

Culturally Responsive Gamification in Indigenous English Education: Exploring Teacher Practices and Adaptations in Rural Orang Asli Primary Schools

Nor Najihah Norafand^{*1}, Mohamad Syafiq Ya Shak¹, Rafidah Abd Karim², Farahidatul Akmar Awaludin², Azurawati Zaidi²

¹Academy of Language Studies, Universiti Teknologi MARA Perak Branch, Seri Iskandar Campus, Malaysia

²Academy of Language Studies, Universiti Teknologi MARA Perak Branch, Tapah Campus, Malaysia

***Corresponding Author**

DOI: <https://doi.org/10.47772/IJRISS.2026.100801098>

Received: 09 September 2026; Accepted: 14 September 2026; Published: 25 September 2026

ABSTRACT

This study investigates the efficacy of gamification as a pedagogical intervention to enhance English language acquisition among Orang Asli primary students in rural Malaysia. Utilizing a qualitative exploratory case study design, this research examines teacher perspectives on the integration of game-based learning within resource-constrained environments. Findings indicate that while both offline games such as word puzzles and board games and select digital tools (e.g., Quizziz, Live Worksheets) effectively foster student engagement and cognitive focus, their implementation is contingent upon technological infrastructure and pedagogical support. Furthermore, the data underscores the critical role of cultural contextualization in maximizing instructional efficacy. Despite these benefits, teachers encounter systemic barriers, including resource limitations, inadequate training, and curricula misalignment. This study concludes by advocating for the development of flexible, culturally responsive, and resource-appropriate pedagogical frameworks to support sustainable English education within Indigenous communities.

Keywords: Gamifying, English lessons, offline games, culturally relevant materials

INTRODUCTION

The acquisition of English as a second or foreign language is widely recognized as a critical determinant of socio-economic mobility and access to global knowledge in the twenty-first century (Krashen, 2014). In multilingual nations like Malaysia, English remains a compulsory subject crucial for national development, yet persistent challenges exist in achieving equitable proficiency, particularly among students from marginalized and indigenous communities (Wong & Siew, 2020). Among these groups, the **Orang Asli** communities the indigenous peoples of Peninsular Malaysia often attend schools in rural, resource-constrained environments where traditional, text-based teaching methodologies may fail to resonate with their unique learning styles and cultural backgrounds (Jabatan Kemajuan Orang Asli (JAKOA) Report, 2022).

This context highlights a significant pedagogical challenge: finding effective, engaging, and culturally sensitive methods to improve English language learning for Orang Asli primary students. Conventional teaching approaches frequently lead to low student **motivation** and participation, resulting in poor academic outcomes (Tan & Abdullah, 2019). The discrepancy between the standardized, often culturally distant, curriculum and the students lived experiences creates a substantial barrier to effective learning (Hashim & Zakaria, 2018).

In response to challenges in conventional education, **gamification**, defined as the use of game design elements in non-game contexts, has emerged as a powerful pedagogical tool (Kapp, 2012; Huotari & Hamari, 2017). Prior

research has consistently demonstrated that game-based learning (GBL) can significantly enhance student **engagement**, provide immediate feedback, and foster a low-stakes environment conducive to linguistic risk-taking (Deterding et al., 2011; Sailer & Homner, 2020). While the benefits of GBL are widely documented in urban and well-resourced school settings, there remains a notable gap in literature concerning its practical implementation and effectiveness within the specific constraints of rural and indigenous primary schools.

This study directly addresses this gap by investigating the application and impact of gamification in English language learning among **Orang Asli primary students**. Specifically, this research seeks to: (1) analyze the current usage patterns of game-based activities, encompassing both simple, **offline games** and available **digital tools**; (2) assess the relationship between these activities and changes in student motivation, focus, and learning outcomes; (3) identify the practical and systemic challenges teachers face in integrating gamification; and (4) evaluate the critical role of **culturally relevant content** in maximizing the efficacy of game-based instruction. By documenting the experiences of rural teachers, this paper aims to provide targeted, evidence-based recommendations for developing flexible, resource-appropriate, and culturally sensitive pedagogical materials to support English education in Orang Asli communities.

METHODOLOGY

To rigorously address the research objectives concerning the implementation and impact of gamification in English language learning for Orang Asli primary students, this study adopted an interpretivist **qualitative research design**. This approach was necessary to gain deep, contextualized insights into the lived experiences, perceptions, and pedagogical strategies of the teachers operating in rural, resource-constrained environments.

The current section details the methodological framework employed, including a comprehensive overview of the chosen **research design**, the criteria used for selecting **research sites and sampling** participants from the Orang Asli community schools, the specific instruments and procedures utilized for **data collection** (primarily semi-structured interviews), and the systematic approach to **data analysis** that grounded the findings in empirical data. These procedures were designed to ensure the trustworthiness and relevance of the study's conclusions within the unique socio-educational environment explored.

Research Design

This study adopted a qualitative exploratory case study design to investigate how gamification supports English language learning among Orang Asli (Semai) primary students in rural Malaysia. The case study approach enabled an in-depth exploration of how teachers implement game-based learning within real classroom settings and how such approaches affect students' motivation, participation, and understanding. The research aimed to capture the lived experiences and contextual realities of teachers and community members involved in the English learning process.

Research Sites

The study was conducted in three Orang Asli primary schools located in Perak, namely Sekolah Kebangsaan (SK) Batu 7, SK Batu 14, and SK Ayer Denak. Each school serves predominantly Semai students (90–98%), representing the indigenous population of the area. The schools are situated in rural or semi-rural settings characterized by limited internet connectivity, scarce technological resources, and minimal exposure to English outside the classroom. These contextual factors made the sites suitable for examining how teachers adapt and apply gamification methods in challenging conditions.

Participants

A total of eight participants took part in this study. They included five English language teachers from the three schools and three community members, a Tok Batin (village head) and two family members from Kampung Batu 14. The teachers were selected through purposive sampling based on their experience in teaching English to Orang Asli students and their use of creative or game-based strategies in the classroom. The inclusion of the

Tok Batin and his family provided cultural and social perspectives on language learning within the community. All participants were briefed about the study's purpose, and informed consent was obtained prior to data collection.

Data Collection

Data were collected primarily through semi-structured interviews, which allowed flexibility for participants to express their experiences and opinions. The interviews were conducted in a mix of English and Malay to ensure comfort and clarity. Each interview lasted between 30 and 60 minutes, and all sessions were audio-recorded with participants' permission.

The interview questions explored:

1. Teachers' perceptions of students' linguistic and cultural backgrounds.
2. Their experiences in using game-based or playful learning strategies.
3. The effects of these methods on students' engagement and literacy.
4. The challenges faced in implementing gamification.
5. Suggestions for improving English teaching in Orang Asli contexts.

Data Analysis

Qualitative data were analyzed using thematic analysis following Braun and Clarke's (2006) six-phase framework. First, all semi-structured interviews were transcribed verbatim and read repeatedly to achieve data familiarization. Second, initial codes were generated systematically across the dataset to capture recurring ideas and concepts related to gamification, motivation, and teaching challenges. Third, related codes were collated into broader potential themes. Fourth, these themes were reviewed and refined against the coded extracts and full dataset to ensure internal consistency. Fifth, themes were defined and named to clearly capture the core narrative of each domain. Finally, the analyzed themes were integrated into the manuscript report, supported by compelling qualitative excerpts aligned with the research objectives.

RESULTS AND DISCUSSION

This section presents the empirical findings derived from the thematic analysis to answer the primary research question: *How do English teachers use gamification to enhance language learning among Orang Asli (Semai) primary students?* Systematic coding of the qualitative data revealed four major interconnected themes:

1. **Culturally Relevant and Active Gamified Learning**
2. **Motivation and Engagement Through Play**
3. **Barriers to Gamification Implementation**
4. **Teacher Adaptation and Resourcefulness**

Culturally Relevant and Active Gamified Learning

Teachers consistently emphasized that gamified learning achieves optimal efficacy when anchored in the lived experiences and cultural realities of Orang Asli pupils. Illustrating this culturally responsive orientation, Cikgu Noah noted:

"Stimulating lessons were centered around culture... celebrations, native food, explaining about their outfits..."

"I incorporate culturally responsive teaching strategies regardless of composition."

Echoing this approach, Cikgu Maudy (SK Batu 14) observed that grounding gameplay in immediate, local surroundings directly improved vocabulary retention:

"The first topic was durian... all lessons, even speech and art, were about durian. They remembered everything."

Similarly, Cikgu Arini highlighted the necessity of replacing unfamiliar urban concepts with relatable community items:

"I take what they have at home... petai, durian, things they see. If I mention bathtub or shower, they don't understand. So, we use what's around them."

These empirical observations directly affirm Gay's (2018) culturally responsive pedagogy, demonstrating that instructional relevance significantly increases learner ownership. By strategically integrating familiar cultural artifacts into game mechanics, educators enabled Semai learners to bridge new L2 vocabulary with their primary lifeworld—a practice that directly operationalizes Kumaravadivelu's (2003) post-method principle of contextualizing linguistic input.

Motivation and Engagement Through Play

Participants observed that gamification provided an effective pedagogical countermeasure to the short attention spans common among young learners. As Cikgu Noah highlighted:

"Our children... their attention span is less than ten minutes... it should be game-based learning or gamification."

To sustain student engagement without overwhelming pupils, teachers prioritized structural simplification. Cikgu Vernie and Cikgu Maudy noted that low-complexity mechanics consistently yielded the highest participation:

"We can't use games with too many rules... simple ones are better; they get the concept and enjoy it."

Instructional delivery spanned both analog and digital modalities:

- **Offline Modalities:** Snake-and-ladder spelling grids, "word-making" speed races, and human-sized interactive floorboard games.
- **Digital Modalities:** Web-based platforms such as Quizizz and Live Worksheets, deployed primarily via personal teacher smartphones or donated hardware.

This dual-mode delivery strongly aligns with Self-Determination Theory (Deci & Ryan, 2000). By simplifying rules and embedding interactive play, teachers satisfied pupils' fundamental psychological needs for competence and autonomy, thereby fostering sustained intrinsic motivation within an ESL environment.

Barriers to Gamification Implementation

While gamification was viewed positively, teachers encountered three primary structural and pedagogical constraints.

Infrastructure Constraints and Resource Deprivation

The digital divide remains a significant bottleneck in rural Orang Asli schools. Unstable connectivity, limited hardware, and a systemic lack of ready-made teaching aids forced teachers to routinely abandon digital platforms in favor of low-tech, self-funded alternatives.

Cikgu Biru (SK Batu 7) detailed these physical hardware constraints:

"We can't always use ICT twenty-four hours because there's limited projector, even cable. So, I just print my worksheets and make small versions from the Internet."

Connectivity gaps further disrupted planned digital interventions, as Cikgu Noah observed:

"Depends on the area of the school—some places have no signal. We use our phone hotspots or just cancel the online game and think of something else."

Beyond technological barriers, institutional provision of physical game aids was virtually non-existent. Teachers routinely incurred personal financial costs to print materials or create handmade apparatuses. As Cikgu Biru noted:

"I prepare my own Live Worksheets and word cards. Sometimes I print using my own money."

These persistent material shortages validate empirical findings by Rahim and Daghigh (2020) regarding how resource inequities systematically compound educational disparities in indigenous schooling contexts.

Curricular and Linguistic Distance

A second major challenge stems from CEFR-aligned national English textbooks. Teachers reported a stark disconnect between standardized curriculum content and the socio-cultural background of Semai learners.

Cikgu Noah illustrated this institutional friction:

"The textbook content is too advanced. When the topic is about things like 'mobile' or 'airports,' they don't see the point. I have to make it fun, maybe through games, to help them understand."

This conceptual distance often required complete pedagogical restructuring during game design. Cikgu Arini explained her contextualization process:

"The book talks about winter and snow—how do I make a game about that? They don't know what snow feels like. I change it to rain or fruits like durian, then make a word game from that."

This mismatch highlights an ongoing pedagogical tension between top-down, standardized curricular mandates and the localized realities of marginalized learners.

Institutional Gaps and Professional Preparation

Finally, implementation was constrained by a lack of specialized teacher training and heavy workload pressures. None of the participants had received formal professional development on game design or culturally responsive gamification.

Cikgu Maudy acknowledged this training deficit:

"We are not trained for this. I just try things I see online or from courses for normal schools. For Orang Asli students, we have to make it simpler and shorter."

Compounding this skill gap was the extensive time required to design custom game materials. Cikgu Vernie noted:

"To make games, we need time—to print, to prepare. With so many programs and reports, we just repeat old games or reduce the activities."

These systemic deficits illustrate Kumaravadivelu's (2003) concept of the "pedagogical gap" between policy directives and classroom execution, leaving gamification reliant on individual teacher resilience rather than institutional support.

Teacher Adaptation and Resourcefulness

Despite these operational hurdles, educators demonstrated notable agency through contextual adaptation, material improvisation, and informal peer collaboration.

Cultural Substitution and Material Improvisation

To bridge curricular gaps and bypass technological deficits, teachers adapted foreign topics into localized game formats using low-cost or recycled materials. Cikgu Noah detailed an innovative floor game:

"I did my innovation project—'Durian Quest'—like a human snake and ladder mixed with spelling bee. Students act as the pawns and move. They loved it."

Similarly, Cikgu Arini utilized environmental items to create tactile learning tools:

"I use bottle caps, sticks, anything I can find. We make spelling games and competitions from those. The students get excited."

These grassroots practices embody post-method pedagogy (Kumaravadivelu, 2003), wherein autonomous practitioners substitute standardized materials with context-sensitive alternatives.

Informal Peer Knowledge Sharing

In the absence of formal professional development, teachers created organic communities of practice. As Cikgu Arini explained:

"After class, we discuss what works—how to make lessons more fun. Sometimes we share materials like cards or quizzes."

This peer collaboration highlights how localized professional networks can sustain pedagogical innovation in resource-constrained environments.

CONCLUSION

This study set out to explore the practical application and perceived impact of gamification strategies on English language learning among Orang Asli primary students in rural Malaysian schools. The findings underscore that game-based learning (GBL) serves as a potent pedagogical intervention, particularly for addressing endemic issues of low motivation and limited focus in traditional classroom settings. Crucially, evidence gathered from participating educators confirms that the efficacy of games does not hinge on complex technology; rather, simple, low-cost, offline games such as localized word puzzles, vocabulary races, and physical board games were highly successful in sustaining student engagement and linguistic acquisition.

Key Implications and Contributions

The primary contribution of this research lies in highlighting the critical intersection of pedagogy, resource availability, and indigenous culture. We established a definitive link between game effectiveness and cultural relevance, demonstrating that GBL achieves optimal impact when activities seamlessly incorporate familiar themes, artifacts, and knowledge systems from the students' indigenous background. This suggests that the technical act of gamifying lessons is insufficient on its own; true educational impact occurs only when language input is deeply contextualized.

While digital platforms such as Quizizz and Live Worksheets possess clear potential, their regular deployment remains severely restricted by infrastructure bottlenecks, including unreliable connectivity and hardware scarcity. Furthermore, systemic challenges such as a lack of specialized GBL professional training and standardized national textbooks unsuited to Orang Asli realities continue to impede sustainable implementation.

Recommendations for Educational Stakeholders

Based on these findings, we outline three strategic policy recommendations alongside a practical implementation framework for educators:

1. **Prioritization of Culturally Relevant Materials:** Curriculum developers must invest in producing supplementary English resources explicitly anchored in Orang Asli heritage, ensuring GBL content is inherently relatable and meaningful.
2. **Specialized Teacher Professional Development:** Educational authorities should establish practical training initiatives focused on equipping rural teachers with low-cost, offline, and culturally sensitive gamification techniques.
3. **Enhanced Curricular Flexibility:** Systemic policy shifts are required to give rural educators the formal autonomy to adapt, supplement, or replace rigid textbook content with localized, game-based instructional alternatives.

Practical Framework: Low-Cost, Culturally Integrated Offline Game (LCOG) Prototyping

To operationalize these recommendations, we propose the Low-Cost, Culturally Integrated Offline Game (LCOG) framework to assist rural teachers in rapidly designing and deploying effective GBL activities without reliance on digital infrastructure.

Contextual Audit & Vocabulary Mapping:

Phase 1

Identify targeted L2 learning objectives from the core syllabus alongside accessible local material artifacts (e.g., bottle caps, recycled cardboard, natural items) and community themes (e.g., local flora, fauna, traditional games).

Cultural Mechanics Alignment:

Phase 2

Adapt familiar, traditional local game mechanics (e.g., regional board movements, relays, storytelling loops) to serve as the structural engine for the targeted English vocabulary or language structures.

Low-Fidelity Rapid Prototyping:

Phase 3

Construct physical game materials in under 60 minutes using recycled or low-cost materials, replacing foreign concepts with localized equivalents (e.g., substituting "snow" with "rain" or "durian harvest").

Micro-Testing & Iterative Refinement:

Phase 4

Execute a 10-minute classroom trial, observe pupil comprehension and rule adherence, and immediately calibrate difficulty or rules based on student interaction.

To further streamline classroom application, **Table 1** provides a quick-reference implementation matrix summarizing the LCOG operational steps for educators and instructional leads.

Table 1: Rapid Implementation Matrix for Low-Cost, Culturally Integrated Offline Games (LCOG).

Implementation Phase	Practical Teacher Actions	Resource Requirements	Cultural Integration Strategy
1. Theme Mapping	Align unit learning outcomes with indigenous knowledge domains (e.g., forest foraging, local agriculture).	Standard textbook, local story prompts	Replaces distant urban/foreign themes with immediate community realities.
2. Mechanics Selection	Adapt rules from popular, traditional local child games or simple classic structures (e.g., Snakes & Ladders).	Recycled cardstock, markers, dice	Leverages intuitive, culturally familiar gameplay loops to minimize rule explanation time.
3. Material Build	Construct tactile cards, physical tokens, or floor-sized board grids.	Bottle caps, sticks, cardboard, recycled paper	Incorporates local artwork, indigenous motifs, or familiar environmental items.
4. Formative Evaluation	Assess vocabulary recall and language production during active play.	Brief student reflection or observation checklist	Evaluates L2 competence within a supportive, low-anxiety, culturally validated setting.

LIMITATIONS AND FUTURE RESEARCH

While this qualitative study provides rich insights into teacher perceptions and practices, it is limited by its reliance on self-reported data and a narrow geographic focus. Future research should employ a quantitative approach to measure the long-term impact of culturally relevant GBL on objective student proficiency scores. Longitudinal studies tracking cohorts of students utilizing these methods would be invaluable for establishing causality and informing national educational policy regarding indigenous and marginalized communities.

REFERENCES

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Chen, T.-J., Subramanian, S.G., & Krishnamurthy, V.R. (2019). Mini-map: mixed-initiative mind-mapping via contextual query expansion. In AIAA Scitech 2019 Forum (San Diego, CA), 2347. doi: 10.2514/6.2019-2347
- Darke, N., & Turner, B. (2020). *Best mind map software of 2020: Chart and diagram ideas and processes*. Retrieved from <https://www.techradar.com/in/best/best-mindmap-software>
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.
- https://doi.org/10.1207/S15327965PLI1104_01
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). *From game design elements to gamefulness: Defining “gamification.”* Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, 9–15.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press.
- Hashim, J., & Zakaria, M. (2018). *Socio-Cultural Contexts and English Language Teaching in Rural Malaysia*. Journal of Educational Research and Practice, 8(1), 1-15.
- Huotari, K., & Hamari, J. (2017). *A definition for gamification: Anchoring the discussion*. International Journal of Human-Computer Studies, 106, 1–18.
- Jabatan Kemajuan Orang Asli (JAKOA) Report. (2022). *Status Pendidikan Komuniti Orang Asli di Semenanjung Malaysia*. Government Printing Office.
- Kapp, K. M. (2012). *The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education*. Wiley.

12. Krashen, S. D. (2014). *The Common Core, Reading, and the Great Vocabulary Debate*. Libraries Unlimited.
13. Kumaravadivelu, B. (2003). *Beyond methods: Macrostrategies for language teaching*. Yale University Press.
14. Lewis, C., Perry, R., & Hurd, J. (2004). A deeper look at lesson study. *Educational leadership*, 61(5), 18.
15. Rahim, H. A., & Daghigh, A. J. (2020). Local representation in CEFR-aligned English textbooks in Malaysia: Issues and implications. *Indonesian Journal of Applied Linguistics*, 10(2), 513–524. <https://doi.org/10.17509/ijal.v10i2.31780>
16. Sailer, M., & Homner, L. (2020). *The suitability of gamification for health interventions: a meta-analysis of the effects of game design elements on motivational, behavioral, and physiological outcomes*. *International Journal of Medical Informatics*, 140, 104128.
17. Tan, S., & Abdullah, S. (2019). *Challenges in Teaching English in Rural Primary Schools: A Malaysian Context*. *Journal of Language and Communication*, 6(3), 45-60.
18. Wong, K. S., & Siew, M. L. (2020). *English Language Proficiency in Malaysia: Policy, Challenges, and Future Directions*. *Asian EFL Journal*, 27(1), 101-125.