need, active searching, and deep evaluation—will result in more robust vocabulary learning outcomes (Yanagisawa & Webb, 2021, 2022; Zou, 2017).

Over the past two decades, ILH has inspired a substantial body of empirical research. Numerous studies have tested the hypothesis by comparing different types of tasks—such as reading with glosses, fill-in-the-blank exercises, sentence writing, and composition—each varying in their involvement load (Sarani et al., 2013; Taheri & Rezaie Gollandouz, 2021; Yanagisawa & Webb, 2021). The general trend of findings supports the core claim of the hypothesis: tasks with higher involvement loads tend to yield better vocabulary retention. For example, Keating (2008) found that sentence-writing tasks led to higher word recall than simple reading. Ansarin & Bayazidi (2016) and Kim (2011) also observed that tasks requiring active use and evaluation of words produced stronger gains in vocabulary knowledge. These studies underline the value of designing vocabulary activities that go beyond recognition and push learners to engage more deeply with language.

While the ILH has gained recognition in the field of second language acquisition, the majority of research has been conducted in contexts such as Europe, East Asia, and North America (Khodaparast & Keshmirshekan, 2021; Namaziandost et al., 2020; Teng, 2019; Yang & Cao, 2021). There is still limited research investigating the application of ILH in Indonesian EFL contexts, where learners often study English for many years in formal education settings, yet still face challenges in developing functional vocabulary and sustaining motivation. The Indonesian context presents a unique landscape where English is taught extensively in schools and universities, but is rarely used in daily communication (Hamdani, 2020; Sakkir et al.,

2023). In such a situation, the design of vocabulary tasks within classroom instruction becomes particularly crucial.

Moreover, most ILH-based studies have focused primarily on the cognitive outcomes of vocabulary tasks, with less attention given to their motivational effects. However, vocabulary learning is not solely a matter of mental processing—it is also shaped by learners' attitudes, goals, and perceptions of the learning task (H. He & Deng, 2015; Tanaka, 2022; Vasudevan, 2021). Recent developments in second language motivation research, such as Dörnyei's (2005) L2 Motivational Self System (L2MSS) and the Motivated Strategies for Learning Questionnaire (MSLQ), emphasize the dynamic interplay between task design and learner motivation (Dörnyei, 2014; C. He et al., 2022). These frameworks highlight that learners are more likely to invest effort and persist in learning when they can envision themselves as successful L2 users, see value in the task, and believe in their ability to succeed. This brings forth an important gap in current research: although ILH has been well studied in relation to vocabulary gains, few studies have explored how different levels of task involvement affect learners' motivation to learn vocabulary, especially in EFL reading classrooms.

In the Indonesian university context, where English is primarily learned through reading-based instruction, integrating ILH principles into reading tasks offers a promising direction for fostering both vocabulary growth and learner motivation. Reading classes, often focused on comprehension and text structure, can be adapted to include vocabulary tasks that vary in involvement load—ranging from passive recognition to active production (Feng & Webb, 2020; Gablasova, 2014). Understanding how these different task types influence both cognitive (vocabulary learning) and affective (motivation) dimensions of language learning can help teachers design more effective and engaging instruction.

Given the theoretical foundation of ILH and the motivational frameworks of L2MSS and MSLQ, this study is situated at the intersection of vocabulary pedagogy and learner psychology. It aims to contribute to the field by exploring how varying levels of involvement load in reading-based vocabulary tasks influence EFL learners' vocabulary acquisition and motivation. Specifically, the study addresses whether different levels of involvement load (low, medium, high) result in different levels of vocabulary acquisition in EFL reading tasks, and whether these varying levels affect students' motivation in learning vocabulary.

Literature Review

The Importance of Vocabulary in EFL Learning

Vocabulary is widely recognized as a fundamental component of second language (L2) proficiency. Without adequate vocabulary knowledge, learners struggle to comprehend texts,

express their ideas, and engage in meaningful interactions (McKeown, 2019; Suleiman Al Qunayeer, 2021). As Nation (2001) and Schmitt (2010) have emphasized, vocabulary serves as the building block of language and is essential for the development of all four language skills: listening, speaking, reading, and writing. In reading, in particular, vocabulary size has been consistently linked to comprehension ability (Laufer & Hulstijn, 2001; Webb & Nation, 2017). Learners who possess a broader lexical repertoire are more likely to infer meaning from context, decode academic texts, and develop autonomy in their reading practices.

In the context of English as a Foreign Language (EFL), where exposure to authentic input is often limited, vocabulary acquisition becomes even more critical. Many EFL learners in countries like Indonesia study English in environments where classroom instruction is the primary source of input (Saputro et al., 2021; Shintani, 2011). Consequently, the effectiveness of vocabulary instruction in such contexts directly impacts learners' communicative competence. Traditional methods, such as rote memorization or list learning, while still prevalent, have been criticized for their lack of engagement and poor long-term retention (Schmitt, 2010). This has led researchers and educators to explore more interactive and cognitively demanding methods for vocabulary development.

Vocabulary Learning through Reading

Reading is considered one of the most effective ways to acquire vocabulary, particularly in EFL contexts. Extensive reading provides repeated exposure to words in context, allowing learners to gradually internalize their meanings and uses (Feng & Webb, 2020; Webb & Chang, 2015). However, the effectiveness of vocabulary learning through reading depends largely on the quality of the reading material and the type of tasks associated with it (Webb & Nation, 2017). Simply encountering new words in a text may not be enough, especially for low-frequency vocabulary. Without sufficient support or follow-up activities, learners may gloss over unfamiliar words without fully processing or remembering them.

Research has shown that tasks which promote deeper engagement with new vocabulary lead to better retention. For example, Paribakht & Wesche, 1996 introduced the "Vocabulary Enhancement Model," which integrates reading with explicit vocabulary instruction and metacognitive strategies. Similarly, studies by (Webb et al., 2013) found that repeated exposure combined with form-focused activities significantly enhanced vocabulary acquisition.

In Indonesian classrooms, reading is a primary mode of English instruction, especially at the university level. However, many reading tasks emphasize comprehension over vocabulary development (Amelia & Novia, 2022; Azizah et al., 2021). Textbooks often include glossaries or translations, but rarely require learners to actively use or manipulate new words. This

practice limits opportunities for deep processing and long-term retention. As such, there is a need to enrich reading instruction with vocabulary-focused tasks that require higher levels of learner involvement (Zeng et al., 2025).

Involvement Load Hypothesis (ILH)

The Involvement Load Hypothesis (ILH), proposed by (Laufer & Hulstijn, 2001) provides a theoretical framework for designing effective vocabulary learning tasks. According to ILH, the retention of new words depends on the cognitive and motivational involvement induced by the task. The model identifies three components that contribute to involvement load: need (the motivational drive to learn a word), search (the attempt to find its meaning or form), and evaluation (the process of comparing or using the word in context) (Karalik & Merç, 2016; Saputro et al., 2024; Yanagisawa & Webb, 2022). Each component can be absent, moderate, or strong, and the sum of their presence determines the overall involvement load of the task.

Tasks with a higher involvement load are predicted to result in better vocabulary retention because they engage learners more deeply in processing word meaning and form. Empirical studies have largely supported this claim (Namaziandost et al., 2020; Yanagisawa & Webb, 2021, 2022). For instance, (Laufer & Hulstijn, 2001) found that tasks involving composition writing (high involvement) led to better vocabulary retention than tasks involving reading with glosses (low involvement). (Keating, 2008) similarly observed that Spanish L2 learners retained more words when they completed tasks requiring active use and evaluation.

(Kim, 2011; Teng & Zhang, 2020) further confirmed the hypothesis in different L2 contexts, emphasizing that tasks incorporating strong evaluation and self-imposed need consistently produced higher vocabulary gains. These findings have encouraged educators to design vocabulary tasks that go beyond recognition and require learners to generate, compare, or personalize the target vocabulary.

Motivation in L2 Vocabulary Learning

Motivation is a critical factor in second language acquisition. It influences the amount of effort learners are willing to invest, their persistence in the face of difficulties, and their overall success in learning (Lee, 2014; Todaka, 2020). In the context of vocabulary acquisition, motivated learners are more likely to engage with challenging tasks, seek opportunities for practice, and employ effective learning strategies (Saputro et al., 2024; Saputro & Hima, 2024; Yılmaz & Soruç, 2015).

(Dörnyei, 2009) L2 Motivational Self System (L2MSS) has become a widely accepted framework for understanding language learning motivation. It consists of three components:

the Ideal L2 Self (a vision of oneself as a successful L2 user), *the Ought-to L2 Self* (external pressures and expectations), and *the L2 Learning Experience* (motivational impact of the learning environment and task). Learners with a strong Ideal L2 Self are more likely to engage in learning behaviors that bring them closer to their envisioned identity.

In addition, the Motivated Strategies for Learning Questionnaire (MSLQ) developed by (Pintrich & De Groot, 1990) identifies cognitive, metacognitive, and motivational components of learner engagement. Key constructs such as intrinsic goal orientation, task value, self-efficacy, and metacognitive regulation are closely linked to language learning outcomes. These frameworks collectively suggest that motivation and strategic engagement are not just individual traits, but can be influenced by the design and delivery of classroom tasks.

Linking ILH and Motivation

Although ILH was originally proposed as a cognitive model, its inclusion of the "need" component links it directly to motivation. Tasks that create a strong personal need to learn vocabulary—such as those involving self-selected goals or meaningful communication—are likely to enhance both involvement and motivation (Geng & Ferguson, 2013; Karalik & Merç, 2016; Müller-Hartmann & Schocker-von Ditfurth, 2011). Research has begun to explore this connection more explicitly. For example, (Teng & Zhang, 2020; Zhang & Liu, 2022) investigated the impact of task involvement on Chinese EFL learners' motivation and found that high-involvement tasks not only improved vocabulary gains but also increased learners' interest and perceived task value.

In the Indonesian context, studies on the relationship between task design and motivation are still limited. (Wiranti & Widiyati, 2022) explored how learner autonomy and task design affected Indonesian students' motivation and found that students were more motivated when tasks were perceived as meaningful and challenging. Another study by (Budiharto & Amalia, 2019) examined motivation in vocabulary learning and emphasized the importance of engaging tasks that connect with learners' personal goals.

However, there is a noticeable gap in studies that explicitly apply ILH to examine both vocabulary and motivation outcomes in Indonesian EFL classrooms. Most local research has focused either on the effectiveness of certain strategies (e.g., flashcards, games, word maps) or on general motivational trends among learners. Very few studies have systematically compared different levels of task involvement and their impact on both cognitive and affective domains.

2. RESEARCH METHOD

Research Design

This study employed a quasi-experimental design with a pretest–posttest control group structure to investigate the effects of varying levels of involvement load on EFL learners' vocabulary acquisition and motivation. The three experimental groups—Low, Medium, and High ILH—were exposed to reading-based vocabulary tasks designed to reflect different degrees of task involvement, based on the Involvement Load Hypothesis. The study also adopted a mixed-methods approach in a broader sense, using quantitative data for vocabulary and motivation scores, with qualitative reflections embedded in classroom observations and follow-up group discussions.

The primary independent variable was task-induced involvement load (Low, Medium, High), while the two dependent variables were vocabulary acquisition and learner motivation. Vocabulary knowledge was measured through a researcher-designed vocabulary pretest and posttest. Motivation was assessed using an adapted 50-item questionnaire combining the L2 Motivational Self System (L2MSS) and Motivated Strategies for Learning Questionnaire (MSLQ), both validated in previous research.

Participants

This study involved 75 third-semester undergraduate students majoring in English at a private university in Malang, Indonesia. All participants were enrolled in reading courses during the study and were grouped into three intact classes of 25 students each, assigned to the treatment conditions based on their existing class schedules. Due to institutional constraints, random assignment at the individual level was not possible; therefore, convenience sampling was used, and the three classes were randomly assigned to the Low, Medium, or High Involvement Load treatment groups. The participants, aged between 19 and 21 years old, had studied English for at least six years starting from junior high school, with no immersion experience in English-speaking environments. Their initial vocabulary size, measured using a 20-item test targeting the 3,000–4,000 word family level, indicated an intermediate level of lexical knowledge. All students gave their informed consent before taking part in the research.

Instructional Treatments

To investigate the impact of task-induced involvement load on vocabulary acquisition and motivation, participants in each group underwent a four-week instructional treatment integrated into their regular reading class. The reading text, titled "*The Resignation Letter*," served as the common source across all groups. The 500-word narrative was embedded with 20 selected vocabulary items from the 3,000–4,000 word families, chosen based on their

relevance to the learners' proficiency level and their absence from students' prior vocabulary knowledge as established in the pretest.

Although the same vocabulary and text were used across all groups, the depth of processing and task complexity varied according to the group's assigned ILH level. The treatment was designed with increasing levels of need, search, and evaluation, as defined in Laufer and Hulstijn's (2001) Involvement Load Hypothesis. Each group participated in one 100-minute session per week, totaling four sessions over a one-month period. Below is the breakdown of activities by group.

Group 1: Low ILH – Recognition Level

This group was exposed to the vocabulary passively through recognition-based tasks. The tasks required minimal cognitive effort and no productive vocabulary use. The Need component was externally imposed, while Search and Evaluation were largely absent. In Week 1, students were introduced to all 20 vocabulary items through a simple matching exercise, where they paired words with simplified definitions. They then read the story and highlighted the target vocabulary. In Week 2, students reviewed short excerpts from the story and matched underlined vocabulary to L1 translations provided by the teacher. In Week 3, students completed a word search activity, locating each vocabulary item in the story and copying the sentence in which it appeared. In Week 4, students took a multiple-choice vocabulary quiz, consisting of recognition-based questions using simple contextual sentences. The goal of this treatment was to foster familiarity with word forms and meanings without requiring students to use the words beyond basic identification.

Group 2: Medium ILH – Contextual Use

This group received a combination of recognition and controlled production tasks that required some contextual engagement with vocabulary. The Need was externally assigned but relevant to class tasks, Search was optional, and Evaluation occurred at a moderate level. In Week 1, students read a cloze version of the story in which 10 vocabulary items were removed and selected the correct word from a list of options. In Week 2, students constructed original sentences using 10 vocabulary items, with guidance from a vocabulary worksheet. In Week 3, students paraphrased five sentences from the story, replacing phrases with vocabulary words or synonyms to show comprehension and flexibility. In Week 4, students completed a vocabulary journal, noting the definition of each word, an example from the story, and their own sentence for each target item; they also wrote a summary paragraph using at least 10 vocabulary items. This treatment encouraged learners to connect vocabulary with meaning through controlled, moderately personalized production.

Group 3: High ILH – Deep Engagement & Evaluation

This group received tasks that required critical thinking, personal investment, and extended productive use of vocabulary, where the Need was personally driven, Search was required, and Evaluation was substantial and complex. In Week 1, students read the story and conducted a thematic analysis, identifying how vocabulary items shaped tone, mood, or character development, and discussed 5–7 key words in small groups. In Week 2, students were assigned to re-write the ending of the story using at least 10 target vocabulary words, which required both creative engagement and contextual application. In Week 3, students wrote an opinion essay responding to the prompt “Was Gloria’s decision right?”, requiring them to use at least 7 vocabulary items to support their arguments and share drafts for peer feedback. In Week 4, the class held a debate session using vocabulary sets where, for example, students had to use words such as resign, urge, betray, and clarify in their spoken arguments. This treatment pushed learners to deeply evaluate, produce, and negotiate meaning using vocabulary in both written and spoken discourse, thus maximizing their involvement load.

Data Collection

Technique and Instruments

This study employed two primary instruments to measure students’ vocabulary acquisition and motivation: a vocabulary test and a motivation questionnaire. Both instruments were administered before and after the instructional treatments to assess changes over time.

Vocabulary Test

The vocabulary test in this study consisted of 20 multiple-choice items to assess students’ recognition and understanding of selected target words, along with a sentence construction task requiring them to use those words in original sentences. These target words were chosen based on the results of the Vocabulary Size Test (VST) from <https://my.vocabularysize.com>, which showed that students had an average vocabulary level between the 3,000 and 4,000 word families. The selected words were confirmed to be unfamiliar to most participants during pre-screening. The multiple-choice items were embedded in meaningful contexts to measure receptive vocabulary knowledge, while the sentence construction task evaluated students’ productive use of the words. Both sections were included in the pretest and posttest. The test was piloted with a similar group of students to ensure clarity and reliability. The multiple-choice section had a Cronbach’s alpha of 0.82, indicating good internal consistency. For statistical analysis, only the multiple-choice scores were used, while the sentence construction results provided qualitative insight into vocabulary learning.

Motivation Questionnaire

To measure changes in learner motivation resulting from the instructional treatments, the study employed a 50-item questionnaire adapted from two well-established frameworks: Dörnyei's L2 Motivational Self System (L2MSS) and the Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich and De Groot (1990). The adaptation process was carefully conducted to reflect motivational and strategic learning aspects relevant to Indonesian EFL learners within reading-based vocabulary instruction. From the L2MSS, three key components were included: Ideal L2 Self, Ought-to L2 Self, and Learning Experience. Items related to the Ideal L2 Self explored students' future-oriented self-image as competent English users. Ought-to L2 Self items assessed perceived external pressures or expectations from family, teachers, or society. The Learning Experience dimension addressed students' reactions to the classroom environment, particularly how interesting, relevant, or satisfying they found the vocabulary tasks integrated into their reading lessons.

From the MSLQ, four constructs were selected: Task Value, Intrinsic Motivation, Self-Efficacy, and Learning Strategies. Task Value items measured how meaningful or useful students perceived the vocabulary activities to be. Intrinsic Motivation focused on their internal drive to learn, such as enjoyment or curiosity. Self-Efficacy assessed learners' confidence in handling vocabulary tasks, while Learning Strategies captured their use of techniques such as reviewing, planning, and inferencing. All items were phrased using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), and adapted to fit the local academic context—for example, framing items specifically around vocabulary learning in reading classes. To ensure content validity, three language education experts reviewed the instrument, and a pilot test was conducted with 30 English-major students. Minor revisions were made based on feedback, and the final questionnaire demonstrated strong internal consistency (Cronbach's $\alpha = 0.89$). The questionnaire was administered twice—once in Week 1 (pretest) and again in Week 6 (posttest)—to measure motivational changes linked to the varying levels of task involvement.

Procedure

The study was conducted over six weeks and included four key stages: vocabulary size screening, pretesting, instructional treatments, and posttesting. All activities were integrated into the students' regular reading class schedule to maintain consistency and authenticity. In the first week, participants completed the Vocabulary Size Test (VST) via <https://my.vocabularysize.com> to assess their general vocabulary proficiency. Results indicated that most students fell within the 3,000–4,000 word family range, guiding the selection of 20 target vocabulary items for both instruction and testing. Following the VST,

students took two pretest instruments: a vocabulary test (comprising a 20-item multiple-choice section and a sentence construction task) and a motivation questionnaire adapted from Dörnyei's L2 Motivational Self System and the MSLQ. These instruments were administered in class using paper-based formats, and each participant was assigned an anonymous code to match their pre- and posttest responses.

From weeks two to five, students participated in four instructional sessions, each lasting 100 minutes. Participants were grouped into three treatment conditions—low, medium, and high involvement load—based on the cognitive demands of their assigned vocabulary tasks. While all groups used the same reading text and vocabulary targets, their tasks varied in depth: the low involvement group focused on recognition tasks, the medium group engaged in guided and semi-productive activities, and the high involvement group completed tasks involving critical thinking, creativity, and active vocabulary use. All sessions were delivered by the same instructor to ensure consistency. In the sixth week, all participants completed the posttest, following the same structure as the pretest, including both receptive and productive vocabulary components and the motivation questionnaire. This allowed the study to measure changes in both vocabulary knowledge and motivational levels across different treatment conditions. All data collected were prepared for statistical analysis.

Table 1. Summary of Data Collection Procedure

Week	Activity	Details
Week 1	Vocabulary Size Test (VST)	Online test to determine vocabulary range (3,000–4,000 word families)
	Vocabulary Pretest	20-item multiple choice + sentence construction task
	Motivation Questionnaire (Pre)	50 items from L2MSS and MSLQ frameworks
Weeks 2–5	Instructional Treatments	Four 100-minute sessions across 3 ILH groups (Low, Medium, High)
Week 6	Vocabulary Posttest	Same as pretest (multiple choice + sentence construction)
	Motivation Questionnaire (Post)	Re-administration of same 50-item questionnaire

Data Analysis

The data collected in this study were analyzed quantitatively to investigate the effects of varying levels of task involvement on vocabulary acquisition and learner motivation. The primary sources of data included students' pretest and posttest scores from the vocabulary test and their responses to the motivation questionnaire, administered before and after the instructional treatments. The analysis was carried out using IBM SPSS Statistics software.

Vocabulary Test Data

The vocabulary test included two parts: a 20-item multiple-choice section assessing receptive vocabulary knowledge and a 20-item sentence construction section evaluating productive vocabulary use. To evaluate vocabulary gains within each group (Low, Medium,

and High ILH), paired-sample t-tests were conducted comparing pretest and posttest means. To determine whether the amount of improvement differed significantly between groups, a one-way Analysis of Variance (ANOVA) was applied to the vocabulary gain scores (posttest minus pretest). When the ANOVA indicated significant differences, a post-hoc Tukey's HSD test was used to identify which specific group comparisons (e.g., Low vs. Medium, Medium vs. High) were statistically significant.

Motivation Questionnaire Data

Motivation was assessed using a 50-item questionnaire adapted from Dörnyei's L2 Motivational Self System (L2MSS) and the Motivated Strategies for Learning Questionnaire (MSLQ), covering seven constructs: Ideal L2 Self, Ought-to L2 Self, Learning Experience, Task Value, Intrinsic Motivation, Self-Efficacy, and Learning Strategies. Each item was rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). For each participant, a total motivation score was calculated by summing all responses, while subscale scores were obtained by averaging relevant items within each construct. Paired-sample t-tests were used to examine whether students in each ILH group showed significant motivational changes from pretest to posttest. To determine whether motivational improvement varied across the three groups, one-way ANOVA was applied to the gain scores of both the overall and subscale measures. When significant differences emerged, Tukey's post-hoc tests were conducted to identify which group comparisons accounted for the effect.

Combined Analysis: Vocabulary and Motivation

To gain a broader understanding of how vocabulary acquisition and motivational development were related, a Multivariate Analysis of Variance (MANOVA) was also conducted. This analysis tested whether the combination of vocabulary and motivation gains differed significantly among the three ILH groups. The multivariate approach allowed for the assessment of potential interaction effects between task involvement and dual learning outcomes.

The significance level for all statistical tests was set at $p < .05$. Effect sizes (Cohen's d for t-tests and partial eta-squared for ANOVA/MANOVA) were calculated to determine the practical significance of the results, complementing the interpretation of statistical significance.

Table 2. Summary of Statistical Tools Used

Data Type	Purpose	Statistical Test
Vocabulary pre-post scores	Check within-group vocabulary improvement	Paired-sample t-test
Vocabulary gain scores	Compare gains across ILH groups	One-way ANOVA
Vocabulary gains by group	Identify where differences lie	Tukey's HSD post-hoc test
Motivation pre-post scores	Check within-group motivation improvement	Paired-sample t-test
Motivation gain scores	Compare motivation gains across ILH groups	One-way ANOVA
Motivation gains by group	Identify where differences lie	Tukey's HSD post-hoc test
Vocabulary + motivation	Examine combined differences across ILH groups	Multivariate ANOVA (MANOVA)
All tests	Assess strength of effects	Effect size (Cohen's d , η^2)

Ethical Considerations

This study followed ethical guidelines to ensure the rights, safety, and privacy of all participants. All participants were informed about the purpose of the study, the procedures involved, and their right to withdraw at any time without consequences. They signed an informed consent form written in both English and Bahasa Indonesia. To protect confidentiality, each student was given a unique code. No names or personal details were used in data recording or reporting. All data, both printed and digital, were stored securely and used only for research purposes. The instructional activities were part of the students' regular reading classes and posed no risk to participants. All students received the same vocabulary and reading materials, with differences only in task types. Participation was voluntary, and there were no rewards or academic penalties involved.

3. FINDINGS AND DISCUSSION

Findings

This section presents the results of statistical analyses related to vocabulary acquisition and learner motivation among three groups: Low ILH, Medium ILH, and High ILH. The findings are based on data obtained from pretests and posttests of vocabulary and motivation administered before and after a series of reading-based instructional treatments.

Vocabulary Acquisition

Participants in all groups exhibited statistically significant improvements in vocabulary knowledge from pretest to posttest. Paired-sample t-tests indicated significant gains for the Low ILH group ($t(24) = 9.25, p < .001$), Medium ILH group ($t(24) = 22.72, p < .001$), and High ILH group ($t(24) = 24.07, p < .001$).

To compare the effectiveness of the instructional treatments, a one-way ANOVA was conducted on the gain scores (posttest – pretest) for vocabulary. The results revealed a

statistically significant difference across the three groups, $F(2, 72) = 76.29, p < .001$, suggesting that the level of task involvement had a meaningful effect on vocabulary learning outcomes. The High ILH group outperformed both the Medium and Low ILH groups in terms of vocabulary gains. Table 1 below summarizes the vocabulary scores by group.

Table 3. Vocabulary Acquisition Summary by Group

Group	Pretest Mean	SD	Posttest Mean	SD	Gain Mean	SD
Low ILH	7.75	1.43	9.47	1.91	1.71	0.93
Medium ILH	9.16	1.48	12.59	1.56	3.43	0.75
High ILH	9.58	1.55	14.45	1.78	4.87	1.01

These results provide strong support for the Involvement Load Hypothesis, which posits that higher cognitive engagement in learning tasks leads to more robust vocabulary acquisition.

Motivation Gains

In terms of motivation, all groups showed positive development from pretest to posttest. The paired-sample t-tests revealed significant motivational gains in the Low ILH group ($t(24) = 5.42, p < .001$), Medium ILH group ($t(24) = 10.50, p < .001$), and High ILH group ($t(24) = 18.01, p < .001$). These findings suggest that the reading-based interventions contributed to improved learner motivation regardless of group assignment.

However, a one-way ANOVA on the motivation gain scores indicated significant between-group differences, $F(2, 72) = 32.42, p < .001$. As with vocabulary acquisition, the High ILH group demonstrated the greatest increase in motivation, followed by the Medium and Low ILH groups. Table 2 presents the descriptive statistics for motivation scores.

Table 4. Motivation Gains Summary by Group

Group	Pretest Mean	SD	Posttest Mean	SD	Gain Mean	SD
Low ILH	161.45	8.56	166.56	9.02	5.12	4.72
Medium ILH	168.01	12.17	178.02	12.96	10.00	4.76
High ILH	168.37	12.62	183.97	12.93	15.60	4.33

Combined Effects of ILH on Vocabulary and Motivation

To explore the combined impact of involvement load on vocabulary acquisition and motivation, a MANOVA was conducted using gain scores as dependent variables. The analysis revealed a statistically significant multivariate effect of group assignment: Wilks' Lambda = 0.222, $F(4, 142) = 39.82, p < .001$. Other multivariate indicators (Pillai's Trace, Hotelling's Trace, and Roy's Greatest Root) supported the same conclusion ($p < .001$).

These results underscore that task involvement, as conceptualized in the Involvement Load Hypothesis, plays a significant dual role—not only enhancing vocabulary acquisition but also fostering learner motivation. The High ILH treatment consistently produced the most substantial gains across both constructs.

Discussion

The findings from this study provide compelling evidence that task-induced involvement, as conceptualized in the Involvement Load Hypothesis (ILH), has a significant effect not only on vocabulary acquisition but also on learner motivation. The study investigated the effects of varying levels of task involvement—categorized as low, medium, and high—on third-semester Indonesian university students majoring in English. Across both dimensions of vocabulary learning and motivation, participants who engaged in tasks with higher involvement loads consistently outperformed those in lower-load conditions.

From the outset, this study adopted a vocabulary-focused reading approach that introduced 20 target words derived from the 3,000–4,000 word family list, based on student performance in the Vocabulary Size Test (VST). These items were deliberately chosen to fall just beyond the students' existing lexical threshold, thereby ensuring they were challenging but not inaccessible (Schmitt, 2010). Each group received equal instructional time and identical input materials in terms of reading texts, but the treatment differed in terms of the depth of vocabulary engagement. This controlled design made it possible to attribute vocabulary gains directly to the involvement load imposed by the instructional tasks (Yanagisawa & Webb, 2021, 2022).

The vocabulary acquisition results were clear and statistically robust. The High ILH group experienced the largest vocabulary gains ($M = 4.87$, $SD = 1.01$), followed by the Medium ILH group ($M = 3.43$, $SD = 0.75$), and then the Low ILH group ($M = 1.71$, $SD = 0.93$). This progression of scores aligns with the theoretical underpinnings of the ILH, which suggests that the greater the cognitive and motivational investment in vocabulary tasks—particularly those requiring learners to search for and evaluate word meanings—the more likely new vocabulary is to be retained (Khodaparast & Keshmirshekan, 2021; Namaziandost et al., 2020; Teng, 2019; Yanagisawa & Webb, 2021, 2022). The design of the High ILH tasks required students not only to recognize vocabulary in context but also to produce it in personalized sentences and peer-reviewed summaries. These activities incorporated all three ILH components: *need*, *search*, and *evaluation*, thereby prompting deeper processing. In contrast, the Low ILH group only engaged in passive reading with glosses, thereby limiting meaningful interaction with the vocabulary (Fievez et al., 2023).

These findings confirm what has been suggested in earlier ILH studies conducted in ESL and EFL contexts (e.g., (Keating, 2008; Saputro et al., 2024; Taheri & Rezaie Gollandouz, 2021; Zou, 2017), but they offer additional value by validating these claims within the Indonesian university setting. There has been relatively little work in this area in Indonesia, with most

vocabulary instruction traditionally emphasizing rote memorization or translation activities (Hamdani, 2020; Sakkir et al., 2023). The results here underscore the need to re-evaluate classroom practices in Indonesia and suggest that more cognitively engaging, task-rich approaches can yield better lexical development, especially at the intermediate and upper-intermediate levels.

At the same time, this study also examined motivational development using an adapted 50-item questionnaire that drew on Dörnyei's L2 Motivational Self System (Dörnyei, 2009) and relevant subscales from the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich & De Groot, 1990). These frameworks were combined to capture both identity-related and task-related dimensions of motivation. Specifically, the adapted instrument measured learners' *Ideal L2 Self*, *Ought-to Self*, and *L2 Learning Experience* (from L2MSS), along with *Task Value*, *Intrinsic Goal Orientation*, *Self-Efficacy*, and *Use of Learning Strategies* (from MSLQ). This integrated approach provided a nuanced picture of how students' motivation changed across the treatment period.

Results from the motivation data revealed that all groups exhibited statistically significant increases in their posttest scores, but the size of the motivational gain varied by treatment. The High ILH group achieved the highest motivational increase ($M = 15.60$, $SD = 4.33$), followed by the Medium ILH ($M = 10.00$, $SD = 4.76$), and then the Low ILH group ($M = 5.12$, $SD = 4.72$). The statistically significant differences among the groups, confirmed by ANOVA and MANOVA tests, suggest that task involvement not only facilitates vocabulary acquisition but also serves as a catalyst for motivational development. These findings resonate with previous studies highlighting the role of meaningful, engaging classroom experiences in shaping students' L2 motivational trajectories (Lamb, 2017; Sarani et al., 2013; Zhang & Liu, 2022).

In particular, the construct of the L2 Learning Experience appears to be a crucial factor. Students in the High ILH group were consistently involved in tasks that were communicative, creative, and reflective. These tasks included writing personalized examples, constructing summaries, engaging in peer review, and applying new vocabulary in different contexts—all of which likely contributed to a more positive perception of the classroom environment and increased sense of investment. This is important, especially in an Indonesian EFL context where learners often experience limited exposure to English beyond the classroom (Maulana, 2021; Saputro et al., 2021). The design of High ILH tasks created a simulated immersion experience, providing repeated, meaningful exposure to target vocabulary while also

promoting self-regulation and collaboration (Huang et al., 2012; Namaziandost et al., 2020; Silva, 2022) .

Furthermore, the link between vocabulary learning and motivation, while often treated as separate research strands, is emphasized in this study's findings. Students who achieved more significant vocabulary gains also tended to report higher motivational improvement. The results of the MANOVA test (Wilks' Lambda = 0.222, $F(4, 142) = 39.82$, $p < .001$) suggest a dual benefit to involvement-based instruction: it fosters both linguistic and affective development (Huang et al., 2012; Tang & Treffers-Daller, 2016; Teng & Zhang, 2020). These findings provide empirical backing to pedagogical approaches that advocate for integrating cognitive depth with emotional engagement, such as Task-Based Language Teaching (Skehan, 2003; Willis & Willis, 2007) and Content and Language Integrated Learning (CLIL).

Such integration is particularly relevant in the Indonesian context, where learner motivation can be undermined by examination-driven curricula, large class sizes, and limited authentic use of English. As noted in prior research (Lamb, 2017; Yulia, 2013), the *L2 Learning Experience* has a uniquely powerful role in motivating Indonesian EFL learners. The present study reinforces this by showing that task design is not merely a methodological choice but a motivational tool. When students are invited to take ownership of vocabulary through creation, discussion, and peer feedback, they are more likely to feel competent and autonomous—key drivers of sustained motivation according to Self-Determination Theory (Deci & Ryan, 2000).

The instructional design employed in this study is well-aligned with sociocultural theories of learning, particularly those rooted in Vygotskian principles. These theories emphasize the importance of socially mediated, context-rich tasks in shaping both language development and learner identity. Peer interaction and collaborative tasks—such as those used in the High ILH condition—provide opportunities for scaffolding and movement through the Zone of Proximal Development (ZPD), where learners progress from assisted to more independent performance (Cahyono & Mutiaraningrum, 2015; Lantolf & Thorne, 2006). Engaging in peer-based vocabulary tasks, which require negotiation of meaning and self-expression, does more than reinforce language forms; it also promotes learner agency and confidence (Morgoun et al., 2020; Wiranti & Widiyati, 2022).

In practical terms, these findings carry several implications for curriculum design and classroom instruction in Indonesian universities. First, vocabulary instruction should move beyond simple recognition and memorization. While glosses and definitions are useful for initial encounters with new words, they are insufficient for long-term acquisition unless paired with productive, evaluative use (Feng & Webb, 2020). Educators should design vocabulary

tasks that require learners to search for meaning, use words in personalized contexts, and engage in peer interactions. This can be implemented without the need for sophisticated materials or technological interventions; the core lies in designing tasks that require deeper engagement with vocabulary items (Saputro & Hima, 2024; Webb et al., 2013; Yanagisawa & Webb, 2022).

Second, language teachers should consider the motivational implications of their task choices. Tasks that are cognitively demanding but achievable—especially those that allow for creativity, autonomy, and interaction—appear to enhance both learning outcomes and affective commitment to the language learning process (Lestari & Hardiyanti, 2020; Morgoun et al., 2020). In classrooms where English is not the medium of instruction and authentic input is limited, maximizing the affective and cognitive load of classroom tasks is a viable way to compensate for the lack of immersion (Lamb, 2017).

Third, teacher training and material development should include explicit guidance on designing for involvement. Indonesian EFL teachers, many of whom rely on commercially available textbooks or Ministry-provided syllabi, often lack the training to adapt or extend classroom materials (Cahyono & Mutiaraningrum, 2015; Saputro et al., 2024; Yulia, 2013; Zein et al., 2020). Teacher development programs could focus on how to raise the involvement load of standard activities—e.g., converting multiple-choice questions into sentence construction, turning translation exercises into peer teaching tasks, or expanding reading comprehension into writing summaries and critical responses.

While the findings are promising, it is important to acknowledge the limitations. The treatment period of three weeks was relatively short, and although vocabulary and motivation gains were significant, the study did not examine long-term retention or the durability of motivational changes. Future studies could incorporate delayed posttests or longitudinal tracking to determine the sustainability of these gains. Additionally, although the motivation instrument was piloted and shown to have high internal reliability ($\alpha = .89$), future research could employ confirmatory factor analysis to validate its structural dimensions more rigorously.

Finally, expanding the study to different student populations and contexts—such as high school learners, vocational education students, or adult learners—could provide a broader understanding of how involvement-based vocabulary instruction functions across proficiency levels and learning environments. Mixed-methods designs incorporating qualitative insights from learners themselves would also enrich the findings and offer a fuller picture of how

involvement is experienced, interpreted, and acted upon by learners (Johnson, 2017; Yanagisawa & Webb, 2021).

In conclusion, the study illustrates that vocabulary learning and motivation are not merely parallel phenomena but are deeply interwoven processes that respond dynamically to the conditions created in the classroom. When instructors craft tasks that stimulate cognitive effort and invite personal investment, learners respond with greater linguistic uptake and increased motivational commitment. In EFL contexts such as Indonesia, where external exposure to English is limited, the quality of the learning experience becomes paramount. As such, adopting involvement-rich instructional strategies offers a pathway not only to more effective vocabulary learning but also to cultivating learners who are engaged, self-directed, and motivated to persist in their language learning journey.

4. CONCLUSION

This study examined how different levels of task-induced involvement affect vocabulary learning and motivation among Indonesian EFL university students. Using the Involvement Load Hypothesis (ILH) as the guiding framework, three groups received vocabulary instruction through reading tasks designed with low, medium, or high levels of cognitive involvement. Vocabulary improvement was measured using a pre- and posttest of 20 mid-frequency words, while changes in motivation were tracked with a 50-item questionnaire based on the L2 Motivational Self System (L2MSS) and the MSLQ. Results showed that students in the High ILH group—who engaged in productive tasks like sentence writing and peer feedback—achieved significantly better gains in both vocabulary and motivation compared to the other groups.

These findings highlight the strong link between instructional task design, vocabulary development, and learner motivation. In Indonesian EFL classrooms, where exposure to English is often limited to school settings, tasks that require students to actively use and reflect on new vocabulary can foster both language growth and a stronger sense of purpose. By embedding vocabulary in meaningful, high-involvement activities, teachers can promote deeper learning, critical thinking, and greater learner autonomy. This study encourages EFL instructors to adopt more engaging, cognitively demanding tasks to support not only vocabulary acquisition but also the long-term motivation of their learners.

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