

Cultural Artifacts as a Mediator Between Social Interaction and English Writing Proficiency Among Grade 10 Learners

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ABSTRACT

Poor English writing proficiency is a problem in education. A predictive research design was employed, with 380 respondents from a stratified random sample completing a survey and an essay task. The data were analyzed using mediation analysis. Results revealed that cultural artifacts partially but significantly mediate the predictive-criterion correlation, affirming Sociocultural theory. Educators may consider increasing opportunities for learners to use both their home language and English during class discussions, incorporating authentic reading materials and culturally embedded texts into writing tasks, providing targeted teacher training on the integration of cultural artifacts in writing lessons, and encouraging future research on the potential impact of digital media, textbooks, and storytelling traditions as mediating resources. Future research should implement a formal rater calibration phase or utilize a multi-rater system where a subset of essays is cross-examined to compute Cohen's Kappa, Fleiss' kappa or an Intraclass Correlation Coefficient (ICC).

Keywords: Cultural artifacts, mediator, social interaction, English writing proficiency, Grade 10 learners

INTRODUCTION

The Problem and Its Scope

Many learners face persistent challenges in mastering English writing. Poor English proficiency has long been recognized as one of the most difficult skills for secondary learners to master. As Munder (2024) observed, "ESL learners commit numerous local errors such as verb tense misuse, capitalization, and punctuation mistakes," which reflects a persistent weakness in writing skills. Moreover, writing requires not only linguistic accuracy but also the ability to organize ideas, apply appropriate discourse conventions, and express thoughts coherently (Belarmino, 2023).

In other countries, similar challenges have been reported. For instance, Indian high school learners face recurring problems with grammar, syntax, spelling, and punctuation, often influenced by mother-tongue interference (Peter & Singaravelu, 2024). In Bangladesh, Rahnuma (2025) reported that ESL students encounter contradictions in their writing development, struggling to align cultural knowledge with academic writing demands. Likewise, Martirosyan et.al. (2015) found that international students in the United States with limited English proficiency performed poorly in academic writing tasks, underscoring the global nature of the problem.

In the Philippines, studies have shown that senior high school students often demonstrate weaknesses in vocabulary, grammar, and mechanics, and many express low confidences in their writing abilities (Ediang & Celesio, 2025). English writing proficiency remains a critical concern, with at least 90% of Filipino children aged 10 struggling to read or understand simple text and other language skills, according to the World Bank's 2022 data on learning poverty (Chi, 2024). Also, the 2019 Programme for International Student Assessment (PISA) results further revealed that only 6% of Filipino students met the expected writing proficiency for their grade level, while nearly half fell into the lowest proficiency category (Philippine Daily Inquirer, 2023). Cabansag (2013) reported poor reading and writing performance among students in Cagayan, with frequent errors in grammar and mechanics, especially in verb usage and capitalization.

Despite growing recognition of the importance of communicative competence in second language acquisition, existing research on English writing proficiency among high school students has largely focused on cognitive and linguistic factors, with limited attention to social interaction and cultural context. This gap is particularly evident in the Philippine context, where multilingual classrooms and rich cultural diversity offer untapped potential for culturally responsive pedagogy (Saavedra & Barredo, 2020). This study addressed that gap by exploring how social interaction, mediated by cultural artifacts, influences the English writing skills of Grade 10 learners.

Significance of the Study

This study is of substantial significance to educators, curriculum developers, and policymakers seeking to enhance English writing proficiency among Grade 10 students, supporting SDG 4: Quality Education. The study highlights the importance of culturally responsive pedagogy in fostering meaningful and effective writing instruction. Furthermore, it supports Holy Cross of Davao College's mission of providing holistic, faith-based education by fostering servant leadership, dialogue, justice, peace, and care for creation, thereby forming Christ-centered agents of social transformation who build a more humane world.

Statement of the Problem

The objective of this was to determine the significance of the mediating effect of cultural artifacts on the correlation between social interaction and English writing proficiency. Specifically, it aims to determine:

1. the levels of social interaction in terms of student-teacher interaction, student-student interaction and student-parent interaction; cultural artifacts in terms of language, materials and symbols; English writing proficiency in terms of organization, grammatical accuracy, and mechanics;
2. the significance of the correlation between social interaction, cultural artifacts, and English writing proficiency;
3. the significance of the direct effect of social interaction on English writing proficiency, controlling for cultural artifacts;
4. the indirect effect of social interaction on English writing proficiency through cultural artifacts; and
5. the total effect of social interaction on English writing proficiency.

Hypotheses

H01: Social interaction does not significantly correlate with cultural artifacts

H02: Social interaction does not significantly correlate with English writing proficiency

H03: Cultural artifacts do not significantly correlate with English writing proficiency.

H04: Social interaction does not have significant direct effect on English writing proficiency.

H05: Cultural artifacts do not have indirect effect on English writing proficiency.

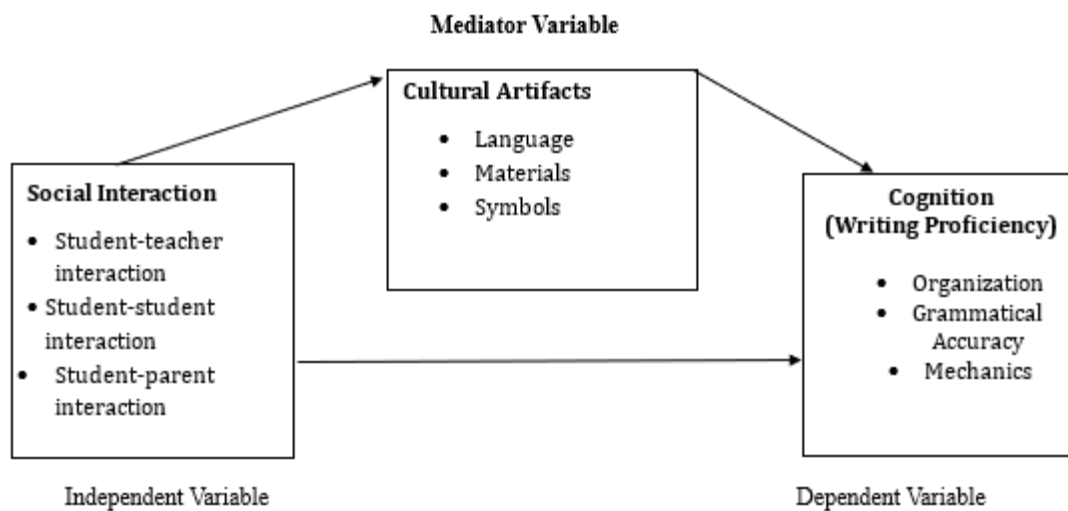
H06: Social interaction and cultural artifacts do not have significant total effect on English writing proficiency.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study was anchored in the Sociocultural Theory of Lev Vygotsky (1978), which posits that cognition stems from social interactions mediated by artifacts of culture. Vygotsky's views emerged from his studies of children learning from adults in authentic settings. He focused on two practical issues in educational psychology: the assessment of children's cognitive abilities and the evaluation of instructional practices (Wertsch & Stone, 1985).

In this study, the variables were fully anchored on the Sociocultural theory. The social interaction variable indicated by student-teacher interaction, student-student interaction, and student-parent interaction (Chukwu,

2025); the cultural artifacts as a mediator are indicated by language, symbols and materials (Jeong et al., 2022); and finally, English writing proficiency, measured by organization, grammatical accuracy, and mechanics (Bascos-Ocampo et al., 2016), stands for the cognition in language learning.



METHODOLOGY

This chapter included the research design, the study locale, the sample and sampling, the data-gathering technique, data analysis, and ethical considerations.

Research Design

This study utilized predictive research design. This method is predictive in nature because it tests directional relationships among variables (i.e., $X \rightarrow M \rightarrow Y$) and seeks to predict outcomes (Y) from certain predictors (X) and the mediating mechanism (M) (Angriman et al., 2023). This design is appropriate when the researcher aims to determine whether a mediating variable explains the relationship between the independent and dependent variables. Following the framework outlined by Ballen and Salehi (2021), mediation analysis will be conducted using a regression-based technique.

Locale of the Study

The study was conducted in Davao City, specifically focusing on the learners of Cluster 9, Baguio District. Davao City was one of the largest cities in the Philippines, known for its diverse population and strong emphasis on inclusive education. Within the Department of Education, the Baguio District houses 8 Junior High Schools that cater to learners with diverse cultural backgrounds and varied needs, including those with disabilities (Department of Education-Davao City Division, 2022).

Sample and Sampling Technique

This study involved 380 respondents from the total Grade 10 population enrolled in 8 junior high public schools in Cluster 9. To ensure academic readiness for the study's parameters, the inclusion criteria required participants to have successfully passed their previous English course. Demographically, the sample exhibited a multilingual profile: while English served as their instructional language, participants primarily utilized a combination of English, Tagalog, and their local native dialect (code-switching) as their home languages. To ensure that the associations among the independent variable (X) social interaction, the mediator (M) cultural artifacts, and the dependent variable (Y) English writing proficiency could be examined with confidence, the sample size was computed to provide sufficient statistical power for the mediation study. By drawing a large proportion of the population, the study enhances the sample's representativeness and reduces the margin of error in estimating predictive pathways (Etikan & Bala, 2017).

To achieve this, the researcher employed stratified random sampling. As Makwana et al. (2023) note, stratified random sampling involves dividing the population into subgroups (strata, such as gender, academic track, or section) and then randomly selecting participants in proportion to each stratum. This guarantees fair representation across subgroups, which is essential in mediation analysis because predictive correlations ($X \rightarrow M \rightarrow Y$) may vary across demographic categories. This approach was the most appropriate for the investigation. Furthermore, Angriman et al. (2023) emphasize predictive mediation models rely on robust sampling strategies to accurately test directional relationships and forecast outcomes, making stratified random sampling an appropriate choice for this study to achieve a 95% confidence level with a 5% margin of error.

Data Gathering Technique

This study utilized a survey technique. There were three adapted and modified questionnaires, all of which utilized a four-point Likert scale. First, a 15-item survey questionnaire was adapted from the study by Chukwu (2025), "Influence of social interaction on academic performance of secondary school students in Rivers-West Senatorial District of Rivers State, Nigeria," to measure respondents' level of social interaction. Second, a 20-item adapted survey questionnaire from the study by Roque and Zacaria (2025), "Culturally responsive pedagogy in elementary English instruction," was used to measure the level of utilization of cultural artifacts among the respondents. The third instrument was a 3-paragraph essay-writing task on "My Dream Career and Why It Inspires Me." Three junior high school language experts evaluated the essays using a rubric. The essays' scoring range has a corresponding four-point Likert scale. The adopted and modified 36-item questionnaires were pilot-tested and their reliability assessed, yielding an overall Cronbach's alpha of .738.

Data Analysis Technique

The data analysis techniques employed in this study included descriptive analysis, correlation analysis, and mediation analysis. Descriptive analysis was utilized to summarize and present the basic features of the dataset, providing measures such as central tendency and variability to give an overall picture of the data distribution (Field, 2013). Correlation analysis, specifically Pearson's r , was applied to determine the strength and direction of linear relationships between variables, allowing the identification of significant associations (Cohen et al., 2003). Lastly, a mediation analysis was performed to examine whether the third variable mediated the relationship between an independent and a dependent variable, thereby uncovering the underlying mechanisms of the observed effects (Baron & Kenny, 1986; Hayes, 2018). Taken together, these techniques offered a comprehensive approach to describing, correlating, and explaining the relationships among variables in the dataset.

Scale	Level	Interpretation for Social Interaction	Interpretation for Cultural Artifacts	Interpretation for English writing proficiency
1.00-1.74	Very low	Minimal	Minimal	Beginning
1.75-2.49	Low	Occasional	Occasional	Developing
2.50-3.25	High	Frequent	Frequent	Proficient
3.26-4.00	Very High	Consistent	Consistent	Very Proficient

Presented below is the matrix containing the range of means, descriptive level, and corresponding interpretation assigned to each variable involved in this study.

For the interpretation scale of r -value, the following scheme is used:

Computed r	Descriptive Interpretation
± 1.00	Perfect Correlation
$\pm 0.75 - \pm 0.99$	High Correlation
$\pm 0.51 - \pm 0.74$	Moderately High Correlation
$\pm 0.31 - \pm 0.50$	Moderately Low Correlation
$\pm 0.01 - \pm 0.30$	Low Correlation
0.00	No Correlation

The Pearson correlation coefficient (r) is the most common statistical measure of linear correlation. The strength and direction of the two variables are measured by the range from -1 to 1 (Turney, 2022). This type of inferential statistics helps researchers to examine whether there is a significant relationship between variables; in this case, the social interaction, cultural artifacts and English writing proficiency among grade 10 learners.

The standard measure for the interpretation of the strength of the mediation was as follows:

Proportion Mediated	Interpretation
<0.20	Weak Mediation
0.20-0.50	Moderate Mediation
>0.50	Strong Mediation

Ethical Considerations

The researcher strictly adhered to ethical standards when involving grade 10 learners from selected public schools in the Division of Davao City. The research proposal was reviewed and approved by the Holy Cross of Davao College, Society for Moral Integrity and Legal Ethics (SMILE), to ensure adherence to ethical, legal, and moral research principles. The survey instruments were checked and tested for their validity and reliability. Before data gathering, approval from the DepEd Schools Division Superintendent was sought. Followed by the approval from the school principals. Informed Consent and Assent were distributed. The respondents' data privacy was protected, and their personal information was kept confidential. No harm was inflicted on the respondents.

RESULTS

Included in this chapter were the descriptive, correlation, regression, and mediation tabular presentations, along with the corresponding analysis and interpretations of the statistical results. A summary of findings is presented in this chapter.

Table 1. Descriptive Analysis. ($n = 380$)

Variables	SD	Mean	Descriptive Level
Social Interaction (IV)	0.23	3.69	Very High
Student-teacher Interaction	0.24	3.77	Very High
Student-student Interaction	0.28	3.70	Very High
Student-parent Interaction	0.34	3.58	Very High
Cultural Artifacts (MV)	0.20	3.70	Very High
Language	0.18	3.79	Very High
Symbols	0.25	3.66	Very High
Materials	0.31	3.64	Very High
English Writing Proficiency (DV)	0.63	3.43	Very High
Organization	0.78	2.67	High
Grammatical Accuracy	0.83	3.29	Very High
Mechanics	0.68	3.16	High

Very High - (3.26 – 4.00); High - (2.50 – 3.25); Low – (1.75 – 2.49); Very Low – (1.00 – 1.74)

Shown in Table 1 are the descriptive statistical results of the study. Included in the table are the variables involved namely social interaction, cultural artifacts, and English writing proficiency with their respective indicators. Also presented are the mean and its descriptive level.

In particular, with an overall mean of 3.69, social interaction and its indicators were rated at a very high level, indicating that students consistently interacted with their teachers, peers, and parents. In addition, cultural artifacts and their indicators had an overall mean of 3.70, reflecting a very high level of integration into the learning environment. Social interaction and cultural artifacts were so uniformly high that they imply interdependence, relational harmony, and open communication were cultural norms. Interactions reflect a community-centric ecosystem where learning was perceived as a collaborative, socially shared responsibility rather than an isolated, individual task. In collectivist cultures, shared tools—especially Language—are heavily relied upon to maintain social connection, pass down communal knowledge, and bridge understanding. Artifacts are not just objects; they are the literal scaffolding for social connection. This suggested that students consistently engaged with cultural artifacts, such as language, symbols, and materials, which contributed to shaping their academic and cultural experiences.

Furthermore, learners demonstrated outstanding writing abilities, as evidenced by a mean English writing proficiency score of 3.43, indicating excellent writing skills. However, the higher standard deviation relative to other variables indicated greater performance heterogeneity. With some learners outperforming others, two of its indicators were rated high, and one was rated extremely high. Taken together, the results emphasized that strong social interaction and cultural engagement provided a supportive context for writing proficiency. However, individual differences in skill levels, particularly in organization and mechanics, remained more pronounced.

Lastly, the essay evaluation method limits the study's internal consistency. Due to severe time constraints and conflicting professional schedules, the three participating English teachers were unable to undergo a collaborative calibration session or cross-evaluate the 380 papers. Instead, the essays were distributed equally among them for independent grading. While this division of labor was logistically necessary, it poses a potential threat to internal validity by preventing measurement of inter-rater reliability. Consequently, systemic variations in grading strictness or subjective interpretations of the rubric among the three raters cannot be statistically ruled out. However, this risk was mitigated by ensuring that all three raters were fully qualified, board-certified English teachers who utilized the exact same standardized evaluation rubric.

Table 2. Correlation Analysis. ($n = 380$)

Variables			r	p-value	Decision	Interpretation
Social Interaction (IV)	-	Cultural Artifacts (MV)	0.680	0.000	Reject Ho	Significant Positive Moderately High Correlation
Social Interaction (IV)	-	English Writing Proficiency (DV)	0.457	0.000	Reject Ho	Significant Positive Moderately Low Correlation
Cultural Artifacts (MV)	-	English Writing Proficiency (DV)	0.482	0.000	Reject Ho	Significant Positive Moderately Low Correlation

Level of Significance: 0.05

Decision Rule: Reject Ho if $p < 0.05$

The correlation analysis table revealed a significant positive relationship between social interaction and cultural artifacts, with a correlation coefficient of $r = 0.680$ and a p-value of 0.000. Since the p-value was below the 0.05 threshold, the null hypothesis was rejected. The strength of the correlation was interpreted as moderately high, underscoring that stronger social interaction among students was closely linked to greater engagement with cultural artifacts in the learning environment. It implies that for every unit change in social interaction, there is a corresponding change in engagement with cultural artifacts.

Meanwhile, the null hypothesis was once more rejected, with the correlation coefficient between social interaction and English writing proficiency being $r = 0.457$ ($p = 0.000$). The result indicated a significant, but moderately low, positive correlation, meaning that while social interaction contributed to improved writing

proficiency, the strength of this association was weaker than its link with cultural artifacts. This implies that for every unit change in social interaction, there is a corresponding change in English writing proficiency.

Lastly, the null hypothesis was also rejected; the association between cultural artifacts and English writing proficiency yielded a correlation of $r = 0.482$ ($p = 0.000$). The finding showed a significant yet weak positive correlation, indicating that cultural artifacts, including language, symbols, and materials, had a moderately strong impact on learners' writing ability. This underscores that using stories, folktales, legends, proverbs, idioms, traditional songs, dances, games, and discussing local festivals and celebrations often helps improve English writing. This suggests a proportional shift in English writing proficiency for each unit change in cultural artifacts.

Table 3. Mediation Analysis ($n = 380$)

Label	Path/Effect	Estimate (B)	SE	Z-value	p-value	Decision on Ho	Interpretation
a	Social Interaction (IV) → Cultural Artifacts (MV)	0.607	0.043	14.07	0.000	—	Significant Effect
b	Cultural Artifacts (MV) → English Writing Proficiency (DV)	0.978	0.169	5.79	0.000	—	Significant Effect
c (Direct Effect)	Social Interaction (IV) → English Writing Proficiency (DV)	0.660	0.156	4.22	0.000	Reject Ho	Significant Direct Effect
a × b (Indirect Effect)	Social Interaction (IV) → Cultural Artifacts (MV) → English Writing Proficiency (DV)	0.594	0.112	5.28	0.000	Reject Ho	Significant Mediating Effect
(a × b) + c (Total Effect)	Social Interaction (IV) → English Writing Proficiency (DV)	1.253	0.110	11.35	0.000	Reject Ho	Significant Total Effect

Level of Significance: 0.05

Decision Rule: Reject Ho if $p < 0.05$

After accounting for cultural artifacts, the direct effect mediated by social interaction on writing proficiency remained significant, with an estimate of 0.660, a standard error of 0.156, and a z-value of 4.22. The null hypothesis was rejected at $p = 0.000$, confirming the outcome. The persistence highlights the dual significance of social interaction across direct and mediated channels. It suggests that it independently contributed to writing proficiency, even when cultural artifacts are taken into account. Meanwhile, the indirect effect through cultural artifacts was also significant, with an estimate of 0.594, a standard error of 0.112, and a z-value of 5.28. The p-value of 0.000 again led to the rejection of the null hypothesis. This pathway showed that cultural artifacts mediated the relationship between social interaction and writing proficiency, meaning that part of the effect of social interaction operated through students' engagement with language, symbols, and materials. The interpretation implies the importance of cultural context as a mechanism that strengthened the impact of social interaction on writing outcomes.

Moreover, the total effect of social interaction on English writing proficiency was statistically significant, with an estimate of 1.253, a standard error of 0.110, and a z-value of 11.35. The p-value of 0.000 confirmed the rejection of the null hypothesis, indicating a strong positive influence. This result implies that social interaction was a primary driver of writing proficiency, directly shaping students' language development through interpersonal engagement. Since both the direct and indirect effects were significant, the results indicated partial rather than full mediation. Cultural artifacts only partially explained the relationship, indicating that social interaction continued to exert direct influence while also channeling its effects through cultural engagement. In practice, this means that fostering both interactive learning environments and exposure to cultural artifacts is essential for maximizing English writing proficiency. Hence, the mediation effect was strong.

Summary of Findings

Based on statistical results, it specifically found that:

1. Social interaction significantly correlated with cultural artifacts

2. Social interaction significantly correlated with English writing proficiency
3. Cultural artifacts significantly correlated with English writing proficiency
4. Social interaction had a significant direct effect on English writing proficiency
5. Cultural artifacts exerted a significant indirect effect, mediating the relationship between social interaction and English writing proficiency.
6. Social interaction had a significant total effect on English writing proficiency

DISCUSSIONS

Discussed in this chapter are the descriptive, correlational, and mediation analysis results of the study. The discussions aim to highlight how the study's results support previous findings. Included here as well are the conclusion and recommendations based on the results and discussions.

Social Interaction, Cultural Artifacts, English Writing Proficiency Descriptions

The descriptive analysis revealed that social interaction, cultural artifacts, and English writing proficiency were all at very high levels. Collectively, these findings emphasize that strong social interaction and cultural engagement provide a supportive context for the development of writing proficiency. This finding aligns with Bagheri et al. (2021), who argued that frequent face-to-face interaction enhances grammar skills by offering authentic opportunities to practice sentence structures and verb tenses. Similarly, Setyaningrum (2019) highlighted that cultural artifacts enable students to reshape their identities, facilitating their progression from novices to experts in reading, writing, speaking, and other language skills.

However, the current findings oppose Pearson (2024), who contended that strong social interaction and cultural engagement do not always guarantee improved writing proficiency. On the other hand, Barro-Punzalan (2024) reported strong links between sociolinguistic competence and discourse proficiency, reinforcing the purpose of social and cultural contexts in shaping writing outcomes.

Social Interaction, Cultural Artifacts, and English Writing Proficiency Correlations

The finding is that social interaction and English writing proficiency demonstrate a significant positive but moderately low correlation. Bayagna et al. (2025) emphasized that high-quality face-to-face social interaction is a crucial driver of grammar proficiency among English language students. In contrast, the current findings deviate from Rahnema (2025), who argued that social and cultural contexts alone do not guarantee improved writing outcomes. On the other hand, Patil (2024) further emphasized that sociocultural determinants, such as family background, social environment, and educational practices, profoundly influence English proficiency, with supportive contexts leading to stronger writing skills.

Moreover, the finding that cultural artifacts and English writing proficiency exhibit a significant, positive, but moderately low correlation affirms previous research suggesting that cultural artifacts, such as language, symbols, and materials, support the development of English writing proficiency among learners. Roque et al. (2025) further argued that teachers can foster a more engaging and supportive learning environment by integrating students' cultural and linguistic identities into English instruction.

Social Interaction and English Writing Proficiency as mediated by Cultural Artifacts

The mediation results of this study underscore the significant role of cultural artifacts in the relationship between social interaction and English writing proficiency. This finding supports He (2022), who found that incorporating cultural artifacts enables language learners to internalize knowledge more effectively than traditional instructional methods, resulting in both immediate learning gains and long-term improvements in writing skills. He underscored the need for appropriate scaffolding in language education. In contrast, the current findings

oppose those of Nature Editorial (2024), which reported that structural barriers in academic publishing persist for non-native English speakers, regardless of cultural or social engagement, suggesting that mediation alone may not fully overcome systemic challenges.

Furthermore, this study affirms that cultural artifacts partially mediate the effect of social interaction on English writing proficiency. While social interaction directly improves writing proficiency, cultural artifacts reinforce these advantages by contextualizing them within learners' cultural and linguistic experiences. Li and Zhu (2017) demonstrated that, through social interaction, students negotiate meaning, share linguistic resources, and enhance critical thinking skills by engaging in collaborative writing tasks and peer review sessions, thereby enhancing accuracy, fluency, and creativity. At the same time, Silor et al. (2024) argued that language, as a cultural artifact, is a potent medium for transmitting and shaping cultural norms, values, and identity. Culture, in turn, molds language, shaping linguistic distinctions, formulations, and even the development of linguistic structures. This symbiotic relationship manifests across domains, from everyday communication to broader cultural phenomena, reinforcing the importance of integrating cultural artifacts into writing instruction.

CONCLUSION

Based on findings, it was concluded that cultural artifacts partially but significantly mediate the relationship between social interaction and English writing proficiency. Social interaction, both direct and indirect, affects English writing proficiency by reinforcing cultural artifacts. This conclusion affirms the Sociocultural theory, which posits that cognition stems from social interaction mediated by cultural artifacts.

RECOMMENDATIONS

Based on the conclusion, the following recommendations were offered:

1. Educators may intensify learners' interaction and engagement in class by conducting activities that encourage them to interact and use both their home language and English.
2. Policymakers may support culturally responsive teaching practices and resource allocation that ensure equitable access to these artifacts across schools.
3. Curriculum developers may develop culturally responsive pedagogy to improve writing proficiency.
4. Future researchers may study whether additional cultural artifacts (e.g., digital media, textbooks, storytelling traditions) also mediate the relationship.
5. Future research should implement a formal rater calibration phase or utilize a multi-rater system where a subset of essays is cross-examined to compute Cohen's Kappa, Fleiss' kappa or an Intraclass Correlation Coefficient (ICC).

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