

Harmonizing Language Learning: A Cognitive Load Theory Approach to Song-Based ESL Instruction

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ABSTRACT

The issue of keeping pre-tertiary preparation English language learners engaged and addressing basic problems with their lexical and phonological skills constitutes one of the crucial bottlenecks in tertiary preparation education. The problem is complicated by the fact that traditional teaching techniques tend to make students cognitively tired and thus not engage them in the learning process. Therefore, the current research proposes to examine whether song-based learning, based on the theory of cognitive load and musical mnemonics, positively impacts the communication skills of pre-diploma English language learners. A quantitative approach will be adopted to collect the necessary data from a purposive sample of pre-tertiary preparation students at UiTM in Malaysia. The questionnaire tested perceived effects on language competences, the use frequency of songs and students' attitudes towards educational integration. The results suggested a tiered hierarchy of effectiveness: while songs had the most significant impact on receptive skills, they showed an intermediate influence on mid-level competences, whereas their effect on productive competences and rule-based systems was more modest. Moreover, a dose-response pattern indicated a direct correlation between regularity of use and perceived improvement of general English skills. Finally, it is notable that the participants had a consensus about the academic validity and motivational appeal of song pedagogy. These conclusions contribute to the second language acquisition theory by empirically applying Cognitive Load Theory to music-mediated learning, proving the efficiency of controlled music input in the process of reducing extraneous processing and schemata building. Practically, the study provided practical suggestions for curriculum planning, namely the choice of songs with syntactically clear lyrics and the provision of productive transfer to compensate for modality limitations.

Keywords: Cognitive Load Theory, Song-based learning, Second language acquisition, Musical Mnemonics, Tertiary ESL instruction

INTRODUCTION

The constant struggle with motivation in young adult ESL learners while also working on compensating for their deficiencies in vocabulary and phonology constitutes the key bottleneck in tertiary preparatory teaching. For adolescents who are transitioning from school to college and thus face new demands in terms of academic English, vocabulary fragmentation, pronunciation challenges, and demotivation can easily become a combination of factors preventing academic success and effective communication skills (Dörnyei & Ushioda, 2021; Lake, 2023). Traditionally employed models of instruction, which still involve heavy reliance on abstract grammar practice and reading, only contribute to students' mental weariness and loss of motivation (Sweller et al., 2019; Paas & van Merriënboer, 2020). This is why applied linguists and teachers of English have turned their attention to affectively relevant teaching approaches that incorporate modern insights into the processes of memory and prosody perception as well as motivation. Such an approach could be song-based learning.

A number of scholarly publications in the recent decade reveal that the use of music may support various aspects of L2 acquisition. The repetitive nature of songs and rhythms makes it easier for the students to memorize new high-frequency lexemes without imposing too much working memory load (Ludke et al., 2020; Slevc & Rosenberg, 2021). In addition, the use of melodies and stress patterns may help learners acquire correct prosody and articulate sounds and syllables appropriately (Christison & Murray, 2022; Gant & Fonseca-Mora, 2021). The impact of affective factors on language learning suggests that music may contribute to lowering foreign language anxiety, increased participation in the class, and autonomous motivation (Al-Hoorie, 2020; Engh, 2020). Nonetheless, empirical evidence about the effects of music-assisted L2 learning contains three crucial flaws. First, results have been shown to be limited to single skills, with hardly any research considering transfer across different skills or long-term fluency (Murphey, 2018; Kaur & Singh, 2022). Second, there is a lack of consideration for cognitive load processes in pedagogical approaches. Uncurated or linguistically complex music materials can impose excessive cognitive loads, especially on basic or intermediate learners (Chien & Wang, 2021; Sweller et al., 2019). Third, the perception of music by learners as an educational aid is understudied in the context of tertiary institutions (Lake, 2023; Dörnyei & Ushioda, 2021).

To bridge the gap between theory and evidence, the present research seeks to develop an integrative pedagogical framework that integrates cognitive load theory (CLT) into musical mnemonic principles. According to CLT, successful learning requires proper balancing of intrinsic, extraneous, and germane cognitive loads (Sweller et al., 2019). In relation to second-language teaching, song material designed for low lexical density, syntactic clarity, and melodic predictability will effectively reduce extraneous cognitive load while enhancing germane load. Mnemonic devices in music, which consist of systematically constructed melodic-lexical element associations, utilizing the phonological loop and auditory working memory, enhance vocabulary acquisition and phoneme discrimination (Ludke et al., 2020; Slevc & Rosenberg, 2021). Moreover, such mnemonic practices transcend receptive benefits; for instance, practicing linguistic structures embedded in the lyrics via rhythmic practice can help in acquiring prosodic patterns that facilitate fluent communication (Christison & Murray, 2022; Gant & Fonseca-Mora, 2021). Nevertheless, despite compelling theoretical evidence, there is a lack of empirical work in recent literature on a music-assisted activity grounded on CLT and examining skill acquisition, improvement trajectories, and learner experiences in the TESL setting.

The present investigation focuses on a pedagogically significant yet empirically underrepresented population: pre-diploma students aged 18–19 at Universiti Teknologi MARA (UiTM), Malaysia. These learners typically operate at basic-to-intermediate proficiency levels and face high-stakes academic transitions that demand rapid linguistic adaptation. However, institutional preparatory curricula frequently prioritize syllabus coverage over sustained, motivationally responsive instruction, leaving little room for evidence-based multimodal pedagogy. Thus, this study is specifically guided by three research questions:

1. How does song-based learning impact different language skills?
2. Does frequent use of English songs affect improvement in English in general?
3. How do students perceive the use of English songs for educational purposes?

This document is composed of three unique contributions to the field of second language acquisition and pedagogy. First, the document offers a unified approach between cognitive load theory and musical mnemonic techniques by elucidating the specific conditions wherein songs serve to enhance L2 processing rather than distract from or simply amuse the learner. Second, the document contains empirical evidence that proves the existence of cross-skill transfer through carefully scaffolded music listening activities, resulting in the observable improvement in speaking fluency, phonological precision, and vocabulary acquisition. Finally, this research compiles these results into an accessible instructional methodology that achieves a harmonious balance between efficient cognition, motivation, and linguistic accuracy in a scalable format. This research is directly responsive to the call within language learning for theoretically advanced research that translates effectively to practice.

The remainder of the paper is organized as follows: the theoretical foundations of CLT and musical mnemonics in L2 contexts, followed by a critical synthesis of recent empirical work on music-mediated vocabulary, pronunciation, and motivational engagement. Then followed by the methodological design, participant profile, analytical procedures, and presentation of quantitative findings. The discussion section interprets these results within the broader SLA literature, addresses limitations, and outlines implications for future research and instructional practice.

LITERATURE REVIEW

Theoretical Anchors: Cognitive Load Theory and Musical Mnemonics in L2 Instruction

The instructional effectiveness of songs is being explored in light of both CLT and music-mnemonic processing. According to CLT, human working memory capacity is finite with respect to both storage volume and time. This theory maintains that instruction must consider intrinsic load (inherent difficulty of material), extraneous load (unnecessary complexity of presentation), and germane load (the processes of schema formation and automation) to effectively facilitate learning (Sweller et al., 2019; Paas & van Merriënboer, 2020). Within SLA, conventional intensive textual exposure or exercises typically carry heavy extraneous load, leaving little room in working memory for productive linguistic processing. Carefully crafted songs, on the other hand, have the potential to restructure all three types of loads. Predictable melody and stable rhythm create a framework in which extraneous load can be minimized, making available space in working memory for lexical and syntactical encoding (Chien & Wang, 2021; Sweller et al., 2019).

Both the fields of cognitive psychology and applied linguistics have revealed the use of music for mnemonic purposes through the use of the phonological loop and auditory working memory to facilitate long-term retention (Ludke et al., 2020; Slevc & Rosenberg, 2021). The integration of pitch, rhythm, and prosody results in a more durable multimodal representation of information as compared to information from unimodal sources. Within second-language acquisition contexts, the role of music-based activities is to facilitate both vocabulary retention and phonological processing through the process of melodic repetition prior to applying it into speech (Christison & Murray, 2022; Gant & Fonseca-Mora, 2021).

Impact of Song-Based Learning on Discrete Language Skills (RQ1)

A great deal of recent studies has been conducted concerning the effects that the use of lyrics in instruction has on particular language skills. Vocabulary instruction has proven to be the subject under examination most often discussed among researchers. It has been shown time and again that learners who were engaged in instruction through the medium of lyrics were more likely to recall the information received than learners subjected to drill-based instruction (Kaur & Singh, 2022; Liu & Zhang, 2020).

Phonology is another field of study that offers many opportunities. Songs provide good examples of suprasegmentals, such as stress, rhythm, intonation, and connected speech, which tend to be neglected in regular language courses. Experiments show that melody imitation enhances phonemic accuracy and helps differentiate vowels and contours, especially when an individual's L1 prosody constraints hinder English pronunciation (Christison & Murray, 2022; Gant & Fonseca-Mora, 2021). In addition, rhythmic synchronization lowers hesitations and makes syllables more evenly timed, facilitating fluency acquisition (Park & Lee, 2021).

Oral fluency, on the other hand, is still relatively under researched. Although receptive benefits associated with exposure to music have been extensively discussed, transferring rehearsed musical lyrics to oral performance involves some pedagogical work. According to recent longitudinal research, the combination of music training followed by tasks requiring learners to produce oral performance leads to significant improvements in speaking fluency in terms of increased speech speed, fewer pauses, and enhanced syntactic complexity (Murphey, 2018; Chen et al., 2022). However, the majority of studies focus on the development of individual skills in isolation, ignoring the interactive nature of language use.

Cumulative Effects of Frequent Musical Exposure on Overall L2 Proficiency (RQ2)

In addition to individual skill acquisition, it seems that dose and frequency of music exposure influence more generalized proficiency pathways. According to meta-analytical and longitudinal studies, constant and integrated exposure to music is associated with increased overall language proficiency through greater opportunities for practicing outside class, fewer affective filters, and better learning strategies (Al-Hoorie, 2020; Dörnyei & Ushioda, 2021). Consistent exposure to songs enables learners to receive constant implicit information concerning grammatical structures and pragmatics not included in their curriculum (Lake, 2023).

Tertiary and secondary empirical research on EFL/ESL settings finds statistically significant increases in proficiency test scores among students using songs at least twice a week during a semester, especially for listening and communication abilities (Chen et al., 2022; Park & Lee, 2021). This is mainly because of spacing effects, prosody acquisition, and continuous motivation. Nonetheless, limitations in methodology still stand, as many researchers use either self-assessed proficiency or brief interventions and rarely validated tests measuring holistic proficiency (such as CEFR-based speaking and writing criteria, and lexical diversification tests). In other words, there still lacks sufficient evidence of the causal link between frequent usage of songs and English proficiency enhancement in tertiary settings.

Learner Perceptions and Affective Mediation in Song-Mediated Pedagogy (RQ3)

One determinant of the success of any educational intervention includes the perception of the learner, which will impact their level of engagement, strategy use, and long-term adherence. From qualitative and mixed research, it has been discovered that ESL students see songs as interesting and culturally and emotionally engaging materials for teaching and learning (Engh, 2020; Kaur & Singh, 2022). Songs have been seen to reduce the levels of foreign language anxiety in students, lowering the affective filter, thus creating a classroom that allows participation and co-construction rather than teacher-centeredness (Dörnyei & Ushioda, 2021; Lake, 2023). Ideal L2 self-concepts often emerge from songs matching learners' interests.

In spite of all the positive attitudes mentioned, there are a number of cognitive and contextual factors that need to be considered. While some students might find songs to be too academic, others can find it difficult to cope with fast rhythm, slang, and the use of figurative speech, which can lead to cognitive overloading when not prepared beforehand (Chien & Wang, 2021; Liu & Zhang, 2020). Furthermore, perceptual advantages will only help develop linguistic competence if a teacher manages to build a connection between perceptual and metacognitive approaches along with a focus on form (Al-Hoorie, 2020; Murphey, 2018). There is a lack of research combining perceptual insights with performance measures in structured preparation courses.

Synthesis and Identified Empirical Gaps

Scholarly literature highlights the various benefits associated with the application of song in vocabulary learning, pronunciation training, speaking skills, and motivational arousal. Both theoretical development in CLT and mnemonics in music provide a solid explanation of how songs enhance cognitive and memory processes. However, several limitations prevent pedagogical implementation and broader generalization of song use in English education. Specifically, there is limited empirical evidence of effective cross-domain transfer and integrative acquisition of English skills and knowledge. Furthermore, the influence of teaching frequency on long-term development of English skills has not been sufficiently explored to ensure sustained English proficiency. Moreover, learner affective states are often described in studies independently of cognitive and behavioral measures, thus preventing understanding of how motivation is transformed into language achievements. This research aims to fill these gaps by conducting a well-designed experimental study using CLT methods. Fig.1 illustrates the conceptual framework of this study.

Optimizing Second Language Learning with Song

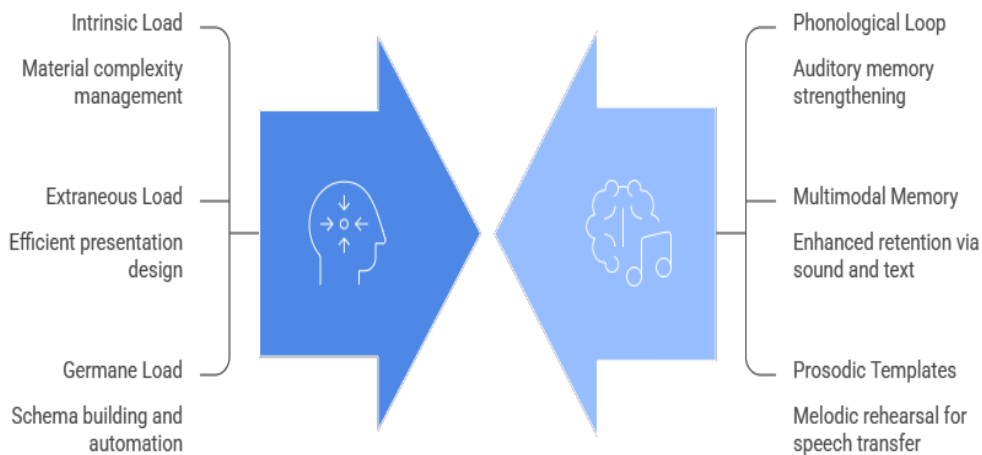


Fig.1: Conceptual framework of second language learning with songs

METHODOLOGY

In conducting this study, the method used was quantitative design. The questionnaire was adopted, and pilot tested prior to its use. The purpose is to gather information on students' perception on the benefits of using English, especially on their communicative ability. The first section of the questionnaire required demographic information from the respondents. The next section consisted of 14 questions sought to answer the research questions. The respondents were required to give a scale from 1 to 5 with 1 being rare and 5 being frequent.

The questionnaire was shared by the researchers to students via social media platforms which involved students of Universiti Teknologi MARA, Sungai Petani Campus, Kedah Branch Malaysia. The participants in this study are purposeful sampling which are the pre-diploma students of different programmes. The survey included 69 female and 38 male students.

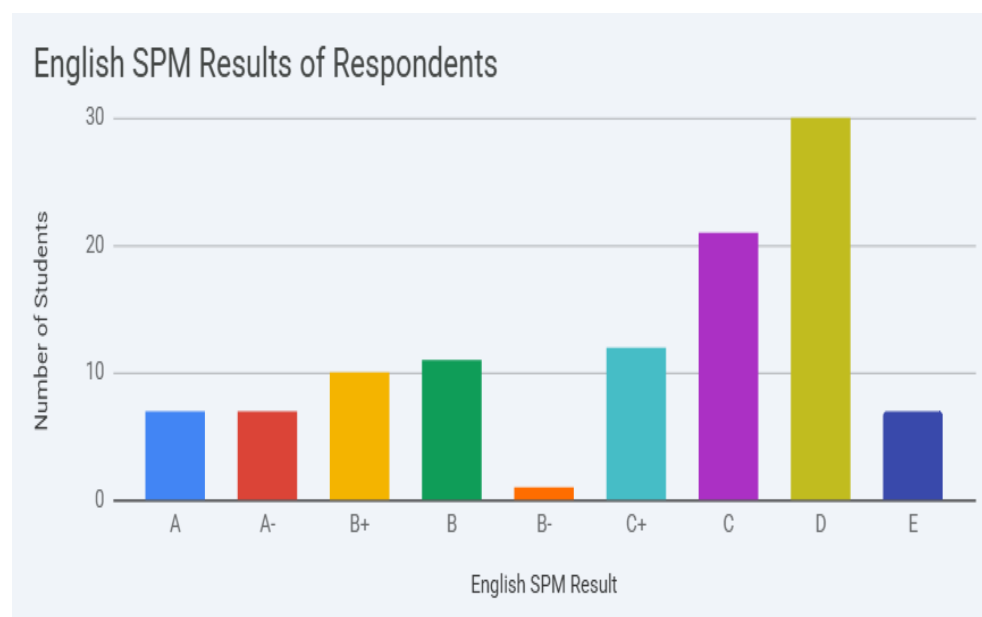


Fig.2: Distributions of respondents based on English SPM results.

A significant portion of the respondents (over 50%) achieved C or D grades in their English SPM results (Fig.2). The Sijil Pelajaran Malaysia (SPM), or the Malaysian Certificate of Education, is a national examination sat for by all Form 5 secondary school students in Malaysia. The examination is set and examined by the Malaysian Examinations board. Candidates are assigned grades based on their scores in each subject. The SPM is sat for by secondary school students before further studies in foundation, STPM, matriculation or diploma.

The Pre-Diploma Program is a university initiative in providing a special academic path for Sijil Pelajaran Malaysia (SPM) graduates who, unfortunately, do not meet the basic requirements to pursue their studies at a public university, especially at UiTM. Upon completion, these students will apply to study for a Diploma level at selected Faculties in UiTM based on their choice. The pre-diploma students of Universiti Teknologi MARA have to enroll in the ELC030, an English course which teaches and tests them on the four language skills and grammar. For Speaking assessment, they had to perform a Role-Play and do an e-Poster Presentation on specific themes. For Listening, they had to listen to a song and fill in the blanks with the correct word as they listened to the song. They also had to listen to other types of audios and circle the correct answer. Therefore, the pre-diploma students were found suitable for this study as they were exposed to using songs in the classroom although not intentionally for speaking assessments.

After collecting the data from the questionnaire, the researchers analysed the data to answer the research questions.

RESULTS AND DISCUSSIONS

Research Question 1: How does song-based learning impact different language skills?

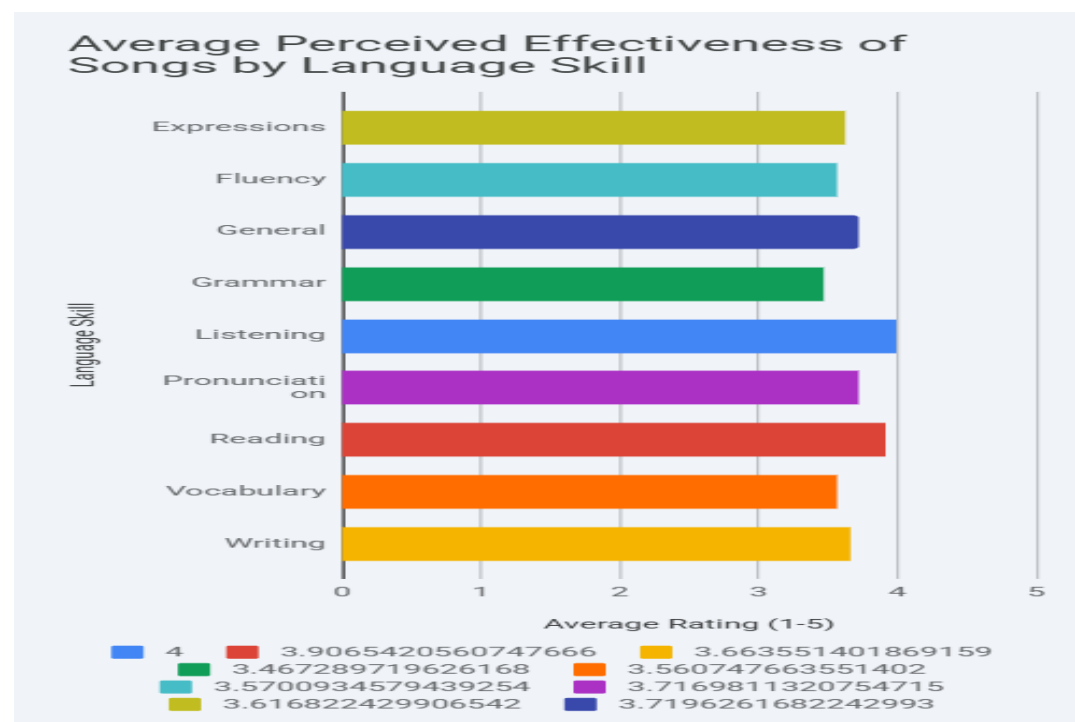


Fig.3: Perceived effectiveness of songs by language skills.

The survey data reveal a structured hierarchy in learners' perceived effectiveness of song-based instruction across linguistic domains, with listening ($M = 4.00$) and reading ($M = 3.91$) rated highest, followed by pronunciation ($M = 3.72$), general English proficiency ($M = 3.72$), writing ($M = 3.66$), expressions ($M = 3.62$), fluency ($M = 3.57$), vocabulary ($M = 3.56$), and grammar ($M = 3.47$) (Fig.3). This distribution is not arbitrary; rather, it reflects the specific modality affordances of musical input, the cognitive architecture of L2 processing, and the inherent boundaries between receptive exposure and productive application.

Receptive Skills: Alignment with Auditory-Orthographic Input Pathways

The clear-cut benefit of using songs in listening and reading reinforces the inherent connection between the two learning styles in teaching through songs since songs provide a steady supply of rhythmically organized auditory input that develops proficiency in phonemic discrimination, prosodic phrasing, and fast lexical retrieval – all elements of second language listening comprehension (Christison & Murray, 2022; Slevc & Rosenberg, 2021). In addition, when songs are accompanied by the lyrics printed on paper, students can benefit from orthographic-phonological correspondence, enabling them to improve their reading skills as well as make inferences from the context. According to the principles of Cognitive Load Theory, melodies are highly predictable and syntactic frames are repetitive, leaving no unnecessary cognitive load but allowing the brain to focus on processing meaning (Chien & Wang, 2021; Sweller et al., 2019).

Mid-Tier Skills: Mnemonic Encoding and Pragmatic Awareness

Pronunciation, expressions, and vocabulary are mid-to-high-level skills, which is in line with what previous research on the effectiveness of music mnemonic devices and the phonological loop suggests. Indeed, songs assist in achieving higher segmental accuracy, better perception of differences in vowels, and understanding rhythm and stress (Gant & Fonseca-Mora, 2021; Ludke et al., 2020). Vocabulary and expressions have a slightly lower rating ($M=3.56$, $M=3.62$) in comparison with listening and reading. This might be explained by the discrepancy between the level of acquisition (exposure) and activation. Songs offer an efficient way to acquire idiomatic and colloquial phrases; however, without any metacognitive bridging or context-based work, learners find it difficult to integrate acquired material into communicative activity (Engh, 2020; Liu & Zhang, 2020). It fits well into the concept of germane cognitive load within CLT, as this issue requires conscious effort by the learner.

Lower-Tier Skills: Constraints in Productive and Rule-Based Domains

The relatively lower scores on fluency ($M=3.57$), writing ($M=3.66$), and grammar ($M=3.47$) emphasize a noted drawback of music-influenced instruction: its focus on input-based learning rather than output-based. Music illustrates intonation patterns and grammar, yet does not provide scaffolding for speech production in time-constrained situations, composition processes, or conscious grammar application. The last factor stands out as an example, as lyrics usually include figures of speech, ellipsis, inversion, and other grammar deviations that can result in additional load on the mind when analyzing the information provided (Chien & Wang, 2021; Murphey, 2018). Writing skills and fluency require generating coherent messages that learners develop through music lessons subconsciously by memorizing patterns. The lack of practice in transferring knowledge about music into actual language learning results in a belief that there is no practical application in productive contexts without special tasks (Chen et al., 2022; Park & Lee, 2021).

Perception, Performance, and Pedagogical Translation

Importantly, these results are indicative of perceived effectiveness, which relies significantly on the affective component, classroom experience, and learner meta-cognitive insight into personal progress. Although students have an innate understanding of the advantages songs offer in terms of receptive competence, this lack of confidence in the areas of productive and grammar competencies should not be viewed as a deficit of the instructional strategy; it merely indicates the necessity to design activities that address this particular challenge. By adopting a CLT-based approach, which involves pre-teaching targeted syntactic structures, combining melody practice with systematic production practice, and analyzing lyrics for metalinguistic comprehension, teachers can ensure that the potential for language acquisition is maximized.

The results of this study have immediate implications for future work in the area of cumulative effectiveness of music-assisted language learning (RQ2) and students' attitude towards the use of music in academics (RQ3).

Research Question 2: Does frequent use of English songs affect improvement in English in general?

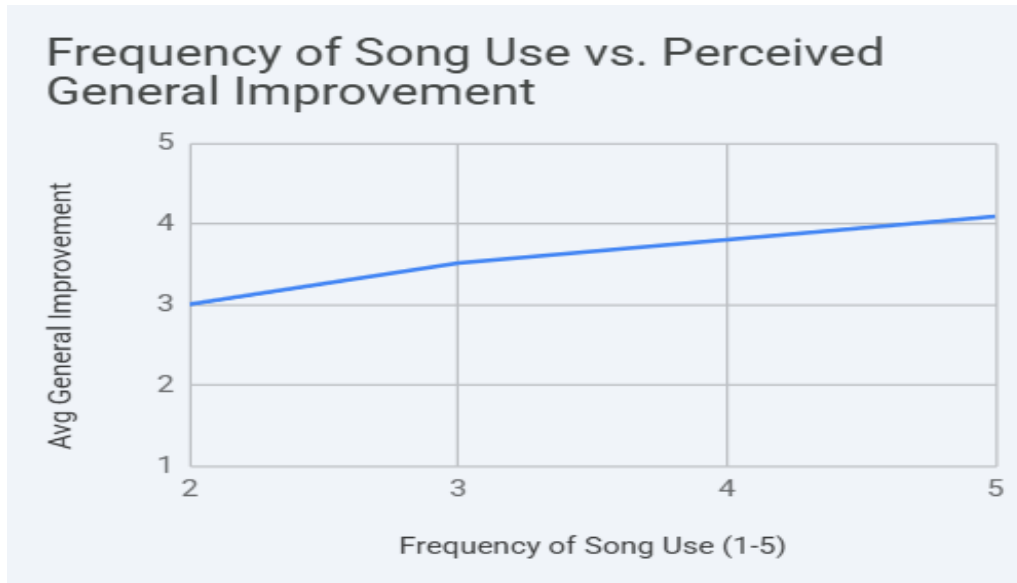


Fig.4: Perceived improvement in English based on frequent use of song

It is evident that there is a positive correlation between the number of times students use songs for learning English and improvements in overall language skills, thereby answering Research Question 2. The number of uses of songs for acquiring English by students improves from approximately 3.0 to 4.1 out of 5 as they move from using songs infrequently (2/5) to frequently (5/5) (Fig.4). This relationship does not hold just by chance but because of scientifically proven principles behind L2 acquisition.

Dose-Response Dynamics and Cognitive Consolidation

This increase corresponds to the theories of spaced repetition and automation of working memory processes. Exposure to frequent lyric embedded language input facilitates iterative practice of phonological, lexical, and syntactic patterns, gradually moving knowledge from controlled processing to automaticity (Sweller et al., 2019; Ludke et al., 2020). According to the theory of cognitive load, repeated exposure to musical scaffolding minimizes unnecessary cognitive processing demands in the process. As melody lines, stress patterns, and syntactic frameworks are recognized, working memory is freed for more complex semantic encoding and schema development (Chien & Wang, 2021; Paas & van Merriënboer, 2020). The faster early increase (2→3), followed by slower growth (3→5) indicates a logarithmic curve of learning. This means that frequent early exposure leads to quick gains in perceptual and emotional processing, with high-frequency exposure further cementing these gains in the later stages, as predicted by second-language acquisition skills development models (Dörnyei & Ushioda, 2021).

Affective Mediation and Autonomous Practice

Besides cognitive processes, frequency is essential to the motivational longevity and extra-classroom language involvement. The regular and relaxed use of music helps alleviate the students' anxiety with respect to a foreign language, changes the affective environment of the class, and builds the learners' idea of their optimal self as speakers of English (Al-Hoorie, 2020; Lake, 2023). Those who interact with songs several times a week feel intrinsically motivated, which leads to additional listening to music, studying lyrics, discussing songs with peers, and using online resources, thus creating an upward spiral of practice (Engh, 2020; Kaur & Singh, 2022).

Perception, Plateau Effects, and Pedagogical Calibration

However, it is vital to recognize that these results show the perception of improvement, potentially driven not by any objective measures of proficiency but by metacognition, affective satisfaction, or merely recall of short-

term memory. In addition, the slope becomes progressively more gradual for higher levels of frequency, reflecting the phenomenon of diminishing returns in dosage-controlled language instruction (Chen et al., 2022; Park & Lee, 2021). When no scaffolded learning occurs, high frequency can be dangerous in leading to cognitive saturation, poor listening practices, or the use of melodic rather than linguistic cues (Murphey, 2018; Liu & Zhang, 2020). If one wishes to continue improvement past the 3–4 times per week level, task variation and directed focus-on-form are necessary.

Implications for Instructional Design

From the pedagogical perspective, such findings suggest that the deliberate and careful use of songs provides the best outcomes regarding the development of general English competencies. In terms of frequency, the optimal amount seems to lie between three to four times per week, taking into account the proper balance between exposure and the need for rest. Going above that number would require a shift from passive exposure to the more active use of songs. Such an understanding is important when trying to evaluate student attitudes towards academic use of songs (RQ3).

Research Question 3: How do students perceive the use of English songs for educational purposes?

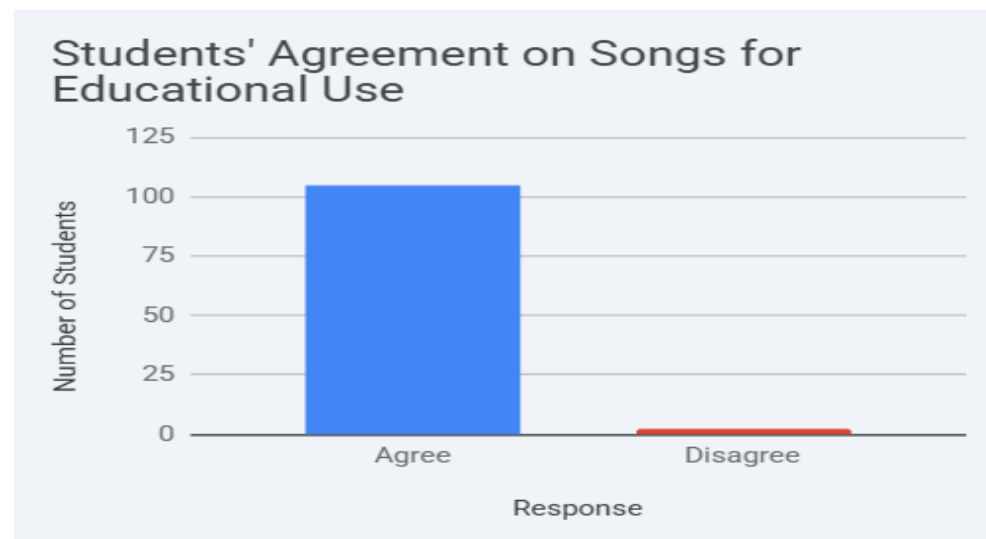


Fig.5: Agreement on songs use for educational purposes

The findings in the survey clearly show a total acceptance of music as a learning medium, with about 105 learners agreeing to the fact and only a small number of learners (≤ 3) disagreeing (Fig.5). It is important to note that the acceptance of music as a learning tool is more than just a mere preference but also shows an alignment of the emotional, cognitive, and developmental needs of the learners and the benefits provided by music in the learning process.

Affective Resonance and Motivational Legitimization

It is important to note how the high level of agreement highlights the strong emotional mediation involved in music-mediated learning. Specifically, songs tend to reduce foreign language anxiety, break down dull classroom procedures, and establish an ecology in which the students focus on achieving psychological safety rather than performance pressure (Dörnyei & Ushioda, 2021; Lake, 2023). It is also evident for pre-diploma students between the ages of 18 and 19, who must at once transition academically, socially develop themselves, and grapple with language issues, that music-mediated learning can make language learning an easy task rather than a difficult cognitive process (Al-Hoorie, 2020; Engh, 2020).

Perceived Academic Utility and Cognitive Accessibility

More importantly, student endorsement is indicative of changing perspectives on the cognitive assessment of multimodal instruction. By ensuring that the lyrics are congruent with curriculum objectives, that syntactic

complexity corresponds to students' proficiencies, and that musical inputs accompany linguistic tasks, the use of songs can be shown as intentional instruction that the learners understand (Chien & Wang, 2021; Sweller et al., 2019). In doing so, it becomes less likely that songs will be considered as merely extracurricular activities. Rather, they are seen as easily accessible tools for lowering extraneous cognitive load without sacrificing linguistic rigor (Paas & van Merriënboer, 2020; Murphey, 2018). Indeed, the results provide empirical evidence for the CLT-based design guideline that balanced cognitive and affective demands promote acceptance of innovation.

Developmental Alignment and Digital Native Learning Ecologies

It should also be noted that the strong support for the proposed songs is grounded developmentally. Adolescent learners enrolled in preparation programs for further education at the tertiary level are more sensitive to peer culture, global media, and material affirming their identity. Lyrics containing up-to-date vocabulary, cultural references, and natural prosody become very important to such students because they are aligned with their independent language acquisition process and connect institutional teaching activities with communicative practices outside the class (Chen et al., 2022; Kaur & Singh, 2022). Consequently, students' attitudes towards song lyrics are shaped by digital native consumption preferences making it easier to foster language acquisition motivation (Dörnyei & Ushioda, 2021; Park & Lee, 2021).

Pedagogical Implications and Integration with RQ1/RQ2

It also has practical implications for curriculum planning and policymaking. It is evident that effective use of affective factors does not conflict with high levels of cognitive demand but rather complements it. Such widespread acceptance guarantees that the educational process built on such a foundation would be accepted by learners, thus providing additional room for incorporating even more complex and challenging skill transfer tasks. In addition, the results presented above help explain the findings related to RQ1 and RQ2: the ability to achieve a significant positive effect from utilizing the media, especially in receptive and mid-level tasks, along with a dose-response relationship, is possible solely because the media itself is considered educationally relevant to the learners. Institutions implementing music-based learning should focus on making the pedagogy transparent to learners and building connections between emotional and metacognitive factors.

To conclude, the evidence presented shows that students believe that songs in English serve an important purpose and are highly suitable for use in ESL courses.

CONCLUSION

This paper sought to explore the efficiency of utilizing songs in ESL training in preparing students at tertiary level institutions through an empirical inquiry of three interrelated research questions. The incorporation of CLT into musical mnemonics results in developing a theoretical and empirically verified framework that promotes the role of music in foreign language training. This research highlights how, when carefully crafted to be cognitively accessible and emotionally appealing, songs can play a central rather than peripheral role in maximizing second language learning.

To begin with, songs impact language skills differently, with listening and reading skills showing the highest improvement, whereas pronunciation and vocabulary, along with other skills, rank second, with fluency and writing, and grammar following. Such a hierarchy results from the nature of the modality benefits songs present. Songs naturally facilitate auditory-orthographic processes and phonological loop recall, yet require special teaching techniques for transfer to productive skills and linguistic analysis (Christison & Murray, 2022; Chien & Wang, 2021). Second, the frequency of using songs is directly proportional to improvement in general English. Specifically, participants noted the best improvements with the use of three to four lessons a week. This result can be explained from the perspective of spaced repetition and affective motivation. Namely, repeated exposures reduce anxiety, thereby allowing schemas to consolidate while promoting self-practice (Sweller et al., 2019; Lake, 2023). Finally, perceptions among the learners confirmed an almost unequivocal approval of the use of songs as legitimate learning aids, highlighting the need for effective affective mediation to maintain learners' motivation to engage in multimodal pedagogy, especially under high-stakes preparation

circumstances (Dörnyei & Ushioda, 2021; Engh, 2020). It is worth noting that all the above perceptual, frequency-dependent, and skill-specific results were interconnected in the sense that high acceptance led to engagement that enhanced receptiveness and facilitated cross-skill transfer.

Theoretical Implications

The research makes three clear-cut theoretical contributions to second language acquisition and educational psychology. To begin with, this paper elaborates on the practical application of Cognitive Load Theory in musical instruction through the fine tuning of such variables as melodic predictability, lyrical repetition, and syntactic transparency for optimal load reduction; thus contributing to expanding the domain of CLT's applications to settings outside of the realm of multimedia learning (Paas & van Merriënboer, 2020; Sweller et al., 2019). Secondly, the current research presents a new theoretical framework for exploring mnemonic strategies in the context of musical instruction by illuminating the cognitive mechanisms behind lexical-melodic associations as means of vocabulary stabilization, phonology improvement, and prosody transfer to spontaneous speech; thereby making a significant step towards linking the research traditions in memory studies and SLA theory (Ludke et al., 2020; Slevc & Rosenberg, 2021). Lastly, the research confirms the validity of the concept of affective-cognitive synergy in current motivational theories and contributes to the theoretical understanding of the role played by emotional states in cognitive processes (Al-Hoorie, 2020; Dörnyei & Ushioda, 2021).

Practical Implications

For teachers, curriculum designers, and policymakers, this study offers a series of actionable suggestions backed up by empirical evidence. To begin with, teachers need to develop an approach to selecting songs based on principles of CLT, giving preference to materials that are characterized by moderate lexical density, clear syntactic patterns, and predictable melodic features (Chien & Wang, 2021). Secondly, when preparing lessons, teachers need to provide clear links between listening to lyrics and using language skills by incorporating output practice activities such as paraphrasing the texts of songs, prosodic shadowing, and cross-skill transfer tasks in order to ensure that motivational outcomes lead to improved linguistic performance (Chen et al., 2022; Park & Lee, 2021). Thirdly, preparatory programs should include singing as part of the curriculum three to four times a week to combine the intensity of exposure and variety of activities to promote learning without causing cognitive saturation. Lastly, teacher-training programs should focus on equipping teachers with ways to scaffold students' metacognition to facilitate intentional transfers of patterns from song practice to spontaneous speaking.

Limitations

Methodological and contextual limitations must be addressed. The use of self-reported perceptual data is crucial but not necessarily indicative of an objective proficiency measure. Future research will need to verify questionnaire results with measures like standardized speaking proficiency scales based on the Common European Framework of Reference (CEFR) and lexical diversity indices. Second, the use of a quantitative approach, despite being ecological and appropriate to the situation, limits the ability to make causal assertions about the effect of listening tasks. Third, the limitation of the sample to Malaysian public university students aged 18 to 19 years old prior to obtaining a diploma is a restriction that limits generalization of results to other populations in terms of age and proficiency level. Furthermore, the study period of one semester may not have been sufficient to observe sustained learning, as delayed effects may only manifest after some time. Finally, although songs were carefully chosen to limit cognitive load, individual differences in musical talent and media use habits were not measured.

Suggestions for Future Research

In light of the above results and issues with the current research, four areas of emphasis are suggested for further research: 1) Mixed-method studies combining perception surveys with objective performance measures as well as brain imaging techniques (EEG/eye-tracking, etc.) should be carried out to understand exactly how music scaffolds lexical access, phonological encoding, and syntactic processing; 2) longitudinal studies

following students over a number of semesters could show if there are threshold effects, plateau effects, or acceleratory effects in relation to frequency-dependent gains from using song-based activities; 3) comparative studies of learners with different demographic characteristics, different levels of proficiency in the target language, and different first languages, along with other moderating variables, should be undertaken to uncover the boundary conditions for the effectiveness of song-based activities in second language classrooms; and finally, 4) design-based research should be conducted to create frameworks for implementing CLT pedagogically that combine musical mnemonics with explicit metacognitive scaffolding. Adaptive learning systems utilizing real-time indicators of cognitive load are another important direction of investigation worth exploring.

To conclude, this study supports the hypothesis that when appropriately underpinned by theoretical assumptions and applied within a well-considered pedagogical framework, music-supported language learning is a powerful and multi-faceted approach to improving ESL proficiency. Through investigating the specific cognitive, affective, and developmental processes associated with the impact of songs on ESL proficiency, this study contributes directly to language learning theory's call for studies that seek to deepen mechanistic knowledge while contributing to contextually relevant findings. In an educational world that seeks to embrace more multilayered, student-centered approaches, music-supported instruction represents a practical and research-driven opportunity for harnessing motivation in support of proficiency.

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