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Research Article

Examining the Effects of Modified Songs on Vocabulary Mastery and Learning Motivation: A Mixed-Methods Study of Indonesian EFL Learners

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ABSTRACT

Vocabulary acquisition remains a central yet challenging aspect of English as a Foreign Language (EFL) instruction, particularly in fostering learners' motivation at the lower secondary level. This mixed-methods study examined the effects of modified songs on vocabulary mastery and learning motivation among Indonesian EFL learners. Employing a pre-experimental design with one-group pretest–posttest, while quantitative data were collected from twenty-five seventh-grade students at a junior high school over five instructional sessions integrating modified songs, targeted vocabulary instruction, and interactive learning activities. The findings revealed a significant improvement in students' vocabulary achievement, with mean scores increasing from 69.64 to 89.12 and an N-Gain of 64.47%, indicating high instructional effectiveness. To enrich the quantitative results, qualitative data were obtained through semi-structured interviews with three purposively selected students and analyzed thematically. The analysis indicated heightened learner engagement, enjoyment, and confidence in using English. Overall, the study demonstrates that modified songs function as an effective pedagogical approach for enhancing vocabulary acquisition while positively influencing affective dimensions of learning, highlighting their potential value in lower secondary EFL classrooms.

Keywords: *Affective filter, English as a foreign language, Learning motivation, Modified songs, Vocabulary mastery*

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INTRODUCTION

Vocabulary constitutes a cornerstone of language proficiency, particularly in English as Foreign Language (EFL) contexts where lexical knowledge plays a decisive role in shaping learners' communicative competence (Nation, 2001). Adequate vocabulary mastery enables learners to comprehend spoken and written texts while simultaneously supporting productive skills in speaking and writing (Schmitt, 2010). Despite its fundamental importance, vocabulary acquisition remains a persistent challenge for many EFL learners. This difficulty is often attributed to limited exposure to authentic language input and an overreliance on rote memorization practices that emphasize form over meaning, thereby constraining meaningful retention and contextualized use of lexical items (Webb & Nation, 2017).

Traditional vocabulary instruction, commonly characterized by repetitive drills and decontextualized word lists, has been increasingly criticized for its limited pedagogical effectiveness. While such approaches may facilitate short-term recall, they frequently fail to sustain learners' engagement or promote deep lexical processing. More critically, these methods tend to neglect the motivational dimension of learning, resulting in learner boredom and reduced persistence—factors that are central to successful language acquisition (Dörnyei, 2001). From a motivational perspective, vocabulary learning is not merely a cognitive process but also an affective one that is deeply influenced by learners' emotional engagement and perceived value of the learning task.

Self-Determination Theory (SDT) offers a useful lens for understanding this relationship. According to Ryan and Deci (2000), learning environments that support learners' psychological needs for autonomy, competence, and relatedness are more likely to foster intrinsic motivation. In the context of vocabulary learning, instructional approaches that allow learners to experience enjoyment, a sense of achievement, and social interaction can enhance engagement and promote deeper lexical processing. Conversely, when vocabulary instruction is perceived as monotonous or externally imposed, learners may exhibit surface-level learning strategies that undermine long-term retention.

Taken together, these perspectives suggest that effective vocabulary instruction must integrate both cognitive depth and motivational support. This growing recognition has prompted increased scholarly attention toward pedagogical approaches that combine meaningful lexical input with affectively engaging learning experiences. Such approaches aim not only to improve vocabulary mastery but also to sustain learners' motivation, thereby facilitating durable and transferable language development.

Music-mediated instruction offers a promising pedagogical alternative by harnessing the mnemonic affordances of rhythm, melody, and repetition to support vocabulary retention (Murphey, 1992). Songs provide learners with authentic linguistic input while simultaneously lowering affective barriers to learning, a principle that aligns with Krashen's (2003) Affective Filter Hypothesis, which asserts that reduced anxiety and heightened

emotional engagement facilitate more effective language acquisition. Nevertheless, commercially produced songs frequently contain linguistically complex structures, rapid delivery, and culturally embedded references that may overwhelm beginner EFL learners and hinder comprehension. In response to this limitation, educators have increasingly turned to modified songs—lyrically adapted musical materials designed to align with specific instructional objectives and learners' proficiency levels (Intani, 2012). From both cognitive and motivational perspectives, modified songs represent a pedagogically strategic compromise, preserving the affective and mnemonic benefits of music while ensuring instructional accessibility and focused lexical learning.

Despite increasing recognition of music-mediated instruction in EFL contexts, empirical research focusing specifically on *modified songs* remains limited. Existing studies have largely examined the use of authentic songs or have addressed either cognitive outcomes, such as vocabulary gains, or affective variables, such as motivation, in isolation (Simatupang et al., 2023). Moreover, there is a paucity of classroom-based mixed-methods research exploring the combined impact of modified songs on vocabulary acquisition and learner motivation, particularly within Indonesian junior high school contexts. Given the linguistic and curricular constraints faced by EFL learners in Indonesia, further investigation is needed to determine whether pedagogically adapted musical materials can effectively support both lexical development and motivational engagement.

The present research is guided by two principal questions:

(1) To what extent does the implementation of modified songs improve EFL students' vocabulary mastery?
(2) How do modified songs influence EFL students' learning motivation as perceived through their subjective experiences?

LITERATURE REVIEW

Vocabulary Acquisition in EFL Contexts

Vocabulary knowledge encompasses not only lexical recognition but also the ability to employ words appropriately across communicative contexts (Nation, 2001). Sedita (2005) emphasizes that effective vocabulary instruction must transcend mere memorization, fostering deep processing through meaningful engagement and contextual reinforcement. For EFL learners, vocabulary represents the building blocks of communicative competence, with lexical gaps often impeding comprehension and production despite grammatical accuracy (Schmitt, 2010). Research indicates that successful vocabulary acquisition requires multiple exposures across varied contexts, coupled with opportunities for active use—conditions often unmet in conventional classroom settings (Webb & Nation, 2017).

Music and Language Learning

The integration of music into language pedagogy is grounded in cognitive theories that emphasize the close relationship between musical and linguistic processing systems (Patel,

2008). Songs provide multisensory input, engaging auditory, visual, and kinesthetic modalities, which can enhance memory encoding through dual-coding mechanisms, whereby verbal information is reinforced by non-verbal cues such as melody and rhythm (Paivio, 1990). Recent meta-analytic evidence further supports this connection, indicating a consistent—though moderate—relationship between musical ability and second-language learning outcomes, particularly in areas related to phonological processing and vocabulary development (Thompson et al., 2025). However, this evidence also suggests that musical input alone is insufficient; pedagogical structuring is necessary to translate musical exposure into measurable language gains, highlighting the importance of intentional instructional design.

From an affective perspective, musical activities have been shown to reduce classroom anxiety, increase engagement, and foster positive learner attitudes, creating conditions conducive to language acquisition (Krashen, 2003). Learner perception studies indicate that music helps students feel more relaxed and focused during language tasks, thereby supporting sustained attention and motivation (Kim et al., 2024). Empirical classroom research further demonstrates that when songs are pedagogically adapted, they can enhance vocabulary retention, pronunciation accuracy, and emotional engagement in L2 learning contexts (Urbaite, 2025). Taken together, these findings suggest that the pedagogical value of music lies not merely in its motivational appeal but in its capacity to simultaneously support affective regulation and cognitive processing, particularly when musical materials are aligned with specific learning objectives. Consistent with this view, Andaryani (2019) highlights that the rhythmic and melodic qualities of songs generate emotional resonance, which may facilitate deeper cognitive processing and more durable retention of linguistic material.

Modified Songs as Pedagogical Tools

While authentic songs provide valuable cultural and linguistic exposure, their unmodified use may present comprehension challenges for lower-proficiency learners, particularly when lyrics contain rapid delivery, unfamiliar slang, or complex syntactic structures (Febrianti et al., 2025). Modified songs address this limitation through strategic adaptation of lyrics, tempo, and linguistic complexity to better align with instructional objectives and learner proficiency levels (Intani, 2012). This customization ensures linguistic accessibility while preserving the motivational benefits of musical engagement, such as increased enjoyment, reduced anxiety, and enhanced classroom participation (Melinda et al., 2025). Research suggests that modified songs allow for targeted vocabulary presentation within memorable melodic frameworks, thereby strengthening both cognitive processing—through reinforced repetition and contextual cues—and affective engagement, which supports sustained attention and positive attitudes toward learning (Melinda et al., 2025; Ramadhanti & Farida, 2025). Importantly, integrating modified songs into instruction not only adapts content to learners' levels but also bridges the gap between enjoyable input and

pedagogical focus, making vocabulary learning both comprehensible and intrinsically motivating.

Theoretical Framework

This study is conceptually anchored in Krashen's (2003) Affective Filter Hypothesis, which emphasizes that emotional variables play a crucial role in mediating language acquisition. According to this framework, learning is most effective when affective filters—such as anxiety, low motivation, and lack of self-confidence—are minimized through engaging and non-threatening input. Modified songs have the potential to lower these affective barriers by creating enjoyable, relaxed learning environments that encourage participation and reduce learners' fear of making mistakes. Empirical studies indicate that music-based instruction promotes positive emotions and sustained engagement, which in turn support more effective language learning (Babayev, 2025; Sadiqzade, 2024).

Complementing this affective perspective, Cognitive Load Theory posits that learning is optimized when instructional materials are designed in ways that accommodate the limited capacity of working memory (Sweller, 1988). From this standpoint, modified songs may help regulate intrinsic cognitive load by presenting vocabulary through rhythmic, repetitive, and systematically structured formats, which reduce processing demands associated with unfamiliar lexical items. In addition, principles from multimedia learning theory suggest that learning is enhanced when verbal information is coherently integrated with complementary auditory and visual cues (Mayer, 2020). When vocabulary items are embedded in predictable melodic structures and supported by lyric displays or visual prompts, learners can allocate cognitive resources more effectively to meaning construction rather than surface-level decoding. Taken together, these theoretical perspectives suggest that modified songs function as a pedagogically sound strategy that supports both emotional readiness and cognitive efficiency, thereby enhancing vocabulary learning and learner engagement.

METHOD

Research Design

This study employed a mixed-methods sequential explanatory design (Creswell & Creswell, 2022), integrating quantitative and qualitative approaches to provide comprehensive insights. The quantitative phase utilized a one-group pretest-posttest pre-experimental design to measure vocabulary improvement following the intervention. The subsequent qualitative phase employed semi-structured interviews to explore participants' motivational experiences and perceptions. This triangulated approach enabled both statistical measurement of learning outcomes and rich understanding of affective dimensions.

Participants

The participants were 25 seventh-grade students (aged 12–13) enrolled in a public lower secondary school in South Sulawesi, Indonesia. The sample consisted of 14 female and 11 male students, all of whom were categorized as having intermediate English proficiency. This proficiency level was determined based on students' most recent English achievement records, including end-of-semester examination results and ongoing classroom assessments conducted by the English teacher in alignment with the national curriculum standards. Although the relatively small sample size (N = 25) may limit the generalizability of the findings, it was considered sufficient for investigating instructional effects within a classroom-based, pre-experimental intervention.

Table 1
Participants Characteristics

Variable	Category/Description	n	%	Description/Criteria
Educational level	Lower secondary school (Grade 7)	25	100	Students enrolled in lower secondary education
Age	12–13 years	25	100	Typical age range for Grade 7 in Indonesia
Gender	Female	14	56	Self-reported gender
	Male	11	44	Self-reported gender
School type	Public lower secondary school	25	100	Government-funded lower secondary school
Research context	A regionally-situated context in Indonesian high school	25	100	Eastern Indonesian province
English proficiency	Intermediate	25	100	Based on semester exams and continuous assessment results
Curriculum framework	Indonesian national curriculum	25	100	Indonesian national lower secondary curriculum

For the qualitative component, three students were purposively selected to represent high-, medium-, and low-performing proficiency levels within the class. Proficiency levels were determined by comparing students' vocabulary test results and overall English performance prior to the intervention. This selection aimed to capture a range of learning experiences and perspectives regarding the use of modified songs. Ethical considerations were carefully observed, including obtaining parental consent and ensuring participants' confidentiality through the use of pseudonyms (HR, NA, and NF).

Intervention Design

The five-session intervention integrated modified songs into regular English instruction and was conducted twice a week over a one-month period, allowing students repeated and sustained exposure to the target vocabulary. Each 40-minute session was systematically structured as follows:

(1) Introduction (5 minutes): Presentation of target vocabulary (10-12 words per session) with visual aids

(2) Song Presentation (10 minutes): Audio playback of modified songs with lyric displays
(3) Guided Practice (10 minutes): Choral repetition, pronunciation drills, and vocabulary games
(4) Creative Application (10 minutes): Lyric completion, sentence construction, or role-play activities
(5) Review and Reflection (5 minutes): Quick assessment and feedback

This structured and repeated implementation ensured consistent practice while maintaining learners' engagement across sessions. Song modifications included: (1) lyric adaptation to incorporate target vocabulary, (2) tempo reduction for clarity, (3) simplified grammatical structures, and (4) repetition of key lexical items. Original melodies were retained from familiar Indonesian and international pop songs to enhance engagement.

Instruments and Data Collection

Quantitative Instrument: A 40-item multiple-choice vocabulary test was administered to assess students' receptive vocabulary knowledge across three dimensions: word meaning (15 items), contextual usage (15 items), and pronunciation recognition (10 items). The test items were developed based on the target vocabulary taught during the intervention and were aligned with the junior high school English curriculum. Several items were adapted from commonly used vocabulary assessment formats in EFL contexts to ensure familiarity and content relevance. Prior to implementation, the instrument was reviewed by two experienced English teachers to establish content validity and clarity. Pilot testing with a comparable group of students indicated good internal consistency, with a Cronbach's alpha coefficient of **0.82**, suggesting acceptable reliability.

Qualitative Instrument: The qualitative data were collected using a semi-structured interview protocol designed to explore students' learning experiences across four domains: (1) learning enjoyment, (2) confidence development, (3) perceived vocabulary improvement, and (4) classroom engagement. The interview questions were developed in reference to existing literature on motivation and music-based language learning and were reviewed by an EFL pedagogy expert to ensure relevance and clarity. A brief pilot interview was conducted to refine question wording and sequencing. Interviews were conducted in Indonesian to allow participants to express their views freely, audio-recorded with consent, and lasted approximately 15–20 minutes each.

Data Analysis

Data were analyzed using a mixed-methods approach to capture both the measurable effects of the intervention and learners' subjective experiences. Quantitative analysis focused on changes in vocabulary achievement before and after the intervention, while qualitative analysis explored students' perceptions of learning and motivation. Together, these

complementary analyses provided a comprehensive understanding of the instructional impact of modified songs in the EFL classroom.

(1) Quantitative Analysis: Pretest and posttest scores were analyzed using a paired-samples t-test to examine whether the observed differences were statistically significant following the intervention. In reporting the results, exact p-values and 95% confidence intervals were included to enhance statistical transparency. The magnitude of the intervention effect was calculated using Cohen's d, allowing for interpretation of practical significance alongside statistical significance. Additionally, normalized gain (N-Gain) scores were computed to measure students' relative improvement using Hake's (1998) formula:

$$\text{N-Gain} = \frac{\text{Posttest Score - Pretest Score}}{\text{Maximum Score}} \times 100\%$$

This measure was used to categorize learning gains as low, medium, or high, providing a more nuanced interpretation of vocabulary development.

(2) Qualitative Analysis: Qualitative data from interview transcripts were analyzed using thematic analysis following Braun & Clarke's (2006) six-phase framework: (1) transcription and familiarization, (2) initial coding, (3) theme identification, (4) theme review, (5) theme definition, and (6) reporting. To strengthen analytical rigor, initial coding was conducted independently by two researchers, followed by discussion and consensus-building to resolve discrepancies, thereby enhancing intercoder reliability. Trustworthiness was further supported through member checking, whereby participants reviewed summarized interpretations of their responses for accuracy, and peer debriefing, in which emerging themes were discussed with a fellow EFL researcher to challenge assumptions and refine interpretations.

FINDINGS

This section presents a comprehensive analysis of both quantitative and qualitative data regarding the impact of modified songs on seventh-grade EFL students' vocabulary mastery and learning motivation. The findings are organized to first establish the measurable vocabulary gains through statistical analysis, followed by rich qualitative insights into the motivational and affective dimensions of the learning experience. This integrated presentation illustrates how modified songs function as a multifaceted pedagogical intervention addressing both cognitive and affective learning domains.

Quantitative Findings: Statistical Analysis of Vocabulary Improvement

The quantitative phase of this study employed a pretest-posttest design to measure vocabulary gains following the five-session intervention utilizing modified songs. The descriptive and inferential statistical analyses reveal significant improvements in students' lexical knowledge across multiple dimensions.

Descriptive Statistics and Normality Testing

Initial analysis confirmed that both pretest and posttest scores met assumptions of normality required for parametric testing. The Shapiro-Wilk test indicated normal distribution for both pretest (W = .96, p = .42) and posttest (W = .95, p = .34) scores. As presented in Table 2, the pretest mean score of 69.64 (SD = 5.95) increased substantially to 89.12 (SD = 6.31) on the posttest, representing a mean improvement of 19.48 points.

Table 2
Descriptive Statistics for Vocabulary Pretest and Posttest Scores

Statistical Measure	Pretest (N=25)	Posttest (N=25)
Mean	69.64	89.12
Standard Deviation	5.95	6.31
Minimum Score	58	76
Maximum Score	82	96
Range	24	20
Skewness	-0.32	-0.41
Kurtosis	-0.12	-0.08

The reduced standard deviation in posttest scores (6.31 compared to 5.95) suggests more homogeneous performance following the intervention, potentially indicating that modified songs provided effective scaffolding for lower-performing students. The score distribution shifted noticeably, with the minimum posttest score (76) exceeding the pretest mean, demonstrating substantial baseline improvement across all participants.

Statistical Significance Testing

A paired samples t-test was conducted to determine whether the observed mean difference between pretest and posttest scores was statistically significant. The analysis yielded highly significant results: $t(24) = 13.72$, $p < .001$, with a 95% confidence interval for the mean difference ranging from 16.41 to 22.55 points. This substantial t-value, coupled with the minimal p-value, provides strong evidence that the vocabulary improvement was unlikely attributable to chance or testing effects alone.

Effect Size Calculation and Educational Significance

While statistical significance indicates the reliability of the observed difference, effect size calculations provide insight into the practical educational significance of the intervention. Cohen's d was calculated at 2.74, which represents an exceptionally large effect size according to conventional benchmarks (Cohen, 1988: small = 0.2, medium = 0.5, large = 0.8). This substantial effect size suggests that modified songs produced educationally meaningful vocabulary gains beyond what might be expected from typical instructional methods.

To further contextualize the intervention's effectiveness within educational settings, normalized gain scores (N-Gain) were calculated. The results show N-Gain of 64.47%, which Hake categorizes as "high effectiveness" (high = >56%, medium = 30-56%, low = <30%). This

classification places the intervention among pedagogically impactful approaches, particularly notable given its relatively brief five-session duration.

Disaggregated Analysis by Vocabulary Dimension

Further analysis examined improvement across the three vocabulary dimensions assessed: word meaning recognition, contextual usage, and pronunciation accuracy. As shown in Table 3, all dimensions demonstrated substantial gains, with pronunciation showing the highest percentage improvement.

Table 3
Improvement by Vocabulary Dimension

Dimension	Pretest Mean	Posttest Mean	% Improvement
Word Meaning	25.36/35	33.12/35	30.6%
Contextual Usage	24.84/35	31.76/35	27.9%
Pronunciation	19.44/30	24.24/30	24.7%

The relatively greater improvement in word meaning recognition (30.6%) aligns with the intervention's explicit focus on vocabulary presentation through song lyrics. However, the significant gains in contextual usage (27.9%) and pronunciation (24.7%) suggest that modified songs facilitated not only recognition but also application and phonological awareness.

Qualitative Findings: Thematic Analysis of Motivational Impact

The qualitative phase employed thematic analysis of semi-structured interviews with three purposively selected students to explore the impact of the modified song intervention on learning motivation. The analysis yielded four interrelated themes that reflect the affective and motivational dimensions of students' learning experiences. These themes highlight the multidimensional nature of motivation, encompassing emotional engagement, confidence development, and sustained interest in vocabulary learning. To enhance analytical depth and credibility, each theme is illustrated through thick descriptions supported by participants' direct quotations, allowing learners' voices to foreground the findings. Furthermore, the themes are explicitly linked to the study's research questions, clarifying how students' reported experiences help explain the motivational effects of modified songs within the instructional context.

Theme 1: Transformative Emotional Engagement and Anxiety Reduction

Participants consistently described a profound shift in emotional engagement during song-based lessons. HR articulated this transformation:

> "I feel happy and excited because the song with changed lyrics feels unique and motivates me to learn new vocabulary. Usually, I feel nervous when we have English, but with songs, I forget to be nervous."

NA expanded on this emotional shift, noting the contrast with traditional methods:

> "Before, vocabulary lessons made me sleepy. The teacher would write words, and we would copy them. But with singing, everyone wakes up. Even students who never talk in English class were singing loudly."

This observation highlights how modified songs transformed passive reception into active participation, potentially lowering the "affective filter"—the emotional barriers that impede language acquisition.

NF also described this phenomenon:

> "When we sing together, I don't notice time passing. I'm not thinking 'when will this end?' like in normal lessons. I'm just singing and learning without trying hard."

This experience of effortless engagement represents a qualitatively different learning state than typically reported in conventional EFL settings.

Theme 2: Enhanced Self-Efficacy and Communicative Confidence

A second prominent theme concerned the development of linguistic self-efficacy—learners' beliefs in their capacity to successfully use English. HR described a tangible increase in confidence:

> "Yes, I feel more confident because the lyrics contain vocabulary that are easy for me to understand, so I can write and pronounce English vocabulary correctly."

This snippet indicates that the use of modified songs contributed to the development of learners' linguistic self-efficacy by providing accessible and comprehensible input. As reflected in HR's statement, simplified and familiar lyrics enabled the learner to understand, pronounce, and produce vocabulary with greater accuracy, which in turn strengthened confidence in using English. This suggests that repeated exposure to manageable lexical items within a supportive musical context can create successful learning experiences that reinforce learners' beliefs in their own communicative abilities. In line with self-efficacy theory, such mastery experiences play a crucial role in enhancing confidence and willingness to engage in language use. Moreover, the integration of pronunciation and writing within song-based activities appears to reduce performance anxiety, allowing learners to participate more actively in communicative tasks.

Theme 3: Cognitive Scaffolding Through Musical Mnemonics

Participants consistently highlighted the mnemonic advantages of musical presentation, describing how melody and rhythm facilitated vocabulary retention. NA articulated this cognitive benefit:

> "When I sing, I feel more relaxed and don't get bored easily, so I remember new vocabulary more quickly. The tune stays in my head, and the words come with it."

This excerpt illustrates how modified songs functioned as a form of cognitive scaffolding, with melody and rhythm acting as mnemonic cues that supported vocabulary retention. NA's reflection suggests that the musical structure reduced cognitive load and sustained attention, allowing new lexical items to be encoded more efficiently and retrieved more easily. The persistence of the tune in memory indicates that melody served as a retrieval pathway, enabling learners to recall vocabulary through associative links between sound, rhythm, and meaning. In this sense, musical mnemonics not only enhanced memorability but also created a more relaxed learning state, which likely further facilitated vocabulary acquisition by supporting sustained engagement and deeper processing.

Theme 4: Strengthened Learning Community and Collective Engagement

The fourth theme centered on the social dimensions of song-based learning, highlighting how collective musical activities fostered classroom community and collaborative engagement. HR described this communal aspect vividly:

> "When singing with changed lyrics, the classroom atmosphere became lively, and my friend even became the singing leader, replacing the teacher. The vocabulary in lyrics was also easier to understand when we all learned together."

This theme indicates that modified songs enhanced collective engagement by transforming vocabulary learning into a shared social experience. HR's account suggests that group singing fostered a supportive classroom atmosphere, encouraged peer leadership, and redistributed participation roles, thereby strengthening the learning community. Learning vocabulary collaboratively appeared to make lexical input more accessible and less intimidating, highlighting the social affordances of song-based instruction in promoting engagement and mutual support.

Integration of Quantitative and Qualitative Findings

The integration of quantitative and qualitative data provides a convergent account of how modified songs supported EFL vocabulary learning. Quantitatively, the intervention resulted in a moderate-to-high normalized gain (N-Gain = 64.47%), indicating substantial improvement in students' receptive vocabulary knowledge. This result corresponds with participants' qualitative reports that rhythm, repetition, and melody helped them remember word meanings and pronunciations more easily, suggesting that musical mnemonics played a role in reinforcing lexical retention. Additionally, the reduced variability observed in posttest scores aligns with interview data indicating that lower-performing students

experienced increased confidence and participation, which may have contributed to more consistent learning outcomes across the class.

While these patterns suggest meaningful alignment between data sources, it is important to note that correlational convergence does not imply direct causation. The qualitative findings do not "explain" the quantitative gains in a deterministic sense; rather, they offer contextual insights into learners' experiences that help interpret how and why the intervention may have supported vocabulary development. Other factors, such as repeated exposure, classroom interaction, or test familiarity, may also have contributed to the observed gains.

From a theoretical perspective, students' reports of reduced anxiety, increased enjoyment, and greater willingness to participate are consistent with Krashen's (2003) Affective Filter Hypothesis, which posits that low-anxiety learning environments facilitate language intake and processing. In this study, modified songs appeared to lower affective barriers by creating a relaxed and supportive classroom atmosphere, thereby allowing learners—particularly those with lower proficiency—to engage more fully with vocabulary input and practice activities. This affective facilitation likely supported cognitive processes such as attention, encoding, and retrieval, which are essential for vocabulary acquisition.

Taken together, the findings indicate that modified songs function as multidimensional pedagogical tools, influencing learning across several domains. Cognitively, they supported vocabulary recall through repetition and melodic structure; affectively, they enhanced enjoyment and reduced anxiety; and socially, they encouraged shared participation and peer interaction. This combination of effects may help account for the intervention's relatively strong learning gains, as it addressed multiple barriers to EFL vocabulary learning simultaneously within a single instructional approach.

DISCUSSION

Reconceptualizing Music in Language Pedagogy

Affective Filter Reduction and Optimal Learning States

The qualitative findings strongly correspond to Krashen's (2003) Affective Filter Hypothesis, which posits those emotional variables significantly mediate language acquisition. This sentiment reflects a significant reduction in foreign language anxiety—a common barrier to EFL learning identified by Horwitz et al. (1986). Participants' consistent reports of reduced anxiety and increased enjoyment during song-based lessons suggest that modified songs effectively lower affective barriers to learning. HR's statement—"Usually, I feel nervous when we have English, but with songs, I forget to be nervous"—directly illustrates this filter-lowering effect. This emotional shift may explain the substantial vocabulary gains observed quantitatively, as reduced anxiety likely freed cognitive resources for lexical processing and storage.

Beyond mere anxiety reduction, participants' descriptions of complete absorption in musical activities—what NF characterized as learning "without trying hard"—resonate with

Csikszentmihalyi's (1990) concept of flow states. These optimal psychological conditions, characterized by intense focus, loss of self-consciousness, and distorted time perception, represent ideal learning environments that traditional vocabulary instruction rarely achieves. The emergence of flow-like experiences in song-based learning suggests that modified songs may facilitate not only affective filter reduction but also positive engagement states that enhance learning efficiency.

Self-Determination Theory and Motivational Dynamics

The motivational benefits reported by participants align closely with Self-Determination Theory (Ryan & Deci, 2000), which identifies autonomy, competence, and relatedness as fundamental psychological needs supporting intrinsic motivation. Modified songs appear to address all three needs simultaneously: autonomy through creative expression and personal interpretation of lyrics; competence through achievable musical challenges and visible vocabulary gains; and relatedness through collective singing and shared musical experiences.

NA's observation that "even students who never talk in English class were singing loudly" suggests that modified songs can engage typically disengaged learners by providing mastery experiences that strengthen self-efficacy (Bandura, 1997), helping to explain their strong motivational impact compared with more conventional instruction. This increased confidence was not limited to the classroom, as learners reported applying familiar expressions in everyday interactions, indicating that song-based activities may help bridge the gap between instructed learning and authentic language use—a persistent challenge in EFL contexts (Ellis, 2005). Moreover, collective singing appeared to reduce anxiety related to pronunciation, creating a supportive environment for phonological experimentation and fostering phonological confidence, which Derwing and Munro (2005) identify as a key yet often underdeveloped component of communicative competence.

Cognitive Load Optimization Through Musical Scaffolding

The quantitative vocabulary gains (N-Gain = 64.47%) coupled with participants' reports of easier retention suggest that modified songs may optimize cognitive load—the mental effort required for learning (Sweller, 1988). Music's predictable structures (verse-chorus patterns, rhythmic regularity) may reduce extraneous cognitive load by organizing linguistic input into memorable patterns. As NF noted, "The song puts words in an order that makes sense," indicating that musical structure provides organizational scaffolding that traditional vocabulary lists typically lack.

Furthermore, the multisensory nature of song-based learning—integrating auditory (melody), visual (lyric displays), and kinesthetic (singing, movement) modalities, aligns with dual-coding theory (Paivio, 1990). It highlights that vocabulary encoded through both verbal and musical channels forms stronger memory traces. Participants also emphasized the value of repetition embedded in songs, noting that repeated exposure to target words occurred naturally and enjoyably, reflecting Nation's (2001) assertion that vocabulary

learning requires multiple encounters. Beyond repetition, learners reported that songs organized vocabulary into meaningful sequences, supporting the development of lexical networks that facilitate retention and retrieval (Meara, 2009).

The shift toward peer leadership and collaborative learning represents a significant departure from traditional teacher-centered approaches. NA elaborated on the social dynamics: "In class, all my friends seemed more enthusiastic about singing together, and the atmosphere was fun and relaxed. This meant that the vocabulary was easy to remember and understand because it was repeated often in a happy way." This description suggests that modified songs may facilitate what Vygotsky (1978) termed "socially mediated learning," where peer interaction enhances individual development.

The collective nature of singing appeared to create what Dörnyei & Murphey (2003) identify as "group cohesiveness"—a sense of shared purpose and mutual support that enhances motivation. NF captured this collective spirit: "In class, singing makes the atmosphere more exciting because everyone sings together. This helps students understand and remember vocabulary more quickly because we help each other." This mutual assistance represents a form of collaborative scaffolding, where stronger peers support weaker ones within the safety of musical participation.

Meanwhile, participants' positive response to familiar melodies adapted with English lyrics suggests that cultural alignment enhances engagement—a finding consistent with research on culturally responsive pedagogy (Gay, 2018). Indonesian educational contexts, with their strong musical traditions and collective cultural orientation, may be particularly conducive to song-based approaches, though the fundamental cognitive and affective mechanisms likely generalize across cultural settings.

Limitations and Future Research

Several limitations warrant consideration. The one-group pre-experimental design precludes causal claims, necessitating future controlled studies. The small, homogeneous sample limits generalizability, suggesting need for research across diverse educational contexts. Additionally, long-term retention was not assessed, indicating value for longitudinal investigations. Future research directions include: (1) comparative studies of modified versus authentic songs, (2) examination of differential effects across proficiency levels, (3) investigation of neural correlates using neuroimaging methods, and (4) development of guidelines for song modification optimal for pedagogical objectives.

CONCLUSION

This study demonstrates that modified songs effectively enhance both vocabulary mastery and learning motivation among Indonesian EFL learners. The findings indicate that lyric-adapted musical materials address key challenges in vocabulary instruction by supporting lexical retention while fostering engaging, low-anxiety learning environments. The results support Krashen's (2003) Affective Filter Hypothesis, as reduced learner anxiety and

increased participation suggest that enjoyable input facilitates vocabulary acquisition. They also align with Self-Determination Theory, highlighting the role of engagement and perceived competence in motivating language learning. Methodologically, the mixed-methods design strengthened the study by linking quantitative vocabulary gains with learners' classroom experiences, offering insight into both learning outcomes and underlying processes. Practically, the findings provide EFL teachers with flexible, low-cost instructional strategies that can be integrated into warm-up activities, practice tasks, or vocabulary review. Given their accessibility and adaptability, modified songs represent a promising pedagogical approach, particularly in resource-limited EFL contexts, and merit further investigation and wider classroom implementation.

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