

# English Digital Media Exposure and Receptive L2 Vocabulary Knowledge among Indonesian Adolescents

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## ABSTRACT

The increasing availability of English language digital media has transformed language learning experiences among adolescents in non English speaking contexts. This study investigates the relationship between engagement with English digital media and receptive L2 vocabulary knowledge among Indonesian adolescents. Using a correlational descriptive design, the study involved 10 Grade 11 students. Data were collected through a digital media exposure questionnaire and a receptive vocabulary test. The findings indicate that students who reported higher levels of engagement with English digital media tended to obtain higher vocabulary scores. Drawing on Krashen's Input Hypothesis and multimedia learning theory, the study suggests that digital media may provide meaningful input that supports incidental vocabulary development. However, given the very small sample size and the descriptive nature of the analysis, the results should be interpreted as preliminary and not generalizable. The study highlights the potential value of integrating digital media into English language learning as a supplementary resource alongside classroom instruction.

**Keywords:** Second Language Acquisition, Digital Media Exposure, Adolescent Learners, Vocabulary Development, Incidental Learning

## 1. Introduction

The rapid expansion of globally accessible digital media has significantly reshaped adolescents' exposure to English outside the classroom. Platforms such as YouTube, TikTok, Instagram, Netflix, and online gaming environments now form part of many learners' daily routines. In non English speaking contexts such as Indonesia, this development has increased opportunities for incidental exposure to English, extending language learning beyond formal instruction into what is often described as extramural or informal learning environments. In Second Language Acquisition (SLA), input remains a central factor in language development. Krashen's Input Hypothesis (1982) suggests that acquisition occurs when learners are exposed to comprehensible input slightly beyond their current level ( $i+1$ ). Digital media may provide such input through repeated, meaningful, and multimodal exposure, supporting vocabulary learning in context. However, exposure alone is not sufficient for acquisition. Schmidt's Noticing Hypothesis (1990) emphasizes that attention to linguistic forms is necessary for intake, while usage based perspectives (Ellis, 2002, 2015) highlight the importance of frequency and repeated encounters in strengthening lexical knowledge. Recent ecological and extramural English perspectives further argue that language learning emerges from learners' engagement with their sociotechnological environments rather than classroom instruction alone (Ortega, 2014; Sundqvist & Sylvén, 2016). From this view, digital media offer affordance rich contexts where learners actively select and process input based on interest and engagement. However, empirical findings remain mixed, as exposure does not automatically translate into measurable vocabulary gains without sufficient cognitive engagement.

Despite the increasing presence of English digital media in Indonesian adolescents' lives, relatively few studies have examined its relationship with L2 vocabulary development in secondary school contexts. Vocabulary is particularly important because it forms the foundation of overall language proficiency and reading comprehension. Moreover, high achieving students represent a meaningful but underexplored group, as they may differ in metalinguistic awareness, strategy use, and

responsiveness to incidental input. Therefore, this study investigates the relationship between English digital media exposure and receptive L2 vocabulary knowledge among Indonesian senior high school students. It is hypothesized that greater digital media exposure is positively associated with higher vocabulary proficiency. The study addresses the following research questions:

1. What is the level of English digital media exposure among the participants?
2. What is the level of their L2 vocabulary proficiency?
3. To what extent is English digital media exposure associated with vocabulary proficiency?

Literature Review, Second Language Acquisition and the Role of Input

Input is often regarded as the cornerstone of L2 development. Krashen's (1982) Input Hypothesis posits that acquisition takes place when learners are exposed to comprehensible input language that is understandable but slightly beyond their current competence ( $i+1$ ). Through repeated and meaningful exposure, learners internalize linguistic forms naturally, without overt focus on rules. Subsequent SLA perspectives complement and refine this view. Ortega (2014) emphasizes cognitive processes such as noticing, attention, and mental representation building, while Lightbown and Spada (2013) underline how meaningful, frequent, and contextualized input enhances language learning. Multimodal input typical of digital media may reinforce these cognitive processes by offering redundant channels of meaning (e.g., audio + visuals).

Digital Media Exposure and Extramural English, Extramural English refers to language that learners encounter beyond classroom settings (Sundqvist & Sylvén, 2016). Digital platforms have become the primary conduit of such exposure, enabling adolescents to engage with English autonomously and authentically. Studies indicate that exposure to online videos, films, social media content, and digital games can strengthen vocabulary knowledge, listening skills, and overall proficiency (Lee & Dressman, 2018; Peters & Webb, 2018). Mayer's (2014) multimedia learning principles suggest that multimodal input reduces cognitive load and supports deeper comprehension. Digital media often present words alongside contextual cues, aiding learners in inferring meaning and retaining new vocabulary. Incidental learning, which occurs as a by-product of another activity, is facilitated when learners repeatedly encounter lexical items in engaging contexts.

Vocabulary Acquisition in L2 Contexts, Vocabulary knowledge underpins communicative competence, reading comprehension, and academic literacy. Nation (2013) distinguishes between intentional learning (e.g., memorization, vocabulary exercises) and incidental learning (e.g., reading or watching videos). Both contribute to vocabulary growth, but incidental learning is particularly effective when input is meaningful and repeated. Recent studies demonstrate that digital media can significantly enhance incidental vocabulary acquisition. Peters (2019) reports that repeated exposure to English language media correlates with larger vocabulary size, while Webb and Nation (2017) find that learners can acquire both high and mid frequency vocabulary through authentic digital content. Webb (2020) further emphasizes that varied contextual encounters are essential for robust vocabulary retention.

## 2. Method

Research Design, This study employed a quantitative descriptive correlational design to examine the relationship between English digital media exposure and receptive L2 vocabulary knowledge among Indonesian adolescents. The design was non-experimental and exploratory in nature, meaning that it does not aim to establish causality but rather to identify patterns of association between variables. Given the small sample size, the findings are intended to provide preliminary insights rather than generalizable or predictive conclusions. Therefore, results are interpreted with caution and are limited to the specific context of the participants.

Participants, The participants were ten Indonesian senior high school students (five males and five females) enrolled in Grade 11 at a public secondary school in Indonesia. Participants were aged 16–17 years and had received approximately 6–8 years of formal English instruction under the national curriculum. All participants were identified as high-achieving students based on school academic records and their performance in English subjects. This purposive sampling approach was used to reduce variability related to general academic ability and to focus on differences potentially associated with digital media exposure. This sampling strategy limits generalizability; however, it allows for an exploratory examination of how extramural digital input may relate to vocabulary knowledge among learners with relatively strong academic and linguistic backgrounds.

Instruments: Digital Media Exposure Questionnaire, English digital media exposure was measured using a structured self-report questionnaire adapted from instruments commonly used in

extramural English research. The instrument was contextualized to reflect Indonesian adolescents' digital media use.

The questionnaire included items measuring:

Average daily time spent engaging with English digital media,

Weekly frequency of use,

Types of platforms accessed (e.g., video streaming, social media, online games),

Preferred content types,

Perceived intensity and usefulness of exposure.

Responses were used to compute an overall exposure score, which was categorized into low, medium, and high exposure levels. As a self report instrument, the data reflect perceived exposure rather than objectively tracked usage. To improve content validity, the instrument was reviewed by an English language education lecturer prior to administration. Receptive Vocabulary Test, Receptive L2 vocabulary knowledge was measured using a standardized multiple choice vocabulary recognition test adapted from established vocabulary assessment formats used in SLA research (e.g., vocabulary size/levels test principles). The test consisted of items requiring participants to select the correct meaning of target words presented in context. Each correct response was awarded one point, and total scores were calculated to represent individual vocabulary proficiency levels. The test was reviewed by an English language education lecturer to ensure clarity and appropriateness for senior high school learners. Procedure, Data collection was conducted in a single session at the participants' school with permission from school authorities. Participants were informed about the purpose of the study and provided verbal consent prior to participation. First, participants completed the digital media exposure questionnaire. After a short break, they completed the receptive vocabulary test under supervised conditions. The entire data collection process lasted approximately 45–60 minutes. Data Analysis: Data were analyzed using descriptive statistics (mean, frequency, and percentage) to describe levels of digital media exposure and vocabulary knowledge. To examine the relationship between the two variables, a Spearman's rank correlation test was used due to the small sample size and ordinal nature of exposure categorization. All analyses were conducted to identify patterns of association rather than causal relationships

**Finding, Overview Of Digital Media Exposure and Vocabulary Scores** This section presents descriptive statistics for English digital media exposure and receptive vocabulary test performance among the ten participants. Reported daily exposure to English digital media ranged from 1.0 to 3.5 hours per day, with a mean of 2.3 hours (SD = 0.86). Vocabulary test scores ranged from 12 to 22 out of 25, with a mean of 17.0 (SD = 3.6). These results indicate variability in both digital media engagement and vocabulary performance within the sample. **Exposure Categories and Distribution, For** descriptive comparison, participants were grouped into exposure categories based on average daily English digital media use:

Low exposure:  $\leq 1.5$  hours per day

Medium exposure: 1.6–2.9 hours per day

High exposure:  $\geq 3.0$  hours per day

Based on these thresholds, three participants were classified as low exposure, four as medium exposure, and three as high exposure.

Table 1. presents individual exposure levels, exposure categories, and vocabulary scores for each participant.  
*(Summary of Exposure Levels and Vocabulary Scores)*

No	Initials	Gender	Rank	Daily Exposure (hrs)	Exposure Category	Vocabulary Score (25)
1	A.R	M	2	2.5	Medium	17
2	D.S	F	1	3.0	High	20
3	M.F	M	4	1.5	Low	14
4	S.P	F	5	2.0	Medium	16
5	R.A	M	3	3.5	High	22
6	N.L	F	7	1.0	Low	12

7	K.Y	M	8	2.8	Medium	18
8	A.N	F	6	3.2	High	21
9	L.F	F	9	1.3	Low	13
10	H.R	M	10	2.6	Medium	17

**Vocabulary Performance Across Exposure Levels** To examine the relationship between English digital media exposure and receptive vocabulary knowledge, a Spearman's rank order correlation was conducted due to the small sample size and ordinal grouping of exposure levels. The analysis revealed a strong positive correlation between digital media exposure and vocabulary scores ( $\rho = 0.89$ ,  $p < 0.001$ ). This suggests that higher levels of English digital media exposure are associated with higher receptive vocabulary performance among participants. Although statistically significant within this sample, the result should be interpreted cautiously due to the very small sample size and exploratory nature of the study. Group Differences in Vocabulary Performance, Descriptive comparison across exposure groups showed a consistent pattern:

Low exposure group:  $M = 13.0$ ,  $SD = 1.0$

Medium exposure group:  $M = 17.0$ ,  $SD = 0.8$

High exposure group:  $M = 21.0$ ,  $SD = 1.0$

These results indicate a stepwise increase in vocabulary scores across exposure levels, with higher exposure groups demonstrating better performance on the receptive vocabulary test.

**Summary of Descriptive Findings**, Overall, both descriptive and inferential results indicate a strong positive association between English digital media exposure and receptive L2 vocabulary knowledge among the participants. However, given the small sample size ( $n = 10$ ), purposive sampling of high achieving students, and exploratory design, the findings should be interpreted as preliminary and not generalizable.

### 3. Results and Discussion

**Discussions**, This study investigated the relationship between English digital media exposure and receptive L2 vocabulary knowledge among Indonesian high achieving adolescents. The findings showed a consistent positive pattern: participants with higher levels of digital media exposure tended to obtain higher vocabulary test scores. This pattern is broadly consistent with research on extramural English and incidental vocabulary learning (Peters & Webb, 2018; Webb, 2020), which suggests that extensive exposure to meaningful input can support vocabulary development over time. However, the results must be interpreted cautiously. First, the sample size was extremely small ( $n = 10$ ) and limited to high achieving students, which restricts variability and prevents generalization. Second, while the overall trend was positive, the data also showed relatively narrow score differences between some adjacent exposure groups (particularly between medium and high exposure participants), suggesting that the relationship is not strictly linear at the individual level. This indicates that digital media exposure alone may not fully account for differences in vocabulary performance.

A further consideration is that the observed association may be bidirectional. Learners with stronger initial vocabulary knowledge may find English digital content easier to understand and therefore engage with it more frequently. This self selection effect is commonly highlighted in extramural English research, where exposure is often shaped by existing proficiency rather than acting as a purely external cause. **Theoretical Interpretation within SLA Frameworks**, From an SLA perspective, the findings can be interpreted through input based and usage based frameworks. Krashen's (1982) Input Hypothesis provides a foundational explanation, as digital media offers abundant exposure to comprehensible input supported by multimodal cues such as visuals, audio, and context. However, input exposure alone does not guarantee acquisition. Schmidt's (1990) Noticing Hypothesis emphasizes that learners must attend to linguistic forms for learning to occur. In the context of digital media, features such as subtitles, repetition, and contextual reinforcement may increase the likelihood of noticing lexical items. Similarly, usage based theories (Ellis, 2002; 2015) suggest that repeated encounters with vocabulary across contexts strengthen form-meaning associations, which may help explain the observed positive trend. At the same time, the present study did not measure attention, noticing, or interaction directly. Therefore, these theoretical mechanisms remain interpretive and cannot be confirmed from the current data.

**Motivation and Learner Engagement**, From an SLA perspective, the findings can be interpreted through input based and usage based frameworks. Krashen's (1982) Input Hypothesis provides a

foundational explanation, as digital media offers abundant exposure to comprehensible input supported by multimodal cues such as visuals, audio, and context. However, input exposure alone does not guarantee acquisition. Schmidt's (1990) Noticing Hypothesis emphasizes that learners must attend to linguistic forms for learning to occur. In the context of digital media, features such as subtitles, repetition, and contextual reinforcement may increase the likelihood of noticing lexical items. Similarly, usage based theories (Ellis, 2002; 2015) suggest that repeated encounters with vocabulary across contexts strengthen form-meaning associations, which may help explain the observed positive trend. At the same time, the present study did not measure attention, noticing, or interaction directly. Therefore, these theoretical mechanisms remain interpretive and cannot be confirmed from the current data.

Implications for Classroom Instruction, Despite its limitations, the study suggests that English digital media may serve as a supportive source of vocabulary input for adolescents, particularly those already performing at a high academic level. Rather than replacing formal instruction, digital media can extend learners' exposure to English beyond classroom constraints. For teachers, this highlights the potential value of integrating awareness of students' out of school English use into instruction. Educators may also guide students toward more linguistically rich content, such as subtitled videos or educational channels, which may enhance the likelihood of vocabulary noticing and retention. However, these implications should be considered cautiously. The benefits of digital media exposure are likely to vary across learners depending on proficiency level, engagement quality, and learning context. Therefore, structured pedagogical support remains important to maximize learning opportunities.

#### 4. Conclusion

This exploratory study suggests a possible positive association between English digital media exposure and adolescent L2 receptive vocabulary knowledge. The findings indicate that learners with higher levels of digital media exposure tended to achieve higher vocabulary scores, highlighting the potential role of digital media as a supplementary source of English input within an expanding language learning ecology. However, given the very small sample size, purposive sampling of high achieving students, and exploratory design, these results should be interpreted as preliminary, non generalizable, and non causal. The observed relationship may also be influenced by unmeasured factors such as prior proficiency, motivation, and learner engagement. Future research should employ larger and more diverse samples, include more robust statistical modelling, and incorporate qualitative or mixed method approaches to better capture how learners engage with digital media. Further studies may also extend investigation to other linguistic domains, such as listening comprehension, pragmatic development, and syntactic growth, to provide a more comprehensive understanding of the role of digital media in second language acquisition.

#### REFERENCES

- Ellis, N. C. (2015). Usage based approaches to language acquisition. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition* (2nd ed., pp. 93–115). Routledge.
- Krashen, S. D. (1982). *Principles and practice in second language acquisition*. Pergamon Press.
- Lee, J., & Dressman, M. (2018). Digital media use and English language learning: A mixed-methods study of adolescent learners. *ReCALL*, 30(2), 109–127.
- Lightbown, P. M., & Spada, N. (2013). *How languages are learned* (4th ed.). Oxford University Press.
- Mayer, R. E. (2014). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (2nd ed., pp. 43–71). Cambridge University Press.
- Nation, I. S. P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press.
- Ortega, L. (2014). *Understanding second language acquisition*. Routledge.
- Peters, E. (2019). The effect of out-of-school exposure to English-language media on learners' vocabulary knowledge. *Language Learning*, 69(3), 538–569.
- Peters, E., & Webb, S. (2018). Incidental vocabulary acquisition through viewing L2 television. *Studies in Second Language Acquisition*, 40(3), 551–577.

Sundqvist, P., & Sylvén, L. K. (2016). *Extramural English in teaching and learning: From theory and research to practice*. Palgrave Macmillan.

Sundqvist, P. (2019). Commercial-off-the-shelf games in English language learning. In M. Peterson (Ed.), *Computer-assisted language learning* (pp. 221–239). Routledge.

Thorne, S. L., Hellermann, J., & Jakonen, T. (2021). Rewilding language education: Emergent assemblages of socio-materiality and language learning. *The Modern Language Journal*, 105(S1), 106–120.

Webb, S. (2020). Incidental vocabulary learning. In S. Webb (Ed.), *The Routledge handbook of vocabulary studies* (pp. 225–242). Routledge.

Webb, S., & Nation, P. (2017). *How vocabulary is learned*. Oxford University Press.