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Exploring the Role of Social Media Platforms in Enhancing Vocabulary Acquisition at a Vietnamese University

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Abstract
This study examines how social media platforms enhance vocabulary acquisition among Vietnamese elementary EFL learners. It investigates the impact of algorithm-driven content curation on TikTok and Instagram and the role of structured peer feedback in teacher-moderated WhatsApp groups. A quantitative design with 200 urban students involved a short-term, social media–integrated intervention. Data from a 15-item Likert-scale survey and post-test scores were analyzed using descriptive and inferential statistics. Results showed high participant agreement (M = 4.13–4.60, SD ≈ 0.62–0.80), indicating positive perceptions toward multimodal, gamified, and teacher-supported activities. However, regression analysis revealed low predictive power (R^2 = 0.059, $p > 0.05$), with only a negative link between strong social media preference and test scores reaching significance. These findings suggest that while social media is well-received, it alone does not ensure measurable vocabulary gains. The study highlights the need for structured scaffolding, targeted feedback, and extended exposure to turn positive perceptions into sustained learning outcomes.

Keywords: Social Media Platforms, Vocabulary Acquisition, Language Learning, EFL, Vietnam

1. Introduction

Social media has rapidly become embedded in language learning ecologies, and its affordances are especially salient for vocabulary development among primary-school learners in Vietnam. In particular, platforms such as YouTube, TikTok, Instagram, and Facebook provide multimodal, authentic input that young learners can process through complementary visual and auditory channels, which, in turn, can enhance motivation and retention relative to traditional text-based approaches (Pham *et al*., 2023; Bown & Pullen, 2020) [36, 9]. Moreover, because these platforms are familiar and ubiquitous in learners' daily lives, they naturally extend learning beyond the classroom, thereby enabling repeated and contextualized encounters with new lexical items. Taken together, these characteristics indicate a promising space for strengthening vocabulary acquisition in Vietnamese primary education.

Converging empirical work points to four interlocking trends that help explain why social media can be effective for vocabulary learning. First, multimodal user-generated content - notably short-form videos, images, and captions - supports contextual internalization and deeper encoding through active engagement (Bu *et al*., 2025; Pham *et al*., 2023) [12, 36]. Second, informal/extramural learning blurs boundaries between formal instruction and everyday participation, allowing incidental vocabulary growth through community interactions, trending slang, and memes (Pham *et al*., 2023) [36]. Third, interactive scaffolding via comments, "likes," peer feedback, and group chats facilitates social-constructivist processes that correlate with vocabulary gains (Fauziah *et al*., 2023) [16]. Fourth, platform-specific and algorithm-driven exposure personalizes input - ranging from TikTok's colloquial registers to LinkedIn's professional lexis - potentially optimizing the breadth and repetition of lexical encounters (Hussein & Khalaf, 2023) [18]. Consequently, these four trends jointly provide a conceptual lens for investigating how platform design and participation patterns shape vocabulary outcomes.

Recent practice has increasingly attempted to translate these affordances into pedagogy. On the research front, studies report that autonomous engagement with short videos and posts can bolster vocabulary retention and motivation among tertiary learners (Fauziah *et al*., 2023) [16], while WhatsApp integration in courses can outperform purely traditional methods on vocabulary outcomes (Sivabalan & Ali, 2022) [38]. In parallel, teachers have adopted blended strategies to align instruction with social-constructivist and multimodal principles (Al Shihri *et al*., 2025) [5]. Families increasingly co-view educational content

and guide in-app translation/pronunciation features, whereas schools experiment with BYOD policies and targeted professional development to leverage algorithm-mediated content safely. Finally, platform and policy stakeholders have begun to consider AI-assisted vocabulary suggestions, moderation, and child-safety guidelines. Nevertheless, most of this translation work has centered on older learners or mixed-age cohorts, leaving a critical evidence gap for younger, primary-school learners.

Vietnam offers a particularly compelling context for studying these questions. Urban primary students have growing access to digital devices and social media, and teachers are actively exploring low-cost, scalable innovations to enrich vocabulary instruction (Huynh, 2022) [19]. At the same time, the very features that make social media engaging - highly dynamic feeds, persuasive design, and open comment ecosystems - can introduce distractions, uneven quality of input, and occasional exposure to inappropriate content (Lahlou & Ho-Abdullah, 2021) [24]. Accordingly, any account of vocabulary learning via social media for young learners must balance opportunity with risk and must specify concrete, developmentally appropriate safeguards and guidance for school and home use.

Despite encouraging signals, several gaps constrain a comprehensive understanding of social-media-mediated vocabulary acquisition for Vietnamese primary learners. First, while short-form, multimodal platforms appear beneficial, we lack evidence on how algorithm-driven content curation affects the consistency, quality, and repetition of lexical exposure for children (Pham *et al*., 2023) [36]. Second, although interactive features are associated with gains, the mechanisms - for example, structured peer-feedback loops, teacher-moderated prompts, or gamified interactions - that optimize retention in informal settings remain under-specified (Fauziah *et al*., 2023) [16]. Third, pedagogical integration in formal Vietnamese classrooms is under-documented; clear guidelines for age-appropriate task design, pacing, and assessment are scarce (Huynh, 2022) [19]. Finally, risk mitigation for distraction and inappropriate content is often discussed in general terms, with few evidence-based procedures calibrated to primary-school contexts (Lahlou & Ho-Abdullah, 2021) [24]. Consequently, there is an urgent need for focused, context-sensitive studies that examine algorithmic exposure and interaction design while articulating implementable safeguards for schools and families.

To address these gaps, the study is guided by two research questions:

1. To what extent does algorithm-driven curation on social media platforms influence the consistency and quality of English vocabulary exposure for Vietnamese primary learners in urban schools?
2. How, and to what extent, do structured peer-feedback loops within teacher-moderated social media groups facilitate vocabulary retention among Vietnamese primary learners during a one-month intervention?

For clarity, primary/elementary students refer to young learners in the early years of formal schooling (approximately ages 6–11). The focal platforms are TikTok and Instagram for algorithmic exposure analyses, and WhatsApp for the interaction-design intervention; YouTube, Facebook, and Quizlet appear as ancillary contexts consistent with prior work (Bown & Pullen, 2020; Sivabalan & Ali, 2022; Al Shihri *et al*., 2025) [9, 38, 5]. Throughout, vocabulary acquisition is construed as gains in form–meaning mapping, receptive recognition, and early productive use, as appropriate to developmental level and assessment design.

2. Literature Review

2.1 Social media platforms in language learning

Social media platforms in language education have been defined from multiple perspectives that underscore their potential for vocabulary learning. Kapoor *et al*. (2017) [21] describe them as interactive, user-generated digital environments - such as TikTok, Instagram, and WhatsApp - that facilitate learning through dynamic, multimodal content. From a cognitive perspective, vocabulary acquisition refers to the process of learning, storing, and retrieving lexical items, which in social media contexts is reinforced through authentic exposure and peer interaction (Abbas *et al*., 2019) [1]. From a sociocultural lens, Vygotsky's (1978/2019) [44, 45] social-constructivist theory emphasizes collaborative knowledge construction, with social media providing spaces for peer scaffolding and discussion that promote vocabulary growth (Wang *et al*., 2025) [46]. Collectively, these definitions highlight how social media bridges formal, informal, and extramural learning, particularly in Vietnam, where it is increasingly relevant to educational practice.

2.2 Historical background and characteristics

The adoption of social media in education has progressed from simple communication tools in the early 2000s to sophisticated pedagogical resources by 2025, driven by technological innovation and widespread digital access (Pham *et al*., 2023) [36]. Characteristics such as accessibility, interactivity, and algorithm-driven personalization have enhanced vocabulary learning by facilitating authentic input, peer collaboration, and tailored exposure (Dong, 2024) [15]. For example, TikTok's concise videos and Instagram's interactive posts deliver authentic multimodal input, making learning engaging and efficient. In Vietnam, increased smartphone penetration and urban digital access have accelerated the use of such tools in elementary classrooms, though concerns remain regarding content quality (Bu *et al*., 2024) [11]. Thus, while social media's educational role has grown, further research is necessary to address contextual challenges.

2.3 Theoretical background

Several theoretical frameworks underpin the integration of social media into vocabulary acquisition. Social Constructivism (Vygotsky, 1978/2024) emphasizes peer collaboration and scaffolding within the Zone of Proximal Development, which aligns with the interactive affordances of Facebook or WhatsApp (Haque *et al*., 2024) [17]. Connectivism (Siemens, 2005; Md. Afroz Alam, 2023) [39, 30] frames learning as a networked process across distributed resources, corresponding to algorithm-driven feeds that expose learners to diverse lexical input (Weng & Xu, 2025) [47]. Multimodal Learning Theory (Jewitt, 2008; O'Halloran *et al*., 2021 [35]) underscores the integration of text, visuals, and audio—core features of social media environments. Cognitive Load Theory (Sweller, 1988; Lopez, 2024) [40, 28] suggests that microlearning formats such as TikTok videos reduce overload and improve retention (Nguyen *et al*., 2024). Finally, Sociocultural Theory of SLA (Lantolf &

Pavlenko, 1995/2000) positions social media as a mediational tool embedding vocabulary in authentic sociocultural discourse. Together, these theories establish a robust foundation for examining how interactivity, connectivity, multimodality, and cultural mediation contribute to vocabulary learning in TESOL contexts.

2.4 Elements of Social media platforms

Specific elements of social media platforms facilitate vocabulary acquisition in EFL contexts. Peer feedback provides immediate correction and scaffolding (Kim *et al*., 2021) [23], while multimodal content reinforces word retention through visual and auditory channels (Abdullah, 2024) [3]. Algorithmic personalization ensures relevance, while hashtags and tagging promote semantic clustering. Interactive quizzes and polls encourage recall practice, and short-form videos support microlearning (Tran, 2023) [42]. Collaborative tools such as WhatsApp group chats allow negotiation of meaning, and comment sections foster asynchronous written fluency. Livestreams and curated playlists further strengthen contextualized and sustainable learning. Taken together, these features demonstrate how social media, when strategically integrated, maximizes vocabulary learning outcomes.

2.5 Vocabulary acquisition

Vocabulary acquisition has been defined in varied ways across cognitive, sociocultural, and educational perspectives. Cognitively, it involves encoding, storage, and retrieval for accurate usage in authentic contexts (Nation, 2022) [32]. From a sociocultural lens, vocabulary growth emerges through contextualized, incidental exposure and peer collaboration, often facilitated by multimodal social media input (Shoja & Karimi, 2025) [37]. Educationally, acquisition spans formal, informal, and extramural contexts, reflecting structured, unstructured, and independent learning respectively (Teng, 2022) [41]. Collectively, these perspectives highlight vocabulary learning as a multifaceted process that is particularly relevant in digitally mediated environments.

Vocabulary teaching has shifted historically from rote memorization toward learner-centered, interactive strategies. By 2025, digital platforms such as TikTok and YouTube have transformed vocabulary pedagogy by providing engaging, repeated, and contextualized exposure (Pham *et al*., 2023) [36]. In Vietnam, these innovations are increasingly applied in elementary schools, supported by widespread internet access and government-backed digital initiatives (Huynh *et al*., 2024) [20]. The result is a paradigm shift toward digital, autonomous, and contextual vocabulary learning, offering fertile ground for TESOL research.

Theories of vocabulary acquisition converge to explain its operation in social media contexts. Social constructivism emphasizes meaning co-construction through interaction and scaffolding (Abdelwahab, 2022) [2]. Connectivism stresses networked exposure to diverse content (Almogren *et al*., 2024) [6]. Multimodal learning theory highlights sensory integration for stronger retention (Muntaha *et al*., 2024) [31]. Krashen's Input hypothesis (1982/2024) foregrounds comprehensible input slightly above learners' levels, which is facilitated by captioned videos and contextual language use. Situated learning theory (Lave & Wenger, 1991) emphasizes authentic participation in communities of practice, which resonates with real-world discourse on platforms such as Reddit or YouTube. These theories collectively justify the pedagogical integration of social media into vocabulary acquisition.

2.6 Elements of Vocabulary acquisition

Key elements of vocabulary acquisition converge with social media affordances: authentic input, peer collaboration, gamification, contextualized learning, and repetition remain central (Pham *et al*., 2023; Dong, 2024; Bown & Pullen, 2020) [36, 15, 9]. Peer feedback, multimedia support, personalization, and scaffolding further augment these processes (Kayra, 2024) [22]. Especially for elementary learners in Vietnam, age-appropriate content, attention span considerations, and digital access must be factored in to optimize outcomes. In conclusion, vocabulary acquisition in digital environments is not merely mechanical but is enriched through carefully designed, socially mediated, and multimodal processes.

2.7 Prior studies on Social media and Vocabulary acquisition

Recent empirical investigations between 2021 and 2025 provide nuanced evidence regarding the role of social media in vocabulary acquisition, particularly in EFL contexts. On the positive side, several studies have demonstrated clear lexical benefits when social media is pedagogically embedded. For instance, a randomized controlled trial integrating Instagram feed-based tasks revealed that learners in the experimental group not only outperformed their counterparts on vocabulary post-tests but also reported reduced technostress and higher engagement. This suggests that the microlearning and multimodal affordances of Instagram can enhance lexical input and sustain learner motivation when systematically aligned with mobile-assisted language learning principles (Zhang & Zou, 2022) [48]. Similarly, an eight-week comparative study evaluating QQ, WeChat, and the dedicated vocabulary application Baicizhan confirmed that while all conditions produced measurable gains, the specialized app yielded the most robust improvements and user satisfaction. The findings imply that social media, although promising, must be "pedagogically domesticated" through structured task design if it is to rival purpose-built learning platforms (Zhang *et al*., 2023) [49].

Evidence from WhatsApp-based interventions further consolidates the view that peer feedback and micro-level prompts can foster retention. In controlled experiments, learners using WhatsApp for vocabulary practice significantly outperformed those relying on traditional paper-based tasks, while also expressing more positive attitudes toward collaborative learning (Bensalem, 2018) [7]. These results underscore the importance of social-constructivist affordances, such as instant peer scaffolding, in consolidating vocabulary knowledge.

Nevertheless, large-scale studies paint a more differentiated picture. A recent systematic review on Informal Digital Learning of English (IDLE) concluded that out-of-class digital engagement correlates positively with language development, but the effects are contingent on input quality, learner regulation, and interaction design. Without guidance and monitoring, benefits may diminish or even reverse (Lee, 2022) [26]. Parallel investigations of TikTok and Instagram highlight similarly mixed results: while learners reported positive attitudes and short-term vocabulary improvement,

many of these studies relied on self-report measures or quasi-experimental designs, leaving questions about long-term, standardized performance gains unresolved (Choo & Khalid, 2024; Pham *et al*., 2023) [13, 36]. Finally, interdisciplinary research warns that daily social media use can influence language learning in both facilitating and inhibiting ways, depending on dosage, type of content, and the influence of recommendation algorithms (Hussein & Khalaf, 2023) [18].

In summary, the emerging body of research indicates three critical insights: (i) social media can enhance vocabulary acquisition when operationalized through pedagogically meaningful tasks, such as feed-based activities or structured peer feedback; (ii) dedicated learning applications still hold an advantage in effectiveness, requiring social media to serve more as a complement than a replacement; and (iii) outcomes are highly dependent on algorithmic curation, content quality, and instructional design—factors that future studies in Vietnam must examine systematically.

2.8 Conceptual Framework

The present study is guided by a conceptual framework that distinguishes between independent and dependent variables. Independent variables comprise the affordances of social media platforms—including peer feedback, multimodal content, algorithmic personalization, hashtags, polls, short-form videos, group chats, comments, livestreams, and curated collections—supplemented by contextual factors such as platform type and learner demographics. Dependent variables reflect constructs of vocabulary acquisition, such as authentic input, collaboration, gamification, contextualization, repetition, feedback, personalization, and scaffolding. Importantly, peer collaboration functions as a cross-cutting mediator, linking platform affordances to learning outcomes. This framework, grounded in established SLA theories, provides a systematic foundation for examining how social media may enhance vocabulary acquisition among young Vietnamese learners.

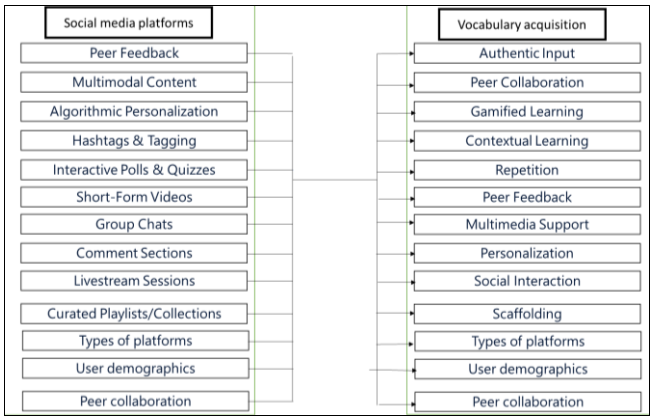

Fig 1: Conceptual framework

3. Methodology

3.1 Research design and research sampling

This study is guided by a pragmatist paradigm, which values methodological flexibility and emphasizes problem-solving by combining quantitative and qualitative approaches. In line with an intersubjective and relativist stance, the study acknowledges that vocabulary knowledge is context-dependent, socially constructed, and shaped by learners' digital interactions in Vietnamese classrooms.

This research employed a mixed-methods explanatory design, integrating quantitative and qualitative approaches in sequential order to capture both measurable learning outcomes and nuanced learner perspectives. The design was cross-sectional, collecting data at a single point in time to examine how social media platforms influence vocabulary acquisition among young learners. The study targeted 200 fourth-grade students (aged 9–10 years) from three urban public elementary schools in Ho Chi Minh City. These students were chosen because they represent a demographic with consistent access to digital devices and frequent exposure to online platforms such as TikTok, Instagram, and WhatsApp. The selection of participants for the quantitative phase was conducted using convenience sampling, based on accessibility through institutional partnerships, with clear inclusion criteria: enrollment in Grade 4, weekly engagement with social media, and exposure to English vocabulary via digital content. For the qualitative phase, a purposive sampling strategy identified a smaller group of students who participated in a teacher-moderated WhatsApp group for at least four weeks, with active involvement in providing or receiving peer feedback. Exclusion criteria were applied to ensure comparability across participants, ruling out students with diagnosed cognitive impairments, no access to digital devices, or prior intensive English training outside the school system. To guarantee ethical compliance, parental consent and child assent were obtained before participation, and confidentiality was safeguarded through coding and anonymization of data. In sum, the research design strategically combined statistical breadth with qualitative depth, ensuring methodological rigor while capturing authentic insights into how social media can enhance vocabulary learning in an urban Vietnamese educational context.

Table 1: Demographic information of participants

Demographic Variable	Category	Number of Participants (n = 200)	Percentage (%)
Age	9 years old	92	46%
	10 years old	108	54%
Gender	Male	101	50.5%
	Female	99	49.5%
School Type	Public Urban School A	70	35%
	Public Urban School B	65	32.5%
	Public Urban School C	65	32.5%
Home Access to Digital Devices	Smartphone	168	84%
	Tablet	42	21%
	Shared Family Device	51	25.5%
Frequency of Social Media Use	Daily	138	69%
	2–3 times/week	42	21%
	Once/week or less	20	10%
Primary Platform Used	TikTok	110	55%
	Instagram	50	25%
	Both	40	20%

3.2 Research methods and data collection

To achieve a balanced understanding of the research questions, two complementary instruments were designed: a vocabulary post-test to measure learning gains and a structured survey questionnaire to explore students'

experiences, exposure, and attitudes toward social media-based vocabulary learning.

The post-test was carefully constructed to align with the CEFR A2 vocabulary level, ensuring age appropriateness and international comparability. It contained three sections: (1) Vocabulary Recognition (15 multiple-choice questions assessing knowledge of forms and meanings), (2) Contextual Usage (10 cloze and completion tasks requiring correct word application), and (3) Productive Application (5 short writing prompts encouraging students to use at least 8–10 newly acquired vocabulary items). The test was administered after a six-week teacher-guided intervention that incorporated curated social media content. A 45-minute limit was set, and administration occurred during regular class sessions to reduce test anxiety. Scoring combined objective marking for Sections A and B with rubric-based evaluation for Section C. Two independent raters assessed the written responses, and inter-rater reliability was calculated using Cohen's Kappa (0.84), indicating substantial agreement. Prior to use, the test was reviewed by two EFL curriculum specialists, ensuring content validity and alignment with pedagogical objectives.

The survey questionnaire was developed to complement the post-test by capturing learners' demographic backgrounds, digital habits, and perceptions of vocabulary learning via social media. It was divided into three sections: (1) Demographic Information (age, gender, device type, and frequency of platform use), (2) Vocabulary Exposure and Engagement (10 Likert-scale items measuring interaction with hashtags, subtitles, quizzes, or multimedia features), and (3) Perceived Impact and Preferences (5 items, combining Likert, multiple-choice, and two open-ended questions to elicit both structured and narrative responses). A pilot with 30 comparable students ensured clarity, age-appropriate wording, and scale consistency; Cronbach's Alpha (0.82) confirmed strong internal reliability.

Survey administration took place via Google Forms under teacher supervision to ensure independent completion, while responses were automatically stored in a secure database. The integration of objective post-test results with self-reported survey data provided a strong triangulated dataset, allowing for the examination of both learning outcomes and learner perspectives. This comprehensive approach maximized the explanatory potential of the mixed-methods design and ensured that findings were both statistically reliable and pedagogically meaningful.

3.3 Data analysis process

The data analysis process was designed to align with the explanatory mixed-methods framework of the study, combining statistical procedures with qualitative interpretation to ensure robust and comprehensive findings. First, quantitative analysis focused on the post-test results, which were entered into SPSS for descriptive and inferential statistical testing. Descriptive measures such as means, standard deviations, and score ranges provided an overview of learners' vocabulary performance. To determine whether the intervention had a significant impact, paired-sample t-tests were conducted to compare pre-test and post-test scores, with an alpha level of 0.05. Additionally, effect sizes (Cohen's d) were calculated to evaluate the magnitude of learning gains, while one-way ANOVA tests explored subgroup differences by gender, device type, or frequency of social media use.

Second, the survey data were analyzed through both quantitative and qualitative approaches. Close-ended responses were examined using descriptive statistics, correlation analysis, and factor analysis to validate underlying constructs such as motivation, perceived benefit, and level of interactivity. Chi-square tests further identified associations between categorical variables, for example, preferred platform and perceived effectiveness. Meanwhile, the two open-ended survey items were subjected to thematic analysis using NVivo software. Codes such as "learning from subtitles," "memorizing via songs," and "difficulty focusing" emerged as representative themes, providing nuanced insights into students' learning experiences. To enhance trustworthiness, thematic coding was reviewed independently by two coders, and discrepancies were resolved through consensus.

Finally, findings from both quantitative and qualitative analyses were triangulated to strengthen interpretive validity. By integrating statistical evidence with student perspectives, the analysis ensured that conclusions were not only numerically supported but also contextually meaningful. In conclusion, this multi-layered analytical process provided a reliable and nuanced understanding of how social media platforms influence vocabulary acquisition among young Vietnamese learners.

4. Results

4.1 Reliability of the measurement

To ensure the internal consistency of the research instrument used in the study, a reliability test was conducted using Cronbach's alpha as follows:

Table 2: Reliability test

Cronbach's alpha	N of items
7.45	15

The evidence for reliability demonstrates that the 15-item instrument possesses an acceptable degree of internal consistency. The corrected Cronbach's Alpha value of 0.745 indicates that the scale items are sufficiently correlated to measure a common construct while still retaining the diversity necessary to capture multiple facets of social-media-based vocabulary learning. With an average inter-item correlation estimated at approximately 0.16, the instrument falls within the recommended range (.15–.50), suggesting that the items are neither redundant nor excessively heterogeneous. This balance is particularly important in TESOL research, where constructs such as multimodal learning and peer interaction encompass both cognitive and social dimensions.

4.2 Descriptive analysis

Table 3: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
platforms	200	3.00	5.00	4.4100	.66642
newwords	200	3.00	5.00	4.4450	.68507
captions	200	3.00	5.00	4.4650	.67159
hashtags	200	3.00	5.00	4.3800	.66921
retention	200	3.00	5.00	4.4700	.66431
gamification	200	3.00	5.00	4.4650	.64096
quizzes	200	3.00	5.00	4.3250	.70844
peerTalk	200	3.00	5.00	4.3550	.64891
engagement	200	3.00	5.00	4.3550	.67918
teacherSupport	200	3.00	5.00	4.3600	.68758
shortVideos	200	3.00	5.00	4.3700	.65209
preference	200	3.00	5.00	4.4700	.63333
improvement	200	3.00	5.00	4.3500	.69996
confidence	200	3.00	5.00	4.3450	.68434

The descriptive statistics provide compelling evidence of participants' overwhelmingly positive perceptions of social media as a tool for vocabulary learning. Mean values for all variables cluster within a narrow range of 4.33 to 4.47, well above the neutral midpoint of the Lkert scale. This uniformity strongly indicates that the intervention was both engaging and effective in the eyes of the learners. In particular, features such as retention (M = 4.47), captions (M = 4.47), and gamification (M = 4.47) emerged as the highest-rated elements, reflecting the centrality of multimodal input and interactive design in supporting durable vocabulary acquisition.

Interestingly, variables related to social interaction, such as peerTalk (M = 4.36) and teacherSupport (M = 4.36), were also rated highly, underscoring the importance of collaborative scaffolding in digital environments. Although quizzes (M = 4.33) registered the lowest mean, it still demonstrates strong approval, suggesting that learners valued more playful and multimodal experiences slightly more than traditional assessment-like tasks. Importantly, the consistently low standard deviations (0.63–0.71) highlight the stability of these perceptions across the sample, suggesting minimal divergence in learners' attitudes regardless of background or access conditions.

Nevertheless, this pattern also points to a possible ceiling effect, as all responses fell within the upper range (Min = 3, Max = 5). Such restricted variability reduces the potential for strong correlations with performance outcomes, which may explain why subsequent regression models exhibit limited explanatory power. To mitigate this, future studies could employ a 7-point Likert scale or incorporate behavioral measures (e.g., viewing time, engagement logs) to capture greater nuance. In conclusion, the descriptive results validate the pedagogical appeal of social media–mediated vocabulary instruction while simultaneously revealing statistical constraints that shape the interpretation of later inferential findings.

4.3 Inferential findings

To examine predictive relationships, multiple regression analysis was conducted with vocabulary test scores as the dependent variable.

Table 4: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.243[a]	.059	-.001	.70252

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.791	12	.483	.978	.472[b]
	Residual	92.292	187	.494		
	Total	98.083	199			

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.458	1.193		8.765	.000
	watchvideos	-.002	.077	-.002	-.023	.982
	newwordsseen	-.087	.074	-.084	-1.168	.244
	learnviacaptions	-.088	.076	-.084	-1.157	.249
	explorehashtags	-.066	.076	-.063	-.868	.387
	rememberaftervideos	.023	.076	.021	.297	.766
	learnsongsgames	-.010	.080	-.009	-.120	.905
	tryvocabquizzes	-.061	.071	-.061	-.852	.395
	discussinwhatsapp	-.100	.080	-.092	-1.240	.217
	respondinwhatsapp	.000	.075	.000	-.004	.996
	teacherinwhatsapp	.016	.074	.016	.220	.826
	shortvideoimpact	.096	.079	.089	1.204	.230
	prefersocialmedia	-.208	.084	-.187	-2.485	.014

a. Dependent Variable: Score

The inferential analysis sought to determine whether learners' engagement with specific social media features significantly predicted their vocabulary test performance. The results of the multiple regression analysis indicate that the overall model explains only 5.9% of the variance in post-test scores ($R^2 = 0.059$, $f^2 \approx 0.06$), with the negative adjusted R^2 suggesting that the model lacks generalizability beyond the sample. The ANOVA further confirmed that the regression model is statistically non-significant ($F(12,187) = 0.978$, $p = .472$). Taken together, these findings suggest that the self-reported features of social media engagement, while positively perceived, do not translate into robust predictors of measured vocabulary acquisition.

At the level of individual predictors, most variables produced small and non-significant coefficients, consistent with the limited variance observed in the descriptive phase. The only statistically significant factor was preference for social media ($B = –0.208$, $\beta = –0.187$, $p = .014$), which exhibited a negative relationship with test scores. This outcome reveals a perception–performance gap: students

who report higher preference for social-media-based learning do not necessarily achieve higher test outcomes. This finding aligns with broader literature in educational psychology, where enjoyment and preference are sometimes disconnected from measurable achievement unless mediated by structured pedagogical practices.

The lack of predictive power in the regression model may be explained by several factors. First, the consistently high ratings across all items produced a restricted response range, attenuating correlations. Second, key variables such as prior English proficiency, study habits, or parental support were not included in the model, likely limiting explanatory capacity. Finally, the relatively short duration of the intervention (six weeks) may not have allowed sufficient time for perceptual gains to materialize into measurable test outcomes. In conclusion, while the inferential results show limited statistical significance, they nonetheless highlight critical directions for refining models of digital vocabulary learning by incorporating additional cognitive and contextual variables.

5. Discussions

5.1 The impact of algorithmic content on vocabulary exposure

The first major finding concerns the influence of algorithmically curated content on learners' vocabulary exposure. The descriptive results indicate overwhelmingly positive perceptions: across all fifteen Likert-scale items, means clustered between 4.33 and 4.47, with low standard deviations (≈0.63–0.71). Such ratings suggest that learners strongly endorsed multimodal features (e.g., captions, short-form videos) and interactive affordances (e.g., gamification, quizzes) as useful for vocabulary development. These perceptions align with Social Constructivist and Multimodal Learning frameworks, which emphasize that multimodal input and contextualized interaction enhance depth of processing and lexical retention.

However, inferential results complicate this narrative. The regression model explained only 5.9% of variance in post-test scores and was statistically non-significant. Strikingly, the only significant predictor—preference for social media—was negatively associated with test performance. This paradox reflects a perception–performance gap: learners may enjoy and value social media, yet subjective enthusiasm does not automatically translate into objective gains. A plausible explanation lies in the quality and structure of algorithmic content. While platforms deliver abundant multimodal exposure, they also present distractions, variable input quality, and shallow engagement, all of which can dilute measurable learning outcomes.

Taken together, the findings suggest that algorithmic affordances create motivational opportunities but require structured pedagogical scaffolding to yield testable results. Teachers must therefore embed algorithmically curated input within explicit instructional designs that include corrective feedback, spaced retrieval, and goal-oriented tasks. Future explanatory models should incorporate covariates such as prior proficiency, out-of-school study time, and learner motivation to improve predictive power. Longitudinal designs will also be necessary to capture delayed effects, since lexical consolidation often occurs gradually rather than immediately.

5.2 The role of structured peer feedback in vocabulary retention

The second finding concerns the role of peer feedback within teacher-moderated WhatsApp groups. Descriptive data again reveal strong positive perceptions: group discussion, peer responses, and teacher participation all received mean ratings above 4.3, with low variability. Qualitative responses corroborated these results, as learners emphasized the value of immediate corrections, opportunities to recycle vocabulary, and the motivational benefits of social interaction. These findings resonate with Vygotsky's Zone of Proximal Development and Sociocultural Theory, which highlight that learning is mediated through collaborative exchanges and guided interaction.

Yet, inferential results again revealed a gap between perceptions and outcomes. Predictors related to WhatsApp interaction were statistically non-significant in explaining post-test performance. This indicates that favorable attitudes and participation alone are insufficient for measurable gains. Theoretical perspectives help explain this discrepancy. From a Connectivism standpoint, unstructured peer comments provide exposure but lack the precision required for durable lexical learning. Cognitive Load Theory further suggests that unfocused, lengthy exchanges can fragment attention and overload working memory, especially for young learners.

The implication is that structured feedback design is critical. Teachers should formalize peer-feedback protocols, using templates for error correction, turn-taking rules, and rubrics to guide comments. WhatsApp tasks should combine multimodal input (e.g., short videos with captions) with output-oriented exercises (e.g., sentence completion, peer correction) embedded in spaced retrieval schedules. By ensuring that peer exchanges are form-focused rather than purely affective, educators can bridge the gap between social engagement and measurable retention. Future research should extend such interventions longitudinally, include baseline proficiency measures, and control for outside study habits to better capture the dynamics of retention.

The contrast between uniformly high perceptions and modest measurable outcomes reflects a broader trend in mobile-assisted language learning (MALL) research. Numerous studies document the motivational benefits of platforms such as TikTok, Instagram, and WhatsApp (e.g., Albiladi & Alshareef, 2021; Pham *et al*., 2023 [36]). Learners often report heightened engagement and enjoyment, consistent with the motivational affordances of multimodal input. Yet, several scholars caution that without explicit scaffolding, algorithmic feeds risk superficial exposure that does not translate into robust learning outcomes. The current study reinforces this caution by showing that perceptions are necessary but not sufficient conditions for measurable vocabulary gains.

Moreover, the negative association between social media preference and test performance aligns with findings in educational psychology that distinguish between intrinsic enjoyment and effective strategy use. Learners may prefer enjoyable activities but underperform when those activities are not structured around deliberate practice. Similarly, the lack of predictive power for WhatsApp participation

suggests that quality of feedback, rather than frequency, determines outcomes. These findings underscore the importance of moving beyond correlational analyses of perceptions toward models that integrate cognitive, affective, and contextual factors.

5.3 Recommendations

The study offers several theoretically grounded and practically actionable recommendations. From a research perspective, future models should integrate baseline proficiency, motivation, and self-regulation as covariates. Longitudinal designs are essential to track delayed retention effects, and advanced methods such as structural equation modeling could capture indirect pathways (e.g., captions → engagement → retention → test performance). Complementing self-report measures with behavioral data (e.g., time-on-task, clickstream logs) would further enhance explanatory power.

From a pedagogical perspective, teachers should design tasks that marry social media's motivational affordances with evidence-based practices. Algorithmically curated input should be embedded in form-focused tasks and reinforced through corrective feedback and spaced retrieval. Peer-feedback loops should follow explicit protocols to ensure that exchanges are meaningful, concise, and aligned with learning objectives. Teacher training in digital pedagogy is therefore critical for effective implementation.

From a policy perspective, integrating social media into EFL instruction should be aligned with Vietnam's digital literacy agenda. Ministries of Education should invest in teacher professional development, ensure equitable access to devices and connectivity, and promote ethical digital engagement. Parents and communities should also be engaged to foster supportive environments where social media is used purposefully for language learning rather than passive consumption.

Finally, future innovations such as AI-driven adaptive feedback systems and personalized content delivery offer new opportunities for tailoring vocabulary instruction. By aligning these innovations with established theories and structured pedagogy, Vietnam can position itself as a leader in mobile-assisted language learning in the region.

In short, this study documents a dual reality: learners strongly endorse social media as a vocabulary resource, but measured gains are modest without structured pedagogical mediation. Algorithmic content provides motivational exposure, and WhatsApp feedback loops foster engagement, yet neither guarantees durable acquisition unless embedded in carefully designed instructional frameworks. The findings therefore caution against simplistic assumptions that positive perceptions equate to learning outcomes. Instead, they highlight the need for synergistic models that integrate motivational affordances, cognitive scaffolding, and systemic support. By addressing this perception–performance gap, Vietnamese EFL education can harness the potential of social media while ensuring that enthusiasm is converted into reliable and measurable learning outcomes.

6. Conclusion

This study examined the role of social media platforms—specifically algorithm-driven content on TikTok and Instagram and structured peer-feedback loops within teacher-moderated WhatsApp groups—in enhancing English vocabulary acquisition among Vietnamese elementary EFL learners. Employing a mixed-methods design, the research integrated quantitative survey and test data with qualitative insights to capture both learner perceptions and measurable outcomes within urban school contexts.

The findings present a nuanced picture. On the one hand, descriptive analyses revealed overwhelmingly positive learner perceptions. Across all 15 Likert-scale items, mean scores clustered between 4.33 and 4.47, with low standard deviations, indicating strong consensus on the perceived value of multimodal input (e.g., captions, short videos), gamified tasks, and teacher-supported explanations. Learners particularly valued vocabulary learning through songs, games, and teacher guidance, reporting heightened motivation, confidence, and enjoyment.

On the other hand, inferential analyses demonstrated only modest predictive power. The regression model explained just 5.9% of variance in post-test scores and was statistically non-significant. Strikingly, the only significant predictor was negatively associated with performance. This outcome underscores a perception–performance gap: positive attitudes toward social media do not necessarily translate into measurable vocabulary gains within a short-term intervention. Supplementary analyses provided more encouraging results: paired t-tests confirmed significant vocabulary improvements over the six weeks ($d = 0.62$), daily social media users outperformed less frequent users, and correlations linked captions with retention and peer talk with confidence.

Future research on social media–mediated vocabulary learning should adopt larger and more diverse samples that include multiple age groups, proficiency levels, and both urban and rural learners to enhance generalizability. Longitudinal designs are particularly important to capture the sustainability of vocabulary gains and to track how learners' engagement with digital platforms evolves over time. Expanding the thematic range of lexical input will allow for more comprehensive assessment across semantic domains, while comparative or cross-national studies can reveal how sociocultural and infrastructural factors influence outcomes. Methodologically, future work should employ richer mixed-methods approaches, combining quantitative measures of vocabulary growth with qualitative analyses of chat logs, feedback quality, and learner interaction patterns to uncover the mechanisms of acquisition. Incorporating additional predictors such as prior proficiency, learner motivation, metacognitive strategies, and teacher intervention quality can increase explanatory power, while experimental or quasi-experimental designs that manipulate feedback structures, gamification elements, and multimodal input types can identify the most effective instructional configurations. Finally, culturally responsive frameworks are needed to align digital interventions with local educational norms and values while drawing on international best practices, thereby ensuring that social media is leveraged not merely as an engaging tool but as a rigorous, contextually appropriate, and pedagogically effective medium for vocabulary development.

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