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[Abdul Gafur Marzuki](#) \*

Posted Date: 27 April 2026

doi: 10.20944/preprints202604.1912.v1

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Article

# Cultural and Local Wisdom Integration in Technology-Based English Language Teaching in Indonesia

Abdul Gafur Marzuki

UIN Datokarama Palu; gbudiperwira@gmail.com

## Abstract

The rapid expansion of digital technology in English language teaching has created new opportunities for learning while raising concerns about the marginalization of local cultural values. This study investigated the integration of cultural and local wisdom in technology based English language teaching in Indonesia, focusing on the extent of implementation, the challenges encountered by teachers, and possible strategies for effective integration. A qualitative approach was employed, involving semi structured interviews, classroom observations, and document analysis with English teachers across secondary and tertiary levels. The findings indicated that although teachers acknowledged the importance of incorporating local wisdom, its integration remained partial and largely dependent on individual initiative. Cultural elements were often used as supplementary content rather than being systematically embedded in digital instructional design. Several challenges were identified, including the dominance of globally oriented digital materials, limited access to culturally relevant resources, varying levels of digital competence, and institutional constraints. Despite these limitations, some teachers demonstrated innovative practices by integrating local narratives and project based activities into digital platforms, which enhanced student engagement and contextual understanding. The study concluded that meaningful integration of local wisdom in technology based ELT required more structured pedagogical models, institutional support, and professional development. These findings contributed to the growing discourse on culturally responsive digital pedagogy and highlighted the importance of aligning technological innovation with local cultural contexts in language education.

**Keywords:** cultural integration; English language teaching; local wisdom; technology-based learning

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## Introduction

The rapid advancement of digital technology has fundamentally reshaped English Language Teaching (ELT) across the globe, positioning technology-based instruction as a central component of 21<sup>st</sup>-century education. In many contexts, digital tools such as learning management systems, artificial intelligence applications, and interactive platforms have enhanced access, engagement, and personalized learning experiences (Muthmainnah, Marzuki et al., 2024; Santiana et al., 2024). However, alongside these global developments, concerns have emerged regarding the diminishing role of local identity and cultural relevance in language education. Scholars argue that the dominance of globally oriented content often marginalizes local knowledge systems, potentially weakening learners' cultural awareness and identity formation (Kohnke & Moorhouse, 2020; Richards, 2021). This tension between global competence and local rootedness has become a pressing issue, particularly in multilingual and multicultural societies.

In the Indonesian context, this issue is even more pronounced due to the country's rich cultural diversity and strong emphasis on local wisdom as part of national identity. The integration of local cultural values into education has been promoted through various national policies, including the Merdeka Belajar framework, which encourages contextual and culturally responsive learning.

Despite this policy direction, the implementation of technology-based ELT often remains detached from local cultural contexts, relying heavily on imported materials and standardized digital content (Suryani et al., 2022; Widodo, 2023; Muthmainnah, Cardoso et al., 2024; Muthmainnah et al., 2025). As a result, students may develop linguistic competence without a corresponding appreciation of their own cultural heritage, creating a disconnect between language learning and identity development.

At the global level, recent studies have highlighted the importance of culturally responsive pedagogy in digital learning environments. Integrating culture into technology-based instruction is not only a pedagogical choice but also a necessity to ensure inclusivity and relevance in diverse classrooms (Gay, 2020; Hampel & Stickler, 2022; Santiana, Hikmatullah, 2024; Syafryadin et al., 2024). However, much of the existing research has focused on general cultural integration without adequately addressing the role of local wisdom as a distinct and context-specific construct. In Indonesia, local wisdom encompasses values, traditions, and community practices that are deeply embedded in everyday life, yet these elements remain underrepresented in digital ELT practices. This indicates a critical gap between theoretical discussions on culturally responsive teaching and its practical application in technology-mediated language learning.

Furthermore, previous studies on technology integration in ELT have predominantly emphasized technical effectiveness, such as improved language proficiency, learner engagement, and digital literacy (Chapelle & Sauro, 2021; Lai & Gu, 2023; Santiana & Marzuki, 2024; Marzuki, Huriyah, 2026). While these contributions are valuable, they tend to overlook the socio-cultural dimensions of learning, particularly how technology can serve as a medium for preserving and promoting local culture. Research that explicitly examines the intersection of technology, language learning, and local wisdom remains limited, especially in the Indonesian context. This gap suggests the need for a more holistic approach that not only leverages technology for linguistic outcomes but also integrates cultural values to support meaningful and contextually grounded learning experiences.

The novelty of this study lies in its attempt to conceptualize and operationalize the integration of cultural and local wisdom within technology-based ELT in Indonesia. Unlike prior research that treats culture as a supplementary component, this study positions local wisdom as a central element in the design and implementation of digital language learning. By doing so, it offers a new perspective that bridges global technological trends with local educational needs. This approach is particularly relevant in the current era, where the rapid digitalization of education risks homogenizing learning content and undermining cultural diversity. Therefore, this research is timely and essential for developing pedagogical models that are both technologically advanced and culturally grounded.

The significance of this study extends beyond academic discourse, as it has potential implications for educational policy, curriculum development, and classroom practice. By demonstrating how local wisdom can be effectively integrated into technology-based ELT, this research can inform policymakers in designing more inclusive and culturally responsive educational frameworks. It can also guide educators in creating learning experiences that foster both linguistic competence and cultural awareness among students. Ultimately, this study seeks to address the following research problems: the extent to which cultural and local wisdom are currently integrated into technology-based English language teaching in Indonesia, the challenges faced by educators in implementing such integration, and the development of an effective model for embedding local wisdom within digital ELT practices.

## Literature Review

### 1. *Technology Based English Language Teaching in Contemporary Contexts*

The integration of digital technology into English Language Teaching (ELT) has expanded significantly in recent years, reshaping both instructional practices and learner experiences. Technology enhanced environments such as learning management systems, mobile applications, and

artificial intelligence tools have been shown to support learner autonomy, interaction, and individualized feedback (Chapelle & Sauro, 2021; Lai & Gu, 2023; Muthmainnah, ur Rehman, 2024; Marzuki et al., 2026). The rapid shift toward online and blended learning following the global pandemic has further accelerated this transformation, making digital platforms central to language education across contexts (Kohnke & Moorhouse, 2020). However, while technology offers clear pedagogical benefits, scholars have raised concerns that its implementation often emphasizes efficiency and linguistic outcomes without sufficient attention to contextual and cultural relevance (Hampel & Stickler, 2022; Marzuki, 2024; Muthmainnah, Darmawati et al., 2024). This indicates the need for a more balanced approach that situates technology within broader educational and sociocultural considerations.

## 2. Cultural Integration in Language Learning

Culture has long been recognized as inseparable from language learning, influencing how meaning is constructed and communicated. Contemporary approaches to ELT increasingly emphasize culturally responsive teaching, which aligns instructional practices with learners' cultural backgrounds and lived experiences (Gay, 2020). Within digital learning environments, however, integrating culture becomes more complex due to the widespread use of globally produced materials that may not reflect local realities (Richards, 2001). Recent scholarship suggests that meaningful cultural integration requires moving beyond superficial representations toward deeper engagement with learners' identities and sociocultural contexts (Hampel & Stickler, 2022). In this sense, culture is not an additional component of language instruction but a foundational element that shapes the relevance and effectiveness of learning.

## 3. Local Wisdom in the Indonesian Educational Context

In Indonesia, local wisdom plays a crucial role in shaping educational values and practices. It encompasses indigenous knowledge, traditions, and moral principles that are embedded in community life and transmitted across generations. National education policies increasingly encourage the integration of local wisdom into classroom instruction to strengthen character education and cultural identity. Empirical studies indicate that incorporating local cultural elements into ELT can enhance student engagement and contextual understanding, making learning more meaningful and relatable (Putra et al., 2021; Sari & Santosa, 2022; Kuliahana et al., 2024; Kuliahana, Marzuki, & Rustam, 2024; Kuliahana & Marzuki, 2024). Despite these benefits, the integration of local wisdom into technology-based learning remains limited. Many digital teaching resources continue to rely on globally oriented content, which may not resonate with students' cultural backgrounds. This gap suggests that the potential of local wisdom as a pedagogical resource has not yet been fully realized in digital ELT contexts.

## 4. Bridging Technology, Culture, and Local Wisdom

Although the literature has addressed technology integration and cultural responsiveness separately, studies that examine their intersection with local wisdom are still limited. Existing research tends to focus on technological effectiveness, such as improving language proficiency and learner engagement, while discussions of culture often remain general and theoretical (Lai & Gu, 2023; Gay, 2020). There is a lack of empirical work that explores how local wisdom can be systematically embedded within technology-based ELT practices, particularly in Indonesia. In addition, challenges faced by teachers in designing culturally grounded digital instruction have not been sufficiently documented. This gap highlights the need for research that not only conceptualizes the integration of local wisdom but also provides practical models for implementation. Addressing this issue is essential to ensure that technology supports not only language development but also cultural preservation and meaningful learning experiences.

## Method

This study adopted a qualitative research design to explore how cultural values and local wisdom were integrated into technology based English language teaching in Indonesia, as well as to understand the challenges and pedagogical practices associated with such integration. A qualitative approach was selected because it allowed for an in depth examination of participants' experiences, beliefs, and instructional practices within their natural contexts. The study was grounded in an interpretive paradigm, which viewed teaching and learning as socially constructed processes shaped by cultural and contextual factors (Creswell & Poth, 2021; Santiana & Marzuki, 2022; Muthmainnah et al., 2024). Through this approach, the research sought to generate rich, contextualized insights into how teachers navigated the intersection of technology, language instruction, and local cultural values.

### *Research Context*

The research was conducted in several secondary schools and higher education institutions in Indonesia where technology based English instruction had been implemented through platforms such as learning management systems, video conferencing tools, and digital learning applications (Santiana et al., 2021; Muthmainnah et al., 2022; Marzuki, 2025; Marzuki et al., 2025). These institutions were selected because they represented diverse educational settings, including urban and semi urban contexts, and had actively incorporated digital tools into their teaching practices following the shift toward blended and online learning. The Indonesian context was particularly relevant due to its cultural diversity and ongoing policy emphasis on integrating local wisdom into education. The study focused on how these contextual factors influenced teachers' efforts to incorporate cultural elements into digital English language instruction.

### *Participants*

The participants of the study consisted of English language teachers who had experience in using technology for instructional purposes. A purposive sampling technique was employed to select participants who met specific criteria, including at least two years of teaching experience and active use of digital platforms in their classrooms. In total, twelve teachers participated in the study, representing both secondary and tertiary levels of education. Their teaching experiences varied, providing a range of perspectives on the integration of local wisdom in technology based ELT. The selection of participants aimed to capture diverse practices and challenges, allowing for a more comprehensive understanding of the phenomenon under investigation (Etikan & Bala, 2017; Marzuki et al., 2018; Marzuki, 2019a; Santiana et al., 2021; Marzuki, & Kuliahana, 2021; Marzuki & Santiana, 2022).

### *Instruments*

Data were collected using semi structured interviews, classroom observations, and document analysis. Semi structured interviews were conducted to explore teachers' perceptions, experiences, and strategies in integrating cultural and local wisdom into their digital teaching practices. This format allowed flexibility in probing deeper into participants' responses while maintaining a consistent focus across interviews (Kallio et al., 2016; Iftitah et al., 2020; Kuliahana & Marzuki, 2020; Jannah et al., 2025). Classroom observations were carried out to examine how cultural elements were enacted in actual teaching practices within technology mediated environments. In addition, teaching materials, lesson plans, and digital content used by the participants were analyzed to identify the presence and representation of local wisdom. The combination of these instruments enabled data triangulation, enhancing the credibility and richness of the findings (Nowell et al., 2017; Amalia & Marzuki, 2023; Amalia et al., 2024; Anita et al., 2024; Apriani et al., 2025).

### *Data Analysis*

The data were analyzed using thematic analysis, following a systematic process of coding, categorizing, and interpreting patterns across the dataset. The analysis began with data familiarization, in which interview transcripts, observation notes, and documents were carefully reviewed multiple times. Initial codes were then generated to capture meaningful units of data related to cultural integration, use of technology, and instructional challenges. These codes were subsequently organized into broader themes that reflected recurring patterns and relationships. The process was iterative, involving constant comparison and refinement of themes to ensure coherence and depth of interpretation. To enhance the trustworthiness of the analysis, strategies such as member checking and peer debriefing were employed (Marzuki, 2019b; Marzuki, 2019c; Braun & Clarke, 2021; Erizar et al., 2026). Through this analytical process, the study provided a nuanced understanding of how local wisdom was integrated into technology based English language teaching and the factors that shaped its implementation.

## Results

The analysis revealed that the integration of cultural values and local wisdom into technology based English language teaching was present but uneven across participants. Most teachers demonstrated an awareness of the importance of incorporating local cultural elements into their instruction, yet the extent of implementation varied depending on their digital competence, institutional support, and access to contextualized teaching materials. Interview data indicated that teachers often relied on digital platforms primarily for content delivery and communication, while cultural integration tended to occur in supplementary activities rather than being embedded in the core instructional design. This pattern suggested that technology was frequently used as a tool for efficiency rather than as a medium for culturally grounded pedagogy.

Classroom observations provided further evidence of this tendency. In several cases, teachers used locally relevant examples, such as traditional practices or community events, to explain vocabulary or reading passages. However, these integrations were often spontaneous rather than systematically planned. For instance, one teacher incorporated local folktales into a reading activity delivered through a learning management system, but the digital platform itself did not support interactive cultural exploration. This indicated a gap between pedagogical intention and technological affordances. The findings suggested that while teachers valued cultural relevance, they lacked structured models for integrating local wisdom into digital environments in a consistent and meaningful way.

To illustrate the extent of integration, the following table summarizes the frequency of cultural and local wisdom elements observed in teaching practices.

**Table 1.** Frequency of Cultural Integration in Technology-Based ELT.

Category	Frequency	Description
Explicit integration	3	Culture embedded in lesson objectives and activities
Partial integration	6	Culture used as examples or supplementary materials
Minimal or no integration	3	Focus on language skills without cultural elements

The data indicated that partial integration was the most common practice, reflecting a transitional stage in which teachers were beginning to incorporate cultural elements but had not yet fully aligned them with digital pedagogy. This finding aligned with interview responses in which participants expressed uncertainty about how to systematically integrate local wisdom into technology-based instruction.

Further analysis of teaching materials revealed that most digital resources used by participants were derived from global sources, including online textbooks, video content, and language learning applications. These materials often presented cultural content from Western contexts, with limited

adaptation to Indonesian settings. As a result, teachers needed to modify or supplement these resources to make them culturally relevant. The following table presents the types of digital materials used and their level of cultural adaptation.

**Table 2.** Types of Digital Materials and Cultural Adaptation.

Type of Material	Usage Frequency	Level of Cultural Adaptation
Online textbooks	High	Low
Video based content	High	Moderate
Teacher created media	Moderate	High
Interactive platforms	Moderate	Low

The table shows that teacher-created materials had the highest level of cultural adaptation, indicating that teachers played a crucial role in bridging the gap between global digital content and local cultural contexts. However, the development of such materials required additional time, effort, and digital literacy, which not all participants possessed equally.

Another key finding concerned the challenges faced by teachers in integrating local wisdom into technology-based ELT. Participants consistently highlighted three main challenges: limited access to culturally relevant digital resources, insufficient training on culturally responsive digital pedagogy, and constraints related to time and curriculum demands. These challenges were interconnected, as the lack of institutional support often led teachers to rely on readily available global materials. Consequently, cultural integration became an optional rather than integral component of instruction. The findings suggested that systemic factors played a significant role in shaping teachers' practices.

Despite these challenges, several participants demonstrated innovative strategies for integrating local wisdom into digital learning environments. For example, some teachers designed project-based tasks that required students to explore local traditions and present their findings through digital platforms. Others used video recordings of local cultural practices as authentic learning materials. These practices indicated that meaningful integration was possible when teachers adopted a creative and reflective approach to instructional design. Importantly, such practices also enhanced student engagement, as learners were able to connect language learning with their own cultural experiences.

The analysis also revealed that students responded positively to culturally integrated digital instruction. According to teachers' observations, students showed increased participation and motivation when learning materials reflected familiar cultural contexts. This was particularly evident in speaking and writing activities, where students were encouraged to express ideas related to their local environment. The findings suggested that integrating local wisdom not only supported cultural awareness but also facilitated language development by providing meaningful and relatable content.

Overall, the findings highlighted a dynamic yet incomplete process of integrating culture and local wisdom into technology-based ELT in Indonesia. While teachers demonstrated awareness and initial efforts, the integration remained largely partial and dependent on individual initiative. The analysis underscored the need for more structured pedagogical models, institutional support, and culturally relevant digital resources to ensure that technology serves as a medium for both language learning and cultural preservation.

## Discussion

The findings of this study demonstrated that the integration of cultural values and local wisdom in technology-based English language teaching was present but remained largely partial and inconsistent. This result aligned with the initial objective of the study, which sought to examine the extent to which such integration had been implemented in Indonesian ELT contexts. While teachers expressed a clear awareness of the importance of cultural relevance, their practices indicated that technology was still primarily used to facilitate content delivery rather than to support culturally grounded pedagogy. This tendency reflected broader patterns identified in previous studies, where digital tools were often employed to enhance efficiency and engagement without fully addressing contextual and cultural dimensions of learning (Chapelle & Sauro, 2021; Hampel & Stickler, 2022;

Erizar et al., 2024). The findings therefore suggested that the pedagogical potential of technology to mediate cultural learning had not yet been fully realized.

In relation to existing literature, the study confirmed that culturally responsive teaching remained a significant yet underdeveloped component in digital ELT environments. As argued by Gay (2020), effective teaching requires the alignment of instructional practices with learners' cultural backgrounds. However, the present findings indicated that such alignment was not systematically embedded in technology-based instruction. Instead, cultural elements were often introduced in an incidental manner, depending on individual teacher initiative. This observation was consistent with earlier research highlighting that teachers frequently lacked structured guidance on how to integrate culture into digital learning environments (Hampel & Albana et al., 2020; Alek, Marzuki, Farkhan, & Deni, 2020; Stickler, 2022). At the same time, the findings extended previous work by demonstrating that the challenge was not only pedagogical but also technological, as many digital platforms did not readily support culturally contextualized content.

Another important aspect of the findings concerned the dominance of globally produced digital materials, which limited opportunities for meaningful cultural integration. Most teachers relied on online textbooks and multimedia resources that reflected Western contexts, requiring them to adapt or supplement these materials to make them relevant for Indonesian learners. This result echoed the concerns raised by Richards (2001), who emphasized the importance of contextualizing language teaching materials to ensure their relevance and effectiveness. It also supported more recent findings that highlighted the imbalance between global content and local needs in technology enhanced learning (Alek et al., 2020; Alek et al., 2022; Lai & Gu, 2023). The reliance on global resources suggested that cultural integration was constrained not only by teacher practices but also by the availability of appropriate materials.

The study also identified several factors that influenced the extent of cultural and local wisdom integration, including teachers' digital competence, institutional support, and time constraints. Teachers who demonstrated higher levels of digital literacy were more likely to create their own culturally relevant materials and design meaningful learning activities. Conversely, those with limited technological skills tended to depend on existing resources with minimal adaptation. Institutional factors, such as access to training and curriculum flexibility, further shaped these practices. These findings were in line with previous research indicating that successful technology integration required not only individual competence but also supportive organizational conditions (Kohnke & Moorhouse, 2020). In addition, time constraints emerged as a practical limitation, as teachers often prioritized completing curricular objectives over developing culturally rich materials.

Despite these challenges, the study revealed that meaningful integration of local wisdom was achievable when teachers adopted creative and reflective approaches. Practices such as project based learning, the use of local narratives, and student centered digital tasks demonstrated that technology could serve as a medium for both language development and cultural exploration. These findings contributed to the theoretical understanding of culturally responsive digital pedagogy by illustrating how local wisdom could be operationalized within technology based ELT. At a practical level, the study suggested that teachers could move beyond surface level cultural references by designing activities that actively engaged students with their own cultural contexts. This insight reinforced the view that technology should not be seen as culturally neutral but as a tool that could be shaped to reflect local values and identities.

Nevertheless, this study had several limitations that should be acknowledged. The relatively small number of participants and the focus on specific educational contexts limited the generalizability of the findings. In addition, the study relied primarily on teachers' perspectives, which may not fully capture students' experiences of culturally integrated digital learning. Future research could address these limitations by involving a larger and more diverse sample, as well as incorporating student voices and longitudinal data. Further studies could also explore the development of specific instructional models or digital platforms designed to support the integration of local wisdom in ELT. Overall, this study contributed to a deeper understanding of the intersection

between technology, culture, and language education, highlighting the need for more intentional and context sensitive approaches in the design and implementation of technology based English language teaching.

## Conclusions

This study examined the extent to which cultural values and local wisdom were integrated into technology based English language teaching in Indonesia, alongside the challenges faced by educators and the possibilities for more effective implementation. The findings showed that integration had occurred but remained partial and inconsistent, with cultural elements often positioned as supplementary rather than central to instructional design. Teachers demonstrated awareness of the importance of cultural relevance, yet their practices were shaped by practical constraints such as reliance on globally oriented digital materials, limited access to culturally responsive resources, and varying levels of digital competence. As a result, technology was more frequently used to support efficiency and language delivery than to facilitate culturally grounded learning. These conditions indicated that the integration of local wisdom had not yet been systematically embedded within technology mediated ELT practices.

At the same time, the study identified promising practices that illustrated the potential for meaningful integration when teachers adopted reflective and creative approaches. The use of local narratives, project based learning, and culturally contextualized digital tasks showed that technology could serve as a medium for both language development and cultural engagement. These findings suggested that effective integration required not only individual teacher initiative but also stronger institutional support, targeted professional development, and the availability of culturally relevant digital materials. Overall, this study contributed to a deeper understanding of the relationship between technology, language teaching, and local culture, emphasizing the need for more intentional and context sensitive pedagogical frameworks that position local wisdom as an integral component of digital English language education in Indonesia.

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