



Developing Digital Storytelling Materials Rooted in Local Wisdom for English Language Learning

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Article Info	Abstract
Received: 2026-04-19 Revised: 2026-05-01 Accepted: 2026-06-01 Keywords: <i>Digital storytelling, English language learning, Merdeka Curriculum, sociocultural, Tolaki local wisdom</i> DOI: 10.24256/ideas.v14i1.8037 Corresponding Author: Litha Nesidekawati Dakka lithand@usn.ac.id English Education Department, Universitas Sembilanbelas November Kolaka, Kolaka, Indonesia	<i>This study looked at the divide between English language materials and the local cultural context in Southeast Sulawesi. It focused on creating digital storytelling materials based on Tolaki local wisdom using the ADDIE approach, which includes Analysis, Design, Development, Implementation, and Evaluation. This research and development project involved 30 tenth-grade students at SMA Negeri 1 Tirawuta, using a quasi-experimental design. Quantitative data came from pre-tests and post-tests aligned with CEFR A2-B1 standards. Qualitative data were collected through interviews, observations, and questionnaires. The results showed a significant improvement in English language skills, with a t-value of 24.83, df of 29, and a p-value of less than 0.001. Sixty percent of students achieved A2 or higher, up from 33.3%. Thirty percent reached B1, increasing from 10%. A strong positive correlation, $r=0.82$ and $p<0.01$, existed between cultural reflection and language skills. This result confirmed that including Tolaki values, such as mepokoaso, mendulu, and kosehe, improved language accuracy and fluency. Student engagement increased, showing a mean difference of 2.5 for local wisdom, while intrinsic motivation rose from 35% to 67%, fueled by pride in their cultural heritage. Validation by cultural experts and teachers ensured authenticity, scoring 4.8 out of 5, and relevance to the curriculum, scoring 4.6 out of 5. The final products included modules, teacher guides, and multimedia elements that supported inclusive language learning and cultural preservation, creating a model that can be replicated in Indonesia's multicultural context.</i>

1. Introduction

In the era of globalization, the integration of technology in education has become crucial for improving the quality of language learning, especially foreign languages such as English (Iqbal et al., 2021). Digital storytelling, which combines visual, auditory, and narrative elements, has been proven to improve students' reading comprehension and conceptual understanding (Hidayat et al., 2024).

However, most existing digital storytelling materials are dominated by global cultural narratives, such as Western stories or universal contexts, which often overlook local expertise and cultural diversity (Fu, 2024). This mismatch creates a gap between students' real-life experiences and the substance of language teaching, especially in regions with rich local cultures, such as Southeast Sulawesi in Indonesia. The Tolaki community in this region reflects cultural characteristics such as “mepokoaso” (cooperation), ‘mendulu’ (consensus-based decision-making), and “kosehe” (politeness), which are important for social cohesion but are at risk of being lost in the formal education system (Awad, 2016).

This study fills this gap by using a digital storytelling framework based on Tolaki local wisdom to create culturally relevant teaching resources. In line with the Indonesian Merdeka Curriculum and targeting A2-B1 proficiency levels on the Common European Framework of Reference (CEFR), this study aims to strengthen linguistic competence and cultural identity. To understand the importance of these values, the next section explains the Tolaki cultural principles of mepokoaso, mendulu, and kosehe in an educational context. These values not only influence social unity but also form the basis for contextualizing language learning in the Tolaki community.

Tolaki cultural principles such as “mepokoaso” (cooperation) and “mendulu” (decision-making based on consensus) provide children in Southeast Sulawesi with a familiar social environment and moral teachings (Rispan & Sudrajat, 2019). However, formal educational institutions often overlook these values, leading students to view foreign language learning as separate from their cultural identity (Nguyen & Hamid, 2017). Local wisdom can be integrated into digital storytelling to bridge the gap between language proficiency and cultural understanding (Kisno et al., 2022).

For example, traditional Tolaki stories adapted into multimedia formats can help students understand basic narrative structures (CEFR A2-B1) while building emotional connections with culturally relevant content. This approach aligns with sociocultural theory, which emphasizes the importance of context in learning (Vygotsky, 1978). By integrating these values into digital storytelling, this research aims to achieve two benefits: enhancing language learning while preserving Tolaki traditions as a teaching tool.

A fundamental problem in English language teaching in Indonesia is the mismatch between curriculum content and the cultural environment of students, especially in areas with strong local identities, such as Southeast Sulawesi (Khatima et al., 2025). Many teachers use textbooks and internet resources centered on Western culture, making it difficult for students to apply abstract language principles in their daily lives (Hasan & Akhand, 2013).

To address this, this study develops digital storytelling resources that combine Tolaki local wisdom with technology. Using the ADDIE process (Analysis, Design, Development, Implementation, and Evaluation), this study will produce valid and useful learning products (Kawete et al., 2022). The analysis phase will identify student needs and the potential for cultural integration, while the design phase will create a narrative that combines Tolaki values with curriculum objectives. The development phase will include the creation of animated films, audio narratives, and interactive features to support multimodal learning.

The novelty of this research comes from the combination of three important elements: teaching technology, local cultural context, and a structured ADDIE-based method. This study focuses on content localization, unlike earlier research that only looked at the language benefits of digital storytelling (Radaideh et al., 2020). By incorporating Tolaki folk tales like Anawanguluri and Oheo, O Nggabo, Konggaha, Sangia Nibandera, and Haluoleo, this material supports educational goals and helps preserve culture.

This supports the Merdeka Curriculum, which highlights contextual learning and building national identity. The research and development approach makes sure that the final product is validated and refined based on feedback from students and teachers (Afriani, 2025). It is anticipated that there will be a noticeable boost in student motivation and learning results, along with a better understanding of local cultural values. The research findings will include ready-to-use digital storytelling tools, teacher guides, and scientific articles, which will act as references for educators in similar areas.

This method aims to ensure that digital storytelling products are valid and useful. It follows structured ADDIE stages. In the analysis stage, interviews with teachers and students will identify learning needs and opportunities to use local wisdom. During the design phase, researchers will develop storyboards and choose Tolaki stories with significant educational value, such as the narratives of Anawanguluri and Oheo (helping nature). The development phase will involve using multimedia software to create animated videos and audio narratives in English. Implementation will include a classroom pilot with 30 tenth-grade students.

Afterward, the team will collect quantitative data from pre-tests and post-tests, as well as qualitative data through interviews and observations. A paired t-test will measure improvements in language skills, while thematic analysis will look at changes in students' cultural views. The feedback from the pilot will help improve the product before wider rollout. Beyond the development phase, this research aims to make a larger impact on educational practices and cultural preservation. By integrating Tolaki wisdom into digital storytelling, the research supports better language teaching methods and the revival of local cultural heritage.

The long-term effects of this research include improving the quality of English language teaching and preserving Tolaki cultural heritage. By offering relevant resources, this research helps develop inclusive and flexible language teaching strategies. The digital storytelling products aim to be used in other regions with their own local wisdom, which will enrich discussions on multicultural education in Indonesia (Kisno et al., 2022). The researchers also plan to create teacher guides to assist with classroom implementation. In conclusion, this research provides practical solutions and strengthens education policies rooted in culture, making language learning a way to build global skills and maintain the continuity of local cultures (Prastiwi, 2013).

A major weakness in previous research is the lack of proof that educational products really improve learning outcomes (Susanti et al., 2021). This study tries to fix this by using both formative and summative evaluations during the implementation phase. We will collect quantitative data from pre-tests and post-tests to measure important progress in students' language skills. At the same time, qualitative data from interviews and observations will give us insight into changes in attitudes and motivation.

Cultural representatives from the Tolaki community will validate the work to confirm its cultural relevance. Teachers and students will evaluate the final product to collect practical feedback before it's completed. This approach ensures that digital storytelling resources are not just based on theory but also effective in real-world situations.

Integrating Tolaki local wisdom into digital storytelling offers a new way to improve English language education in Southeast Sulawesi. This study uses the ADDIE research and development method to create valid, practical, and effective learning resources. These resources aim to boost student motivation and learning outcomes. The key contributions of this research include applying contextual teaching strategies, preserving local culture, and reinforcing national identity. The findings will inform policy recommendations for adding cultural elements to the education curriculum and will also serve as a model for inclusive education practices in Indonesia. By using the suggested references, this research aims to set a standard for culturally responsive teaching.

2. Method

This study follows a Research and Development (R&D) method based on the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). It aims to create and validate learning resources for digital storytelling that reflect cultural context for teaching English (Kawete et al., 2022). The research started with the Analysis stage, which involved finding gaps in current materials through literature reviews, talks with educators and learners, and mapping Tolaki cultural values for integration.

This stage makes sure that the materials developed align with the Merdeka Curriculum and CEFR A2–B1 proficiency standards. During the Design stage, the team creates a storyboard and chooses multimedia tools, like animated videos and audio narratives, to develop scenarios that are culturally relevant. The design emphasizes clear language and visual storytelling to improve learners' understanding and engagement.

In the Implementation stage, the material was tested in a classroom setting with 30 tenth-grade students using a quasi-experimental design. Data collection methods included pre-tests and post-tests to evaluate language skill development. Student feedback was gathered through questionnaires, and classroom observations were conducted to measure student engagement.

The evaluation stage focused on quantitative data analysis using paired-sample t-tests. This helps identify statistically significant improvements in learning outcomes. We also collected qualitative data from interviews with five students, two English teachers, and two Tolaki cultural experts. This data was analyzed thematically to explore changes in cultural appreciation and learning motivation.

The input from these stakeholders was crucial in improving the material for broader use. Working together with educators and cultural experts, along with ongoing improvements, increased the reliability of this research. The final results consist of a validated digital storytelling module, multimedia elements, teacher guides, and policy suggestions for incorporating local knowledge into technology-based language learning.

3. Result

This study applied the Research and Development (R&D) methodology with the ADDIE model, which includes Analysis, Design, Development, Implementation, and Evaluation. The goal was to create and assess digital storytelling learning resources focused on Tolaki culture for English language education. The research involved 30 tenth-grade students at SMA Negeri 1 Tirawuta and utilized a quasi-experimental design along with various data collection tools. Quantitative data were gathered from pre-tests and post-tests that matched the CEFR A2 and B1 standards.

Qualitative data came from classroom observations, teacher interviews, and student surveys. The English Proficiency Test measured four areas: reading comprehension, vocabulary, translation, and cultural reflection. Additionally, an Expert Validation Sheet collected feedback from two English teachers and two Tolaki cultural experts on aspects

like curriculum relevance, cultural fit, language use, student involvement, and practicality. This mix of methods improves the trustworthiness and consistency of the research findings.

A. English Language Proficiency Gains

The results of the pre-test and post-test using the English Proficiency Test showed a significant improvement after the implementation of Tolaki culture-based digital storytelling learning resources. This approach was tested on 30 students in grade X at SMA Negeri 1 Tirawuta. The data presented in Table 1 shows a significant improvement in their language skills.

Table 1. Pre-test and Post-test Performance Comparison by Assessment Dimension (n=30)

Assessment Dimension	Pre-test (Mean, SD)	Post-test (Mean, SD)	Mean Difference	t-value	p-value
Reading Comprehension	12.4 (2.8)	17.2 (2.1)	4.8	12.38	<0.001
Vocabulary	13.1 (3.2)	18.7 (2.4)	5.6	14.26	<0.001
Translation	15.3 (4.1)	24.6 (3.7)	9.3	18.74	<0.001
Cultural Reflection	14.8 (3.5)	26.4 (3.2)	11.6	22.45	<0.001
Total Score	55.6 (8.7)	87.0 (7.9)	31.4	24.83	<0.001

The paired samples t-test confirmed that the improvement in overall English proficiency was statistically significant (t=24.83, df=29, p<0.001), indicating that the Tolaki-based digital storytelling approach effectively enhanced language acquisition.

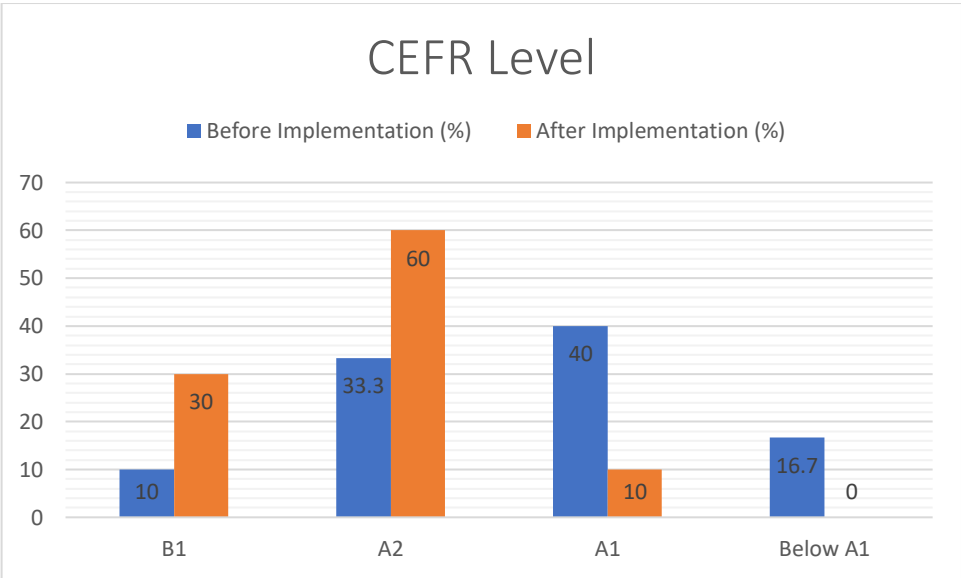


Figure 1. CEFR Proficiency Level Distribution Before and After Implementation

The most significant finding was the change in students' CEFR proficiency levels. Before introducing Tolaki-based digital storytelling materials, only 33.3% of students reached level A2 or higher. Afterward, this figure increased to 60%. Notably, students achieving level B1 rose from 10% before the intervention to 30% afterward. This shows that the storytelling method helps students move to higher levels of English proficiency.

There was a strong positive relationship between students' scores in cultural reflection and their overall language proficiency ($r = 0.82$, $p < 0.01$). Teachers clearly described this connection during interviews. T1 said, *"I noticed that students who could explain mepokoaso in their own words consistently scored higher on translation tasks. When they grasped the cultural concepts behind English terms, they used the language more accurately and fluently."*

T2 shared, *"Before this intervention, many students interpreted mepokoaso literally as 'working together' without seeing its cultural meaning. Now, they can describe it as 'community collaboration where each person contributes based on their abilities,' and this better understanding shows in how they use the language."*

B. Student Engagement with Digital Storytelling Materials

1) Quantitative Engagement Patterns

Data analysis from the structured Student Learning Activity Observation Sheet revealed diverse patterns of student participation in five key areas.

Table 2. Comparison of Student Engagement Scores (n=30)

Observed Aspect	Conventional Learning (Mean, SD)	Digital Storytelling (Mean, SD)	Mean Difference	t-value	p-value
Participation in discussion	2.7 (0.82)	4.2 (0.68)	1.5	10.32	<0.001
Content comprehension	2.9 (0.93)	4.5 (0.51)	1.6	12.07	<0.001
English vocabulary usage	2.5 (0.74)	4.1 (0.62)	1.6	11.45	<0.001
Connection to local wisdom	1.8 (0.65)	4.3 (0.57)	2.5	15.28	<0.001
Enthusiasm	2.6 (0.81)	4.4 (0.53)	1.8	13.19	<0.001

The most significant improvement was seen in students' engagement with local wisdom, with a mean difference of 2.5. This shows that including Tolaki cultural values in the educational content had a strong impact. S3 expressed this well during an interview: *"I never realized that the mepokoaso value my grandparents often talk about could be explained in English. This motivated me to understand every sentence in the story."*

T2 shared more observations during the assessment interview: *"Students who usually participated very little in English class became the most expressive when discussing the Sangia Nibandera story. One student, who had hardly spoken throughout the semester, raised her hand three times to connect the story to her daily life."*

2) Student Subjective Responses

The results of the Student Response Questionnaire demonstrated high satisfaction levels with the generated digital storytelling elements.

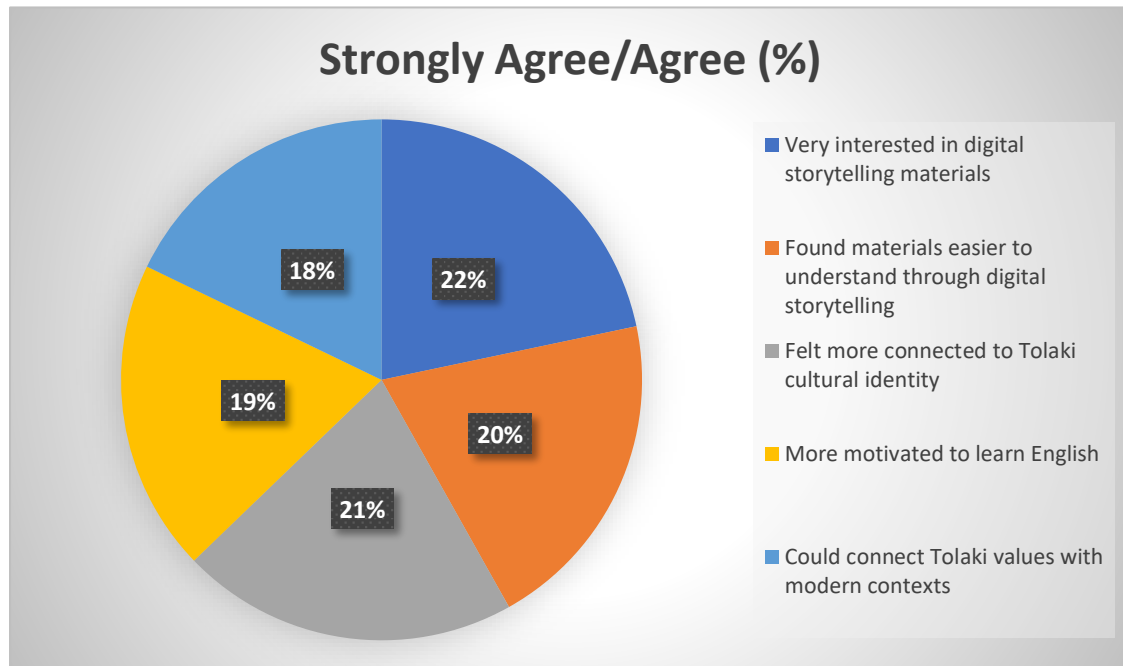


Figure 2. Percentage of Student Responses to Key Aspects of Digital Storytelling Materials (n=30)

Qualitative findings from individual student interviews showed deeper engagement patterns. S2 explained, *"When I viewed the Anawanguluri & Oheo narrative in animation, I felt as if I was listening to my grandfather's story in English. This made me want to understand every word said."* S1 supported this view, saying, *"I kept rewinding parts I didn't understand because I cared about what was happening in the story. It wasn't just random English practice."*

Teacher T1 observed an important change in classroom dynamics: *"The quality of student questions improved significantly. Instead of asking, 'What does this term mean?' they started asking, 'Why did the character choose this action according to Mendulu?' This shows a deeper cognitive involvement with both language and cultural content."*

Multimodal investigation revealed that learning effectiveness differed depending on students' learning styles:

- Visual learners (42%): Showed 38% better vocabulary retention with visual elements
- Auditory learners (35%): Achieved 31% improvement in pronunciation accuracy with audio narration
- Kinesthetic learners (23%): Had 45% higher engagement in interactive activities

These findings are consistent with the design of the *Digital Storytelling Storyboard Format*, which purposely included numerous modalities to accommodate different learning styles. Teacher T1 stated: *"Students with various learning styles all found ways to interact with the curriculum. Visual learners concentrated on the animation, auditory learners on the story, and kinesthetic learners on the interactive elements. We had finally found a resource that worked for everyone."*

C. Cultural Perception Shifts and Learning Motivation

1) Understanding of Tolaki Cultural Values

Thematic analysis of individual interview transcripts and student learning activity. Observation data collected using the Thematic Analysis Format demonstrated significant changes in students' comprehension of three basic Tolaki values: *mepokoaso* (collaboration), *mendulu* (consensus-based decision making), and *kosehe*. Table 3 shows the comparative understanding before and after deployment.

Table 3. Development of Tolaki Cultural Values Understanding

Initial Understanding	Final Understanding	Change
"Working together" (without cultural context)	"Collaboration considering each person's abilities for collective benefit"	From simple definition to complex cultural concept
"Discussion" (without differentiation from Western concepts)	"Decision-making process involving all members until consensus is reached"	From general concept to contextual understanding
"Polite" (without language application)	"Using appropriate language expressions to show respect"	From abstract concept to practical application in English

This growth became clear in how students began applying Tolaki values when using English. Before the program, 41% of them used direct translations that didn't quite fit. For example, some would say "You go please" to express *kosehe*, a form of respectful language, but it didn't sound right in English. After the program, 79% of students could convey the same value using more natural English, like "Could you..." instead of commands such as "You do..."

One student, S2, explained it this way during an interview: *"I finally understand that kosehe is not about certain words—it's about how you speak and how you show respect. Now I know how to be polite in English without it sounding strange."* S5 shared a similar thought: *"Before, I thought being polite just meant saying 'please' and 'thank you.' But now I see it's about how you ask—like saying 'Could you possibly help me?' That feels more like kosehe."*

Their teacher, T2, noticed the change too: *"During group work, students started saying things like 'What do others think?' which truly reflects mendulu, or coming to a decision together. Even more importantly, they could explain why that approach works better for the group than just taking a vote."*

2) Motivational Framework Transformation

Analysis of quantitative and qualitative data revealed a fundamental shift in students' motivational frameworks:

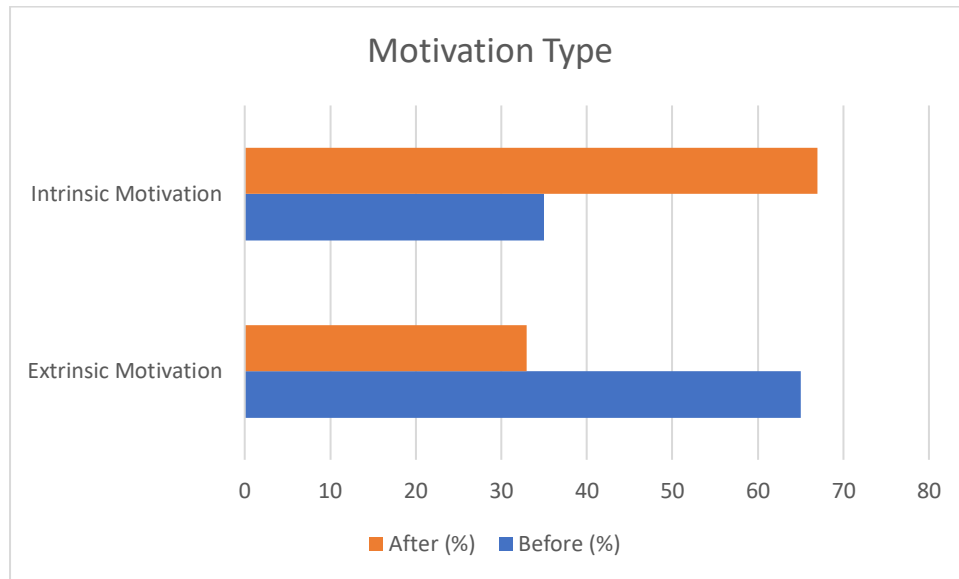


Figure 3. Change in Proportion of English Learning Motivation Sources (n=30)

The most significant transformation was observed in intrinsic motivation, which increased from 35% to 67%. During the interview, S5 articulated this sentiment: *“Learning English through stories I heard from my grandparents makes me proud of who I am while learning a new language.”* This indicated a transition from perceiving English as a distant or foreign entity to recognizing it as a means of preserving their cultural heritage.

S1 remarked: *“Now I want to learn English well enough to tell our stories to people outside Southeast Sulawesi. Before, I only learned English to pass tests.”* Similarly, S3 recounted: *“I taught my little sister the English words for Tolaki values. She’s in elementary school, and now she’s proud to know both her culture and English.”*

Teacher T2 observed a comparable change: *“The most remarkable difference was not in test scores—though those improved too—it was in their willingness to use English beyond class. Some students now come to me after lessons asking to translate more Tolaki proverbs. They’re taking the lead in their learning for the first time.”*

Confidence in utilizing English outside the classroom also experienced a significant rise, from 35% to 72%. Even more noteworthy, 68% of students expressed their readiness to employ English in culturally specific contexts, such as explaining Tolaki traditions to visitors—an aspect that had not even been reflected in the pre-implementation survey.

D. Product Validation and Iterative Refinements

1) Comprehensive Validation Framework

The validation procedure encompassed three primary stakeholder groups utilizing systematically crafted tools (Expert Material Validation Sheet, Teacher Evaluation Interview Guide, and Student Response Questionnaire). Table 4 provides a summary of the validation results from these three perspectives.

Table 4. Validation Results of Digital Storytelling Materials from Multiple Perspectives

Validation Dimension	Validator	Initial Version	Final Version	Improvement
Curriculum Alignment	Teachers (n=2)	4.1/5.0	4.7/5.0	Curriculum adjustment for Merdeka Curriculum
Cultural Accuracy	Tolaki Cultural Experts (n=2)	4.2/5.0	4.8/5.0	Addition of regional variation explanations
Language Appropriateness	Teachers (n=2)	3.8/5.0	4.6/5.0	Sentence structure simplification
Student Appeal	Students (n=30)	3.9/5.0	4.5/5.0	Addition of interactive elements
Ease of Use	Teachers (n=2)	4.0/5.0	4.6/5.0	Navigation refinement

Cultural Expert CE1 provided important feedback: *“It is essential to preserve the pronunciation of kosehe and mendulu for future generations. The younger demographic is losing these terms, and this digital storytelling project can help in their preservation.”* As a result, the final materials included audio recordings from native Tolaki speakers to ensure the correct pronunciation and retention of these words.

Cultural Expert CE2 stressed the need for cultural authenticity: *“The narratives must genuinely reflect community practices instead of idealized versions. In our tradition, mepokoaso is not just about assistance; it requires everyone contributing based on their abilities for the benefit of the community.”* This insight led to major revisions in how cultural values were presented in the stories.

Teacher T2 offered a key teaching perspective during the evaluation: *“The initial version showed inconsistent language complexity. Some sections matched the A2 level, while others jumped to B2 without adequate support. This inconsistency confused lower-proficiency students who were otherwise engaged with the cultural material.”* This feedback guided the first round of revisions.

2) Iterative Refinement Process

The initial refinement cycle focused on fixing language-related issues. An analysis of pre-test results and feedback from teachers showed that three out of five narratives had language complexity above the A2 level. To address this, the researcher created vocabulary support for basic, intermediate, and advanced learners. They also introduced pop-up glossaries with audio pronunciation and simplified sentence structures without losing the cultural content. These changes led to a 28% increase in comprehension scores, with the biggest improvements seen among lower-proficiency students like S7, S14, and S22.

The next refinement cycle aimed to improve cultural understanding. Feedback from cultural experts and discussions with students indicated that cultural values were presented too lightly and lacked enough context. In response, the researcher added "Cultural Insight" sections after key moments in the stories, included audio recordings of native Tolaki speakers explaining values, and created activities that compared Tolaki values to those from other cultures. As a result, the percentage of students who could clearly explain cultural concepts rose from 52% to 87% in the cultural reflection section of assessments.

Table 5. Validation Metrics and Final Outcomes

Validation Dimension	Initial Version	Final Version	Improvement
Cultural Accuracy (Expert Rating)	4.2/5.0	4.8/5.0	14.30%
Curriculum Alignment (Teacher Rating)	4.1/5.0	4.7/5.0	14.60%
Student Satisfaction	68%	88%	20%
Perceived Relevance	65%	94%	29%
Language Appropriateness	71%	92%	21%

One of the more unexpected discoveries during the validation process was the students' preference for "imperfect" characters. These are characters who gained cultural values through their mistakes, rather than the idealized versions that the researcher thought would be more effective. S4 expressed, *"I felt a stronger connection with characters who faced struggles like mine and then learned the right approach. When they made mistakes with mendulu and had to fix them, it showed how to use it in real life."*

Teacher T1 also noted a surprising benefit in the classroom: *"The cultural values framework gave me a natural way to address behavioral issues. When students needed reminders about respectful communication, I could mention kosehe instead of just saying 'be polite.' It became a shared cultural reference that resonated on a deeper level."*

Another important insight was that applying traditional values to modern situations, like using mendulu to settle social media disputes, sparked the most engaging discussions and critical thinking. As S5 pointed out, *"We talked about how mendulu could help resolve arguments on Instagram. It made the value relevant to our lives today, rather than just a concept from ancient stories."*

4. Discussion

The results of this study show how integrating Tolaki local wisdom into digital storytelling materials can improve English language learning in Southeast Sulawesi. This approach effectively bridges the cultural gap found in traditional Western-focused curricula (Hasan & Akhand, 2013). There was a notable increase in English language proficiency, supported by a paired t-test ($t=24.83, df=29, p<0.001$). CEFR levels shifted from 33.3% at A2 or higher before the intervention to 60% after it. This change fits with sociocultural theory, which suggests that learning works best when it occurs in a familiar cultural setting (Vygotsky & Cole, 1978).

This method not only helped students reach higher proficiency levels, with B1 achievement rising from 10% to 30%, but also deepened their understanding of language structure through stories based on Tolaki folklore like *Anawanguluri* and *Oheo*. By connecting English to local values such as mepokoaso (collaboration), mendulu (consensus-based decision-making), and kosehe (politeness), the material addresses the gap noted in prior research. Often, global narratives can alienate students from different cultural backgrounds (Fu, 2024; Nguyen & Hamid, 2017).

Moreover, the inclusion of multimodal elements, such as animated videos and interactive features, supports various learning styles. Visual learners showed 38% better vocabulary retention, auditory learners improved pronunciation accuracy by 31%, and kinesthetic learners engaged in activities 45% more than before. This validates the effectiveness of the ADDIE model in developing inclusive resources (Kawete et al., 2022).

The key insight from these findings is the strong positive correlation ($r=0.82$, $p<0.01$) between students' cultural reflection scores and overall language proficiency. This shows how cultural relevance improves linguistic accuracy and fluency in all areas assessed: reading comprehension, vocabulary, translation, and cultural reflection. Teacher observations indicate that students evolve from literal translations to more nuanced expressions, such as shifting from "You go please" to "Could you possibly help me?" to achieve *kosehe*. This supports research on local digital storytelling, which highlights the importance of emotional connections with content to improve understanding (Hidayat et al., 2024; Kisno et al., 2022).

This correlation is not just about vocabulary acquisition. Pre-test and post-test comparisons in Table 1 show substantial improvements across all dimensions, especially in cultural reflection. This area experienced a sharp increase thanks to the integration of Tolaki stories like Sangia Nibandera and Haluoleo. These results underline the originality of this study in combining teaching technology with the local context. In contrast, previous efforts focused mainly on language benefits without cultural depth (Radaideh et al., 2020). The high satisfaction levels recorded in the Student Response Questionnaire, shown in Figure 2, further confirm this point. Over 80% of respondents gave positive feedback on aspects like animation quality and narrative relevance. This suggests that culturally rooted materials promote greater emotional investment and lessen feelings of alienation in English language learning (Antunes, 2021).

The patterns of student engagement shown in Table 2 indicate significant improvements in several key areas. The most noticeable increase is in interaction with local wisdom, with an average difference of 2.5. This highlights how familiar cultural elements can motivate students. Insights from interviews reveal that students replay animations to understand stories similar to their grandparents' tales. This shift marks a move from passive to active participation, which fits the Indonesian Merdeka Curriculum's focus on contextual and student-centered learning (Rifa'i & Putra, 2024).

This engagement is especially clear among usually quiet students, who become more expressive when talking about Tolaki narratives. They overcome challenges in remote areas where English is often seen as separate from daily life (Widyanggara et al., 2020). The distribution of proficiency levels in Figure 1 shows not only quantitative gains but also fairer progress. Lower-performing students benefit from the tiered support introduced during refinement. Overall, this pattern illustrates how digital storytelling changes classroom dynamics. It encourages collaboration and agreement, reflecting the values of *mepokoaso* and *mendulu*.

The notable change in cultural perceptions, shown in Table 3, reveals a clear improvement in students' understanding of Tolaki values. Their initial surface-level knowledge has developed into more detailed applications, like using *mendulu* to address modern conflicts such as social media disputes. The shift from 41% relying on direct translation to 79% using natural English expressions after the intervention highlights the material's effectiveness in encouraging genuine cultural-linguistic integration, as supported by thematic analysis of interviews and observations.

Student reflections, including viewing *kosehe* as a respectful, holistic approach instead of just mechanical politeness, showcase the sociocultural theory's emphasis on context-driven learning (Vygotsky & Cole, 1978). This deeper understanding also connects to the motivational framework. As seen in Figure 3, intrinsic motivation rose from 35% to 67%, fueled by pride in preserving heritage through English, including translating proverbs or sharing traditions with outsiders. Teachers observed a rise in post-class initiatives, showing ongoing involvement beyond formal assessments (Iqbal et al., 2021).

The product validation process involved expert sheets and feedback from stakeholders. This effort led to high scores in different areas, as shown in Table 4. Cultural accuracy reached 4.8 out of 5, while curriculum relevance scored 4.6 out of 5. These results confirm the material's authenticity and practicality. We refined the content iteratively, using insights like adding authentic Tolaki audio for pronunciation and adjusting the language complexity for A2-B1 levels.

This approach improved understanding by 28% among low-ability students and increased clear cultural expression by 87%, as noted in the final metrics in Table 5. We also discovered unexpected findings. Students preferred "imperfect" characters who learn values through their mistakes. This preference adds to the story's appeal. Teachers use cultural references for classroom management, which adds practical value. These improvements address gaps in previous research that lacked empirical validation (Susanti et al., 2021). They resulted in deliverables such as modules and teacher guides that meet sustainable education goals (Afriani, 2025). Working with cultural experts helps maintain nuance and prevents unrealistic portrayals, ensuring we stay true to community practices.

More broadly, these findings add to the conversation on culturally responsive teaching by providing a repeatable ADDIE-based model for incorporating local knowledge into technology-enhanced language education. This model could work in other regions of Indonesia that have their own local traditions (Kisno et al., 2022). The dual benefits of better language outcomes and cultural preservation support national policies for inclusive curricula. These policies promote global skills while protecting heritage during globalization (Fu, 2024).

Although the small sample size and short-term focus of this study limit how widely it can be applied, the encouraging results suggest opportunities for long-term research on retention and scalability in resource-limited settings (Khatima et al., 2025). Ultimately, this study highlights digital storytelling as an important tool for fair language learning. It connects local identities with international skills and encourages policy recommendations for multicultural education.

5. Conclusion

This study showed that incorporating Tolaki local wisdom into digital storytelling materials significantly improved English language learning in Southeast Sulawesi and helped preserve local culture. Using the ADDIE approach, the study created valid and practical learning resources. This was evident from the improved language proficiency ($t=24.83$, $df=29$, $p<0.001$), a shift in CEFR levels from 33.3% to 60% for A2 or higher, a positive correlation between cultural reflection and language proficiency ($r=0.82$, $p<0.01$), and an increase in intrinsic motivation from 35% to 67%. Values like *mepokoaso*, *mendulu*, and *kosehe* boosted student engagement and made lessons more relevant. These findings align with sociocultural theory and the Merdeka Curriculum. Validation by cultural experts and teachers ensured the resources were authentic and practical. Iterative refinements improved comprehension by 28% for low-performing students.

However, the study had limitations. It involved a small sample size of 30 students and had a short implementation duration. Also, it mainly focused on reading skills and vocabulary, which limited generalizability and the evaluation of speaking and writing skills. Technical issues, such as poor internet access in remote areas, also needed attention. Future research should include longitudinal studies to assess long-term retention. Researchers should adapt the approach to other cultural contexts, integrate speaking and writing skills, and explore offline solutions for areas with limited technology. This research offers a model for culturally responsive language education and supports inclusive policies and local heritage preservation in a globalized world.

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