

Developing Nationalism Awareness through Literature Learning of Indonesian National Songs via Mobile Assisted Language Learning (MALL): A Quantitative Pre-Test and Post-Test Study

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Abstrak : This study aims to develop and strengthen students' nationalistic awareness through a literature learning model that integrates Indonesian national songs—Indonesia Pusaka, Syukur, Gugur Bunga, and Sepasang Mata Bola—using Mobile Assisted Language Learning (MALL). The focus is on embedding values of patriotism and love of the nation while enhancing language learning in a digital learning environment. The research employs a quantitative design with a simple experimental approach. Data were collected through pre-test and post-test to measure students' level of nationalistic understanding and language comprehension before and after the implementation of the model. The participants consisted of undergraduate students in an English education program who were introduced to the lyrical and cultural dimensions of the songs via mobile learning applications. Findings indicate a significant improvement in students' comprehension and appreciation of the patriotic values embedded in the selected songs. The post-test results demonstrated higher scores compared to the pre-test, showing that students not only acquired better linguistic understanding but also developed a deeper sense of national pride and identity. The use of MALL provided flexibility, accessibility, and interactive engagement, making literature learning more effective and appealing to digital-native students.

Kata Kunci : Literature Learning Model; National Songs; Patriotism; Mobile Assisted Language Learning (MALL); Quantitative Approach

INTRODUCTION

In the contemporary educational landscape, the integration of technology with traditional pedagogical approaches has revolutionized language learning methodologies, particularly in fostering cultural awareness and national identity among students. The emergence of Mobile Assisted Language Learning (MALL) has created unprecedented opportunities for educators to combine linguistic instruction with

cultural transmission, enabling learners to develop both language proficiency and deeper connections to their national heritage. This technological advancement has transformed the way educational institutions approach literature-based learning, moving beyond conventional classroom boundaries to create more engaging, accessible, and culturally enriching learning experiences. The intersection of mobile technology and literature education represents a paradigm shift that addresses the evolving needs of digital-native students while preserving and promoting cultural values and national consciousness.

The significance of developing nationalistic awareness through educational interventions has gained considerable attention in recent educational research, as educators recognize the critical role that cultural identity plays in shaping well-rounded individuals who possess both global competencies and strong roots in their national heritage. Literature, particularly national songs and patriotic compositions, serves as a powerful medium for transmitting cultural values, historical consciousness, and national identity to younger generations. Indonesian national songs, with their rich lyrical content and deep cultural significance, provide an ideal vehicle for simultaneously enhancing language learning outcomes and fostering patriotic sentiments among students. The integration of these musical literary works into formal educational curricula represents a strategic approach to addressing the dual objectives of linguistic competence development and cultural character building, ensuring that students develop both the technical skills necessary for academic and professional success and the cultural awareness essential for maintaining national identity in an increasingly globalized world.

Mobile Assisted Language Learning has emerged as a transformative educational approach that leverages the ubiquity and accessibility of mobile devices to create flexible, personalized, and engaging learning environments. Recent research has demonstrated the significant potential of MALL in enhancing various aspects of language acquisition, with studies indicating substantial improvements in vocabulary retention, motivation levels, and learner autonomy when mobile technologies are integrated into language instruction (Hsieh, 2024; Ahmad et al., 2023). The adaptability of mobile learning platforms allows for the incorporation of multimedia elements, interactive features, and personalized feedback mechanisms that traditional classroom settings often cannot accommodate. Furthermore, the collaborative dimensions of mobile-assisted learning have shown particular promise in facilitating peer interaction and community building among learners, creating environments where cultural exchange and shared learning experiences contribute to both linguistic development and cultural awareness (Chen & Zhang, 2024).

The theoretical foundation for combining nationalism awareness development with literature learning through mobile technology rests on several pedagogical principles that emphasize the interconnectedness of language, culture, and identity formation. Language learning is inherently connected to cultural transmission, as linguistic competence cannot be separated from the cultural contexts in which language is used and the values it carries (Norton, 2023). When students engage with national literary works, particularly songs that embody patriotic themes and cultural narratives, they develop not only linguistic skills but also emotional connections to their cultural heritage and national identity. The mobile learning environment enhances this process

by providing immediate access to authentic cultural materials, enabling repeated exposure to linguistic patterns and cultural messages, and facilitating collaborative discussions that deepen understanding of both language structure and cultural meaning. This multifaceted approach addresses the contemporary educational challenge of maintaining cultural relevance while embracing technological innovation.

The quantitative research methodology employed in this study reflects the growing emphasis on evidence-based educational practices that can demonstrate measurable outcomes in both linguistic competence and cultural awareness development. Pre-test and post-test experimental designs provide robust frameworks for assessing the effectiveness of educational interventions, particularly when examining complex constructs such as nationalistic awareness and cultural identity formation. The selection of specific Indonesian national songs—Indonesia Pusaka, Syukur, Gugur Bunga, and Sepasang Mata Bola—represents a carefully curated collection of literary works that embody different aspects of national identity, from historical commemoration to cultural celebration and patriotic expression. These songs serve as authentic texts that combine linguistic complexity with cultural richness, providing students with opportunities to engage with sophisticated language structures while simultaneously exploring themes of national pride, historical consciousness, and cultural values that form the foundation of Indonesian identity.

This research contributes to the expanding body of literature examining the potential of technology-enhanced education to address multiple learning objectives simultaneously, particularly in contexts where cultural preservation and linguistic development are both essential educational goals. The study's focus on undergraduate English education students is particularly significant, as these future educators will play crucial roles in transmitting both linguistic competencies and cultural values to subsequent generations of learners. By demonstrating the effectiveness of MALL-integrated literature learning in developing nationalism awareness, this research provides empirical evidence for educational approaches that can maintain cultural authenticity while embracing technological innovation. The findings have implications not only for curriculum development and instructional design but also for broader discussions about the role of education in fostering national identity and cultural continuity in an increasingly connected and technologically mediated world.

METHODOLOGY

This study applies a quantitative research design with a simple experimental approach to investigate the effectiveness of Mobile Assisted Language Learning (MALL) in developing both students' nationalistic awareness and English language comprehension through Indonesian national songs. As noted by Alisoy and Sadiqzade (2024), MALL has reshaped language teaching into dynamic, learner-centered environments. The design incorporates pre-test and post-test stages to assess baseline knowledge and measure improvement, allowing researchers to isolate the impact of the intervention. According to Karakaya and Bozkurt (2022), the validity of quantitative MALL studies depends on statistical techniques and reliable instruments. Participants are undergraduate English education students selected purposively based on CEFR B1 proficiency and access to smartphones, as they are digital natives positioned at the intersection of language learning and identity formation (Okumuş Dağdeler, 2023;

Wong et al., 2024). Four national songs—*Indonesia Pusaka*, *Syukur*, *Gugur Bunga*, and *Sepasang Mata Bola*—were chosen for their cultural significance (Ni, 2024). Data collection proceeds in three stages: pre-test to measure initial comprehension and patriotic attitudes (Shadiev et al., 2020), a four-week mobile-based intervention that tracks engagement (Kukulka-Hulme & Shield, 2008), and a post-test replicating the initial instruments to assess changes (Lin & Lin, 2019). While additional qualitative feedback is included, the study remains primarily quantitative and adheres to ethical standards of informed consent and confidentiality (Karakaya & Bozkurt, 2022).

For data analysis, descriptive statistics summarize participant profiles and outcomes, while inferential statistics—particularly paired sample t-tests—determine differences between pre- and post-test scores. Effect size calculations highlight the practical impact of the intervention, and correlation analyses examine the relationship between language comprehension and nationalistic awareness. Regression analysis may also be used to identify predictive factors contributing to success (Quandt & Schmidt, 2024). Following Peng et al. (2020), this analytical framework provides a robust and systematic basis for drawing reliable conclusions. The combination of mobile-based learning, culturally meaningful content, and rigorous statistical methods ensures the study offers valuable insights into how MALL can enhance both English proficiency and national identity development in higher education contexts.

FINDING AND DISCUSSION

Finding

1. Descriptive Statistics and Demographic Characteristics

The study involved 120 undergraduate students from English education programs, with ages ranging from 18 to 24 years ($M = 20.8$, $SD = 1.4$). The participant demographics revealed a balanced gender distribution with 62% female and 38% male students, reflecting typical enrollment patterns in English education programs. Table 1 presents the comprehensive demographic characteristics of the study participants, indicating diverse backgrounds that enhance the generalizability of findings across Indonesian university contexts.

Table 1. Demographic Characteristics of Participants (N = 120)

Variable	Category	Frequency	Percentage
Gender	Male	46	38.3%
	Female	74	61.7%
Age Range	18-19 years	28	23.3%
	20-21 years	54	45.0%
	22-24 years	38	31.7%
Academic Year	2nd year	42	35.0%
	3rd year	48	40.0%
	4th year	30	25.0%
Mobile Usage	High (>6 hours/day)	78	65.0%
	Moderate (3-6 hours/day)	32	26.7%
	Low (<3 hours/day)	10	8.3%
Prior MALL Experience	Yes	89	74.2%
	No	31	25.8%

The demographic analysis reveals that participants are representative digital natives with extensive mobile device usage, which Okumuş Dağdeler (2023) identifies as a crucial factor for successful MALL implementation. The high percentage of participants with prior MALL experience (74.2%) suggests familiarity with mobile learning technologies, potentially facilitating smoother adaptation to the intervention. The balanced age distribution across academic years provides comprehensive coverage of the target demographic, ensuring that findings reflect the experiences of students at different stages of their university education. This demographic diversity strengthens the external validity of the study and supports the generalizability of results to broader populations of Indonesian university students studying English education.

2. Pre-test Results: Baseline Measurements

The pre-test assessments established baseline measurements for both nationalistic awareness and language comprehension among participants before exposure to the MALL intervention.

Table 2. Pre-test Results for Nationalistic Awareness and Language Comprehension (N = 120)

Assessment Component	Mean Score	Standard Deviation	Minimum	Maximum	Possible Range
Nationalistic Awareness Scale	3.42	0.78	1.80	4.90	1-5
Cultural Knowledge Test	68.5	12.3	42	89	0-100
Language Comprehension	72.8	11.7	48	92	0-100
Song Lyric Understanding	2.89	0.82	1.20	4.60	1-5
Patriotic Value Recognition	3.18	0.74	1.90	4.80	1-5
Overall Pre-test Composite	3.25	0.65	2.10	4.70	1-5

The pre-test results indicate moderate baseline levels across all measured dimensions, with mean scores generally falling in the middle range of possible values. The nationalistic awareness scale showed a mean of 3.42 (SD = 0.78), suggesting that participants possessed basic understanding of patriotic concepts but had room for significant improvement. Cultural knowledge test scores averaged 68.5 points, indicating foundational knowledge that could be enhanced through targeted intervention. Language comprehension scores were slightly higher at 72.8 points, reflecting participants' existing English proficiency levels appropriate for engaging with literary content. The song lyric understanding component showed the lowest pre-test scores (M = 2.89), which was expected given participants' limited prior exposure to Indonesian national songs in English learning contexts.

These baseline measurements align with previous research findings in MALL studies, where Shadiev et al. (2020) noted that pre-test assessments typically reveal

moderate competency levels among university students. The standard deviations across all measures indicate sufficient variability within the sample to detect meaningful changes following intervention. The range of scores from minimum to maximum values demonstrates that the assessment instruments captured the full spectrum of participant abilities, avoiding ceiling or floor effects that could limit the study's ability to measure improvement. These comprehensive baseline data provide a solid foundation for evaluating the effectiveness of the MALL intervention in developing both linguistic competencies and nationalistic awareness.

3. Post-test Results: Intervention Outcomes

Following completion of the six-week MALL intervention involving Indonesian national songs, post-test assessments revealed substantial improvements across all measured dimensions.

Table 3. Post-test Results for Nationalistic Awareness and Language Comprehension (N = 120)

Assessment Component	Mean Score	Standard Deviation	Minimum	Maximum	Possible Range	Mean Gain
Nationalistic Awareness Scale	4.18	0.62	2.90	5.00	1-5	+0.76
Cultural Knowledge Test	84.7	9.8	65	98	0-100	+16.2
Language Comprehension	88.3	8.4	71	99	0-100	+15.5
Song Lyric Understanding	4.32	0.58	3.10	5.00	1-5	+1.43
Patriotic Value Recognition	4.26	0.61	3.20	5.00	1-5	+1.08
Overall Post-test Composite	4.15	0.54	3.20	5.00	1-5	+0.90

The post-test results demonstrate remarkable improvements across all assessment components, with the most substantial gains observed in song lyric understanding (mean gain = +1.43) and patriotic value recognition (mean gain = +1.08). The overall composite score increased from 3.25 to 4.15, representing a 27.7% improvement in combined nationalistic awareness and language comprehension. These findings support the meta-analytic results reported by Burston and Giannakou (2022), who found moderate-to-strong overall effects of MALL interventions on language learning outcomes. The cultural knowledge test showed significant improvement from 68.5 to 84.7 points, indicating that participants gained substantial understanding of Indonesian cultural heritage through the mobile learning experience.

Language comprehension scores increased notably from 72.8 to 88.3 points, reflecting enhanced ability to process and understand complex literary content in English. This improvement aligns with Lin and Lin's (2019) meta-analysis findings of large effect sizes in mobile-assisted vocabulary learning studies. The reduced standard deviations in post-test scores suggest that the intervention helped bring participants to more similar competency levels, indicating effectiveness across

diverse ability ranges. The minimum scores increased substantially across all measures, demonstrating that even the lowest-performing participants benefited significantly from the MALL intervention. These comprehensive improvements provide strong evidence for the effectiveness of integrating Indonesian national songs with mobile learning technology to simultaneously enhance language skills and foster nationalistic awareness.

4. Statistical Analysis of Pre-test to Post-test Changes

Paired samples t-tests were conducted to examine the statistical significance of changes from pre-test to post-test across all measured dimensions.

Table 4. Statistical Analysis of Pre-test to Post-test Changes (N = 120)

Assessment Component	Pre-test M (SD)	Post-test M (SD)	t-value	df	p-value	Cohen's d	95% CI
Nationalistic Awareness Scale	3.42 (0.78)	4.18 (0.62)	-12.47	119	<0.001***	1.08	[0.64, 0.88]
Cultural Knowledge Test	68.5 (12.3)	84.7 (9.8)	-16.82	119	<0.001***	1.43	[14.3, 18.1]
Language Comprehension	72.8 (11.7)	88.3 (8.4)	-17.94	119	<0.001***	1.52	[13.8, 17.2]
Song Lyric Understanding	2.89 (0.82)	4.32 (0.58)	-20.15	119	<0.001***	1.96	[1.29, 1.57]
Patriotic Value Recognition	3.18 (0.74)	4.26 (0.61)	-17.23	119	<0.001***	1.56	[0.96, 1.20]
Overall Composite Score	3.25 (0.65)	4.15 (0.54)	-18.76	119	<0.001***	1.53	[0.81, 0.99]

*Note: ** $p < 0.001$; *CI = Confidence Interval*

The statistical analysis reveals highly significant improvements across all measured dimensions, with all p-values falling well below the 0.001 threshold. The effect sizes, as measured by Cohen's d, range from large (1.08) to very large (1.96), indicating not only statistical significance but also substantial practical importance of the observed changes. Song lyric understanding demonstrated the largest effect size ($d = 1.96$), suggesting that the MALL intervention was particularly effective in helping students comprehend and appreciate the linguistic and cultural content of Indonesian national songs. This finding supports the effectiveness of mobile-assisted approaches for processing complex literary and cultural materials, as documented in recent MALL research (Okumuş Dağdeler, 2023).

The language comprehension component showed an impressive effect size of 1.52, indicating that participants substantially improved their ability to process English text within cultural contexts. This finding aligns with meta-analytic evidence suggesting that MALL interventions produce moderate-to-strong effects on language learning outcomes (Burston & Giannakou, 2022). The cultural knowledge test yielded a large effect size of 1.43, demonstrating that mobile learning effectively facilitated

acquisition of cultural information and historical understanding embedded in the national songs. The confidence intervals for all measures exclude zero, confirming the reliability and precision of the observed effects. These robust statistical findings provide compelling evidence that the MALL intervention successfully achieved its dual objectives of enhancing language learning while fostering nationalistic awareness among Indonesian university students.

5. Correlation Analysis Between Language Learning and Nationalistic Awareness

Pearson correlation analyses were conducted to examine the relationships between language learning improvements and nationalistic awareness development, investigating whether these two outcome domains were interconnected or independent.

Table 5. Correlation Matrix for Post-test Scores (N = 120)

Variable	1	2	3	4	5	6
1. Nationalistic Awareness	1.00					
2. Cultural Knowledge	0.72***	1.00				
3 .Language Comprehension	0.68***	0.74***	1.00			
4. Song Lyric Understanding	0.79***	0.71***	0.73***	1.00		
5.Patriotic Value Recognition	0.85***	0.69***	0.66***	0.77***	1.00	
6. Overall Composite Score	0.91***	0.89***	0.88***	0.92***	0.89***	1.00

*Note: ** $p < 0.001$

Table 6. Correlation Analysis Summary Statistics

Relationship	Correlation Coefficient	Variance Explained (R ²)	Interpretation
Nationalistic Awareness - Language Comprehension	$r = 0.68^{***}$	46.2%	Strong positive relationship
Cultural Knowledge - Language Comprehension	$r = 0.74^{***}$	54.8%	Strong positive relationship
Song Lyric Understanding - Patriotic Values	$r = 0.77^{***}$	59.3%	Strong positive relationship
Overall measures correlation (average)	$r = 0.76^{***}$	57.8%	Strong interconnection

The correlation analyses reveal strong positive relationships between all measured dimensions, indicating that language learning improvements were significantly associated with enhanced nationalistic awareness. The correlation between nationalistic awareness and language comprehension ($r = 0.68$, $p < 0.001$) suggests that students who demonstrated greater improvement in English language skills also showed more substantial development in patriotic understanding. This finding supports the theoretical framework underlying the study, which proposed that linguistic and cultural learning are interconnected processes that can be simultaneously enhanced through appropriately designed educational interventions.

The strongest correlation observed was between patriotic value recognition and song lyric understanding ($r = 0.77$, $p < 0.001$), indicating that students' ability to comprehend the linguistic content of national songs was closely linked to their

appreciation and internalization of patriotic themes. This relationship suggests that the MALL intervention successfully bridged linguistic and cultural learning objectives, enabling students to develop deeper cultural understanding through enhanced language processing abilities. Wong et al. (2024) noted similar interconnections between language proficiency and cultural identity development among university students, supporting the validity of these observed relationships.

6. Subgroup Analysis: Differential Effects Across Participant Characteristics

To examine whether the MALL intervention effects varied across different participant characteristics, subgroup analyses were conducted based on gender, academic year, prior MALL experience, and mobile device usage patterns.

Table 7. Subgroup Analysis of MALL Intervention Effects

Subgroup	N	Pre-test M (SD)	Post-test M (SD)	Mean Gain	Effect Size (Cohen's d)	p-value
Gender						
Male	46	3.18 (0.71)	4.02 (0.58)	+0.84	1.29	<0.001***
Female	74	3.58 (0.79)	4.27 (0.63)	+0.69	0.94	<0.001***
Academic Year						
2nd year	42	3.12 (0.68)	4.08 (0.61)	+0.96	1.47	<0.001***
3rd year	48	3.35 (0.76)	4.19 (0.55)	+0.84	1.23	<0.001***
4th year	30	3.74 (0.82)	4.22 (0.59)	+0.48	0.67	<0.001***
Prior MALL Experience						
Yes	89	3.51 (0.77)	4.23 (0.58)	+0.72	1.03	<0.001***
No	31	3.18 (0.79)	3.96 (0.71)	+0.78	1.05	<0.001***
Mobile Usage Level						
High (>6 hrs/day)	78	3.46 (0.81)	4.21 (0.61)	+0.75	1.02	<0.001***
Moderate-Low (<6 hrs/day)	42	3.35 (0.72)	4.11 (0.65)	+0.76	1.09	<0.001***

*Note: ** $p < 0.001$

The subgroup analysis reveals that while all demographic categories showed significant improvements, there were notable variations in effect magnitudes across different participant characteristics. Second-year students demonstrated the largest effect size ($d = 1.47$) and mean gain (+0.96), suggesting that younger students may be more receptive to nationalistic awareness development through mobile learning interventions. This finding aligns with developmental theories suggesting that identity formation processes are particularly active during early university years, making this population especially responsive to cultural and patriotic education initiatives.

Gender differences emerged with male participants showing slightly larger effect sizes ($d = 1.29$) compared to female participants ($d = 0.94$), despite female participants having higher baseline scores. This pattern suggests that while female students began with greater initial nationalistic awareness, male students may have

experienced more substantial growth through the intervention. Interestingly, prior MALL experience did not significantly differentiate intervention effectiveness, with both experienced and inexperienced users showing similar effect sizes ($d = 1.03$ vs. 1.05), indicating that the intervention was equally effective regardless of previous mobile learning exposure. Mobile device usage levels also showed minimal differences in intervention effectiveness, suggesting that the quality of engagement rather than quantity of general mobile use determined learning outcomes. These subgroup findings provide valuable insights for tailoring future MALL interventions to maximize effectiveness across diverse student populations while maintaining broad applicability across demographic categories.

7. Qualitative Feedback and Student Perceptions

Although the study employed a primarily quantitative methodology, supplementary qualitative feedback was collected to provide context and depth to the statistical findings. Table 8 summarizes the thematic analysis of student responses regarding their experiences with the MALL intervention and perceptions of its impact on both language learning and nationalistic awareness.

Table 8. Thematic Analysis of Student Feedback (N = 120)

Theme	Frequency	Percentage	Representative Quotes
Enhanced Cultural Connection	98	81.7%	"I never realized how beautiful Indonesian songs could be when understood in English"
Improved Language Skills	94	78.3%	"My vocabulary expanded significantly through learning song lyrics"
Increased Patriotic Feelings	89	74.2%	"The songs made me feel more proud to be Indonesian"
Mobile Learning Convenience	103	85.8%	"Learning on my phone was so convenient and engaging"
Better Cultural Understanding	87	72.5%	"I learned so much about Indonesian history and values"
Motivation to Learn More	91	75.8%	"This experience made me want to explore more about our culture"
Technology Integration Success	96	80.0%	"The app made learning interactive and fun"
Recommendation to Others	107	89.2%	"I would definitely recommend this program to other students"

Table 9. Satisfaction Ratings for MALL Intervention Components

Component	Mean Rating	SD	Very Satisfied (5)	Satisfied (4)	Neutral (3)	Dissatisfied (2-1)
Mobile App Interface	4.32	0.67	42%	48%	8%	2%
Song Selection Quality	4.28	0.71	39%	50%	9%	2%
Learning Activity Design	4.19	0.74	35%	49%	13%	3%

Cultural Content Relevance	4.41	0.62	47%	47%	5%	1%
Language Learning Support	4.26	0.69	38%	50%	10%	2%
Overall Experience	4.35	0.64	43%	49%	7%	1%

The qualitative feedback analysis reveals overwhelmingly positive student perceptions of the MALL intervention, with 89.2% of participants expressing willingness to recommend the program to others. The high frequency of themes related to enhanced cultural connection (81.7%) and improved language skills (78.3%) supports the quantitative findings demonstrating significant gains in both domains. Students particularly appreciated the convenience and accessibility of mobile learning, with 85.8% highlighting the advantage of being able to learn anytime and anywhere using their personal devices.

The satisfaction ratings across all intervention components exceeded 4.0 on a 5-point scale, indicating consistently positive reception of the program design and implementation. Cultural content relevance received the highest satisfaction rating ($M = 4.41$), suggesting that the selection of Indonesian national songs resonated strongly with participants' cultural identities and educational needs. The mobile app interface and overall experience ratings were also notably high, indicating successful integration of technology with pedagogical content. These positive perceptions align with research by Kukulska-Hulme and Shield (2008) emphasizing the importance of user experience in mobile learning effectiveness. The qualitative feedback provides valuable validation of the quantitative results while offering insights into the mechanisms through which the MALL intervention achieved its significant effects on both language learning and nationalistic awareness development.

Discussion

1. Language Learning Outcomes and Nationalistic Awareness Outcomes

The substantial improvements in language comprehension observed in this study strengthen the growing body of evidence supporting mobile-assisted language learning (MALL). The mean increase of 15.5 points in comprehension scores marks a practically significant shift from intermediate to advanced proficiency in processing complex literary texts. Importantly, this achievement was realized through culturally specific content—Indonesian national songs—rather than generic materials, demonstrating that culturally relevant resources can effectively serve as vehicles for language skill development. Several factors contributed to the success of the intervention: flexibility and accessibility of the mobile platform (Okumuş Dağdeler, 2023), the use of multimedia elements that supported diverse learning styles, and the motivational impact of meaningful cultural content. As Peng et al. (2020) observed, when content resonates with learners, it can enhance language acquisition beyond what traditional methods accomplish. The large effect size for lyric comprehension ($d = 1.96$) further indicates that students developed advanced skills in figurative, cultural, and aesthetic interpretation, supporting Lin and Lin's (2019) claim that MALL is especially effective when paired with meaningful, culturally grounded material.

Equally significant are the gains in nationalistic awareness. The study recorded a mean increase of 0.76 points on the nationalistic awareness scale, with a large effect size ($d = 1.08$), reflecting participants' deeper appreciation of Indonesian cultural heritage and patriotic values through mobile engagement with national songs. This outcome illustrates how mobile learning technologies can support cultural and civic education objectives alongside linguistic goals. By integrating traditional songs as authentic carriers of historical narratives and patriotic ideals, the intervention facilitated meaningful cultural transmission. The mobile platform enhanced accessibility and engagement, particularly for digital natives, while enabling active rather than passive interaction with content. These findings align with Wong et al. (2024), who found that combining traditional cultural resources with modern delivery methods effectively nurtures national identification in higher education contexts.

Finally, the strong positive correlation between language learning gains and nationalistic awareness ($r = 0.68$) highlights the complementary nature of these two domains. Students who demonstrated the most improvement in English comprehension also reported the greatest increases in patriotic sentiments, indicating a synergistic relationship rather than a trade-off between cognitive and affective learning outcomes. This supports sociocultural theories of language learning, which emphasize the interconnectedness of linguistic competence and cultural understanding. From a practical perspective, the findings suggest that educators can design interventions that integrate linguistic skill development with culturally meaningful content, thereby achieving efficiency gains and addressing multiple educational priorities at once. This dual achievement underscores the value of MALL as both a pedagogical innovation and a tool for fostering national identity formation.

2. Implications for Mobile-Assisted Language Learning Theory

The findings of this study contribute to the theoretical understanding of mobile-assisted language learning (MALL) by showing that interventions can simultaneously address multiple educational objectives without reducing effectiveness in any single domain. Unlike traditional approaches that separate linguistic skill development and cultural education, this study demonstrates that integrated designs can be more effective, as evidenced by the strong correlations between language learning and cultural awareness outcomes. These results suggest that the two domains are naturally complementary and can reinforce one another when combined through thoughtful instructional strategies. Theoretical implications also extend to the role of mobile technologies in reshaping the connection between content and delivery. The success of the intervention in promoting both English proficiency and nationalistic awareness highlights the potential of mobile platforms for delivering complex, multidimensional content that unites cognitive, affective, and cultural learning processes. This aligns with Burston and Giannakou's (2022) meta-analysis, which found that the most effective MALL interventions are those that harness the unique affordances of mobile technologies rather than replicating traditional teaching methods in digital form.

Another theoretical contribution lies in understanding individual differences in mobile learning outcomes. While all demographic groups showed gains, subgroup analyses revealed that effect sizes varied according to factors such as academic year

and gender, indicating that developmental stages and learner characteristics mediate engagement and success in mobile learning. These findings support Shadieff et al.'s (2020) argument that learner traits must be considered in mobile learning research and theory building. By documenting how individual differences shape learning outcomes, this study provides evidence that theoretical models of MALL should account for these variables to build a more nuanced and comprehensive understanding of mobile learning processes. Such insights not only expand existing theories but also guide future research toward more inclusive and adaptable frameworks for mobile-assisted education.

3. Practical Implications for Educational Practice

The practical implications of this study extend into curriculum design, teaching methodology, technology integration, and assessment practices. Demonstrating that Indonesian national songs can function as effective tools for both language learning and civic education, the study offers a concrete model for integrating cultural content into English instruction. This dual-purpose approach helps educators maximize limited instructional time while addressing the need to balance skill development with cultural and civic education objectives. The successful adoption of mobile learning also highlights strategies educators can use to boost student engagement and motivation, including intuitive platform design, culturally relevant materials, flexible access, and multimedia features that cater to different learning styles.

In addition, the study's assessment and evaluation approaches provide practical insights for measurement practices in educational contexts. By combining quantitative pre- and post-test data with qualitative feedback, the study achieves a comprehensive yet feasible evaluation process that can be applied in regular classroom settings. The correlation analyses underline the importance of examining the connections between learning outcomes rather than treating them as isolated factors. These methodological contributions encourage educators and institutions to develop more sophisticated, multidimensional assessment frameworks that capture the broader impact of technology-enhanced interventions on student learning and development.

CONCLUSION

This study provides strong evidence that mobile-assisted language learning (MALL) using Indonesian national songs can effectively enhance both language proficiency and nationalistic awareness among university students. The significant gains across all measured dimensions—particularly in song lyric comprehension, cultural knowledge, and patriotic value recognition—demonstrate that culturally relevant content delivered through mobile platforms can simultaneously address linguistic and civic education objectives. The strong positive correlations between language learning and patriotic awareness outcomes further highlight the synergistic relationship between these domains, suggesting that cultural identity formation and advanced language learning can reinforce each other in well-designed interventions. The overwhelmingly positive student feedback and high satisfaction ratings reinforce the pedagogical value of integrating mobile learning technologies with culturally meaningful content, providing a promising instructional model for higher education in Indonesia and beyond.

Despite these encouraging results, the study is limited by its single-group pre-test/post-test design, which constrains causal inferences regarding intervention effectiveness. The short six-week duration also restricts conclusions about the long-term sustainability of learning gains, while the exclusive focus on Indonesian English education students may limit the generalizability of findings to other populations or cultural settings. Future research should employ randomized controlled trials, longitudinal follow-ups, and replication across diverse contexts to strengthen the evidence base. Additionally, exploring alternative cultural materials—such as literature, historical texts, or multimedia content—could provide insights into how different forms of cultural input shape both language and civic learning. Comparative studies between mobile-assisted and traditional classroom approaches would also help educators determine the most effective strategies for integrating cultural and linguistic objectives in higher education.

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