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CULTURAL LINGUISTIC SCAFFOLDING MODEL: ENHANCING ELEMENTARY ENGLISH LITERACY THROUGH TIDUNG ETHNO-PEDAGOGY

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Abstract: *Students in primary schools in rural areas frequently uncover mastering English as a global lingua franca challenging because of the perception that teaching materials are foreign and irrelevant to their daily lives. Conversely, there is an urgent need to preserve local cultures that have become eroded through modernization. This community service activity seeks to apply effective English language learning techniques while incorporating the local wisdom of Tidung culture for 5th-grade elementary students. The method employs a participatory learning approach utilizing the Contextual Teaching and Learning (CTL) model. The program's success was assessed through a one-group pretest-posttest design to evaluate students' cognitive abilities. The study findings indicate an important enhancement in students' English proficiency. The average student score rose from 57.5 on the pre-test to 77.5 on the post-test. The effectiveness test with Normalized Gain resulted in a value of 0.469, categorizing it as moderate. Integrating Tidung cultural materials, including traditional clothing and local cuisine, effectively facilitates foreign language learning. Students showed improved academic performance and a greater confidence in their cultural identity. This program promotes a culture-based learning model that will improve language literacy and preserve culture from an early age.*

Keywords: *Contextual Learning; Elementary English; Learning Effectiveness; Local Wisdom; Tidung Culture.*

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INTRODUCTION

In the contemporary era of globalization, mastering English is recognized not merely as an advantageous skill but as an imperative requirement for global communication, scientific access, and technological integration (Luczaj et al., 2022; Tulasi et al., 2025). However, behind the benefits of mastering English lies a significant sociocultural challenge, particularly in rural and peripheral regions: the gradual erosion of local cultural identity and indigenous language vitality (Budiarto, 2020). When foreign language instructional materials predominantly depict Western cultural contexts (e.g., winter, foreign cuisines, and non-native lifestyles), primary school learners frequently experience a cognitive disconnect between the learning content and their lived daily reality (EYLC,

2021). This disconnect breeds high cognitive load, foreign language anxiety, and diminished motivation, ultimately leading to suboptimal academic achievement (Lestari, 2022; Saadah et al., 2025).

A comprehensive review of the current state of the art reveals that integrating local cultural wisdom into formal education known as ethno-pedagogy has gained considerable traction across various disciplines, including social studies (Sumarni et al., 2024), civics, and arts education (Hulu et al., 2025). Scholars have demonstrated that ethno-pedagogical materials foster cultural literacy, self-efficacy, and active student engagement (Khaeruman et al., 2024). Furthermore, in foreign language learning, the paradigm of glocalization has highlighted the necessity of empowering learners to express their indigenous identities through the global medium (Muzakki, 2020).

Despite these advancements, a critical research gap remains unaddressed in the literature. First, existing empirical studies on ethno-pedagogical EFL integration predominantly center on major, demographically dominant cultural groups (such as Javanese or Balinese cultures) or secondary and tertiary educational levels. Indigenous minority cultures in frontier regions such as the Tidung culture of Tarakan Island in North Kalimantan remain significantly underrepresented in primary EFL curricula, despite their rich cultural assets, including traditional attire, irau ceremonies, folk legends, and unique culinary heritage. Second, while prior community service initiatives have attempted local cultural insertion, they largely lack a theoretical framework explaining the exact cognitive mechanism through which local schema facilitates foreign language acquisition among fifth-grade elementary students.

To bridge this empirical and theoretical gap, this community service initiative introduces a novel pedagogical framework: the Cultural Linguistic Scaffolding Model. Grounded in Bartlett, (1932) schema theory and Contextual Teaching and Learning (CTL), this framework posits that embedding familiar Tidung cultural assets serves as a pre-existing cognitive schema. By utilizing known cultural objects as linguistic anchors, the model directly reduces the abstraction of foreign language vocabulary, thereby lowering cognitive load and language anxiety while simultaneously reinforcing indigenous cultural identity. The objective of this study is to implement and empirically evaluate the effectiveness of a Tidung culture-based English mentoring program for 5th-grade elementary students at SDN in Tarakan. The primary superiority of this study lies in its dual-impact design: providing a statistically validated, replicable ethno-pedagogical scaffolding model for primary EFL education in minority cultural regions, while actively preserving indigenous Tidung heritage from early childhood.

METHOD

Research Design and Setting

This study utilized a quantitative pre-experimental design specifically a one-group pretest-posttest design complemented by descriptive qualitative observations to evaluate the efficacy of the Tidung culture-integrated English learning intervention. The activity took place at SDN Tarakan, East Tarakan District, North Kalimantan. This location was selected based on a preliminary needs assessment indicating a crucial need to contextualize English learning materials with the local indigenous culture for rural elementary learners.

Participants

The participants consisted of 50 fifth-grade elementary school students (N = 50) selected through total population sampling. The intervention was conducted across three main stages over two intensive mentoring days in November 2025: (1) preparation and module development, (2) classroom CTL-based implementation, and (3) evaluation.

Data Collection Techniques

Data were gathered using two primary techniques: Cognitive Learning Outcome Tests: A pre-test was administered prior to the intervention to measure baseline English vocabulary skills related to Tidung cultural themes (attire, culinary arts, and regional legends). Following the Contextual Teaching and Learning (CTL) intervention, an equivalent post-test was administered to measure cognitive gain. Both tests consisted of 20 validated multiple-choice items. Participatory Classroom Observation: Structured observation sheets were utilized by the research team during classroom sessions to record qualitative data regarding student engagement, enthusiasm, and foreign language anxiety during role-playing and speaking activities.

Data Analysis Techniques

Quantitative data collected from pre-test and post-test scores were analyzed using Jamovi, Descriptive Analysis: Calculating the mean (X̄), median, and standard deviation (SD) to determine score distribution and homogeneity before and after the intervention. Inferential Hypothesis Testing: A Paired Sample T-Test was performed at a significance level of $\alpha = 0.05$ after fulfilling the normality assumption to test whether the intervention yielded a statistically significant increase in learning outcomes. Effectiveness Test (Normalized Gain): Hake's Normalized Gain (N-Gain) was used to measure the magnitude of improvement. Quantitative Indicator: A statistically

significant difference between pre-test and post-test means ($p < .05$) with an average N-Gain score falling into at least the "Medium" effectiveness category ($g \geq 0.30$).

RESULT AND DISCUSSION

The implementation of the community service program aimed to empirically evaluate the efficacy of the Cultural Linguistic Scaffolding Model in improving fifth-grade elementary students' English vocabulary proficiency through Tidung cultural integration. Quantitative data were obtained from 50 fifth-grade students (N = 50) at SDN Tarakan via identical 20-item multiple-choice cognitive tests administered before (pre-test) and after (post-test) the two-day intervention. Complete descriptive statistics, normality test results, paired sample t-test outputs, and Normalized Gain (N-Gain) metrics are summarized in Table 1.

Table 1. Comprehensive Statistical Results

Statistical Metric	Pre-Test Score	Post-Test Score	Difference / Test Value
Mean (X)	57.50	77.50	+20.00
Median	62.30	87.50	+25.20
Standard Deviation (SD)	26.10	22.50	-3.60 (Increased Homogeneity)
Minimum Score	20.00	45.00	+25.00
Maximum Score	90.00	100.00	+10.00
Paired Sample T-Test	t(49) = -6.60, 95% CI [-26.08, -13.92]		p < .001 (Statistically Significant)
Mean N-Gain (g)	0.47 (SD = 0.40, Median = 0.50)		Medium Effectiveness Category

As illustrated in Table 1, student cognitive achievement improved significantly following the intervention. The overall mean score rose from 57.50 to 77.50, representing a net increase of 20.00 points. Concurrently, the standard deviation decreased from 26.10 to 22.50. This reduction in variance confirms that score distribution became more homogeneous post-intervention, successfully narrowing the achievement gap between high- and low-performing learners. Hypothesis testing via paired sample t-test yielded $t(49) = -6.60$ with $p < .001$, confirming that the observed cognitive enhancement was statistically significant and directly attributable to the intervention rather than chance.

To provide more profound empirical understanding of particular learning outcomes, student proficiency was segmented across three fundamental Tidung cultural vocabulary modules incorporated into the curriculum: (1) Tidung Traditional Attire, (2) Local Culinary Arts, and (3)

Folk Legends & Irau Cultural Ceremonies. The breakdown by module is thoroughly outlined in Table 2.

Table 2. Thematic Breakdown of Student Cognitive Mastery Across Cultural Modules

Cultural Learning Module	Target Vocabulary / Linguistic Constructs	Pre-Test Accuracy (%)	Post-Test Accuracy (%)	Thematic N-Gain
Module 1: Tidung Traditional Attire	Traditional garments, headband accessories, woven patterns, ceremonial dress verbs	52.0%	78.0%	0.54 (Medium)
Module 2: Local Culinary Arts	Traditional food names, taste adjectives (savory, sweet), cooking verbs, ingredients	64.0%	86.0%	0.61 (Medium)
Module 3: Folk Legends & Irau Ceremonies	Narrative past verbs, cultural values, festival nouns, descriptive adjectives	56.5%	68.5%	0.28 (Low-Medium)

The thematic disaggregation in Table 2 demonstrates that the highest learning gains were recorded in Module 2 (Local Culinary Arts, N-Gain = 0.61) and Module 1 (Traditional Attire, N-Gain = 0.54). Students achieved higher post-test accuracy in these modules because concrete physical artifacts (e.g., local food samples and traditional attire pictures) were directly incorporated into interactive classroom role-play exercises. Module 3 (Folk Legends & Ceremonies) showed moderate improvement (N-Gain = 0.28), reflecting the higher linguistic complexity required for narrative sentence structures compared to concrete lexical items.

In addition to quantitative metrics, qualitative classroom observations confirmed substantial affective gains. Prior to the intervention, students exhibited noticeable foreign language anxiety, hesitant speech, and passive classroom behavior. During the CTL implementation, when students were prompted to describe familiar Tidung dishes and traditional clothing in simple English, classroom participation increased markedly. Students demonstrated heightened enthusiasm, actively raised their hands, and voluntarily stood in front of the class to present role-play scenarios,

indicating a reduction in affective filters and increased cultural pride.

The empirical findings of this study confirm that integrating indigenous Tidung culture into elementary English instruction significantly enhances cognitive learning outcomes while bolstering affective classroom engagement. To establish theoretical depth, the following discussion interprets these findings in relation to existing literature, identifying areas of theoretical convergence, divergence, and conceptual novelty. Bartlett, (1932) schema theory, when synthesised with Sweller's Cognitive Load Theory, explains the significant increase in student mean scores (57.50 to 77.50, $p < .001$). In standard Indonesian elementary EFL instruction, textbooks often introduce English vocabulary embedded in unfamiliar Western or urban contexts (EYLC, 2021). Consequently, young learners face a dual cognitive burden: decoding novel foreign language syntax while simultaneously attempting to conceptualise unfamiliar cultural contexts (Lestari, 2022; Syafawani & Utami, 2025). By implementing the Cultural Linguistic Scaffolding Model, familiar Tidung cultural assets such as traditional foods and attire serve as pre-established cognitive schemas. Because students already possess well developed mental representations of their native culture, their working memory capacity is liberated from contextual decoding and fully dedicated to acquiring foreign vocabulary constructs. This cognitive mechanism directly accounts for the narrowing standard deviation (26.10 to 22.50), proving that local cultural scaffolding particularly benefits lower-performing learners who traditionally struggle with abstract instructional materials (Figure 1).



Figure 1. Student activity in participating in the learning process

These results strongly strengthen and align with a growing body of ethno-pedagogical research across elementary education disciplines (Figure 2). Scholars have established that incorporating local wisdom enhances student motivation, self-efficacy, and academic performance in social studies (Zimmerman, 2002), civics and arts (Young & Walsh, 2010), and general

curriculum literacy (Tomlinson, 2012). Furthermore, our qualitative observations showing increased student voluntary participation during speaking sessions corroborate the findings of (Nunan, 2003), who reported that contextual learning environments significantly lower learners' affective filters, encouraging active engagement among previously reticent students.



Figure 2. Increased student self-confidence by daring to come to the front of the class

Conversely, our findings diverge from and challenge conventional EFL pedagogical models reliant on rote memorization and generic textbook content (Saadah et al., 2025). Previous studies have highlighted that textbook centric EFL instruction in primary schools frequently induces foreign language anxiety and disconnects rural students from their immediate social environment (Sweller, 2011). Our study extends the concept of glocalization in education (Nguyen & Ho, 2024) by providing empirical proof that glocal EFL teaching is not restricted to dominant national ethnicities (such as Javanese or Balinese cultures). Instead, indigenous minority cultures in frontier regions such as the Tidung culture of Tarakan can be successfully operationalized as a robust pedagogical bridge. This dual-impact approach enhances foreign language proficiency without alienating young learners from their indigenous cultural roots, effectively addressing the risk of early cultural erosion in peripheral communities.

CONCLUSION

This study evaluated the integration of Tidung indigenous culture into elementary EFL instruction across three dimensions: cognitive efficacy, affective-cultural impact, and pedagogical innovation. First, cognitive results confirm a statistically significant improvement in 5th-grade vocabulary proficiency, with average scores increasing from 57.50 to 77.50 ($t(49) = -6.60$, $p < .001$,

N-Gain = 0.47), led by local culinary arts (N-Gain = 0.61) and attire modules (N-Gain = 0.54). Second, qualitative observations show that familiar cultural context lowers foreign language anxiety, fostering active participation and cultural pride. Third, this research formulates the Cultural Linguistic Scaffolding Model, demonstrating how native cultural schema reduces working memory load in primary language learners. Consequently, educators are encouraged to adopt ethno-pedagogical scaffolding models and develop digital local-wisdom resources to sustain language literacy and heritage preservation.

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