



## International Journal of Advanced Research

[ijar.eanso.org](http://ijar.eanso.org)

Volume 7, Issue 1, 2024

Print ISSN: 2707-7802 | Online ISSN: 2707-7810

Title DOI: <https://doi.org/10.37284/2707-7810>



EAST AFRICAN  
NATURE &  
SCIENCE  
ORGANIZATION

Original Article

# Lumasaaba and English Language Reading Comprehension among Primary School Pupils of Sironko District in Uganda

Zainorice Namukuta<sup>1\*</sup> & Geoffrey Buyera<sup>2</sup>

<sup>1</sup> Uganda Christian University, Mbale University College, P. O. Box 189, Mbale, Uganda.

<sup>2</sup> Uganda Management Institute, Mbale Branch, P. O. Box 1842 Mbale, Uganda.

\* Author for Correspondence ORCID: <https://orcid.org/0009-0006-4635-5597>; Email: [znamukuta@gmail.com](mailto:znamukuta@gmail.com)

Article DOI: <https://doi.org/10.37284/ijar.7.1.2505>

Publication Date: **ABSTRACT**

10 December 2024

### Keywords:

Lumasaaba or  
Lugisu,  
Bilingual  
Education,  
Reading  
Comprehension,  
Orthographic  
Patterns,  
and Cognate  
Awareness.

The study investigated the effect of Lumasaaba on English language Reading Comprehension among Primary School Pupils in the Sironko district. Two objectives guided the study: to find out the effect of Lumasaaba orthographic patterns and Lumasaaba Cognate awareness on English Language reading comprehension. Much as several studies showed that Lumasaaba and the English language share some linguistic features like the alphabet and cognates, there was a dearth of studies that identify which features of Lumasaaba need to be shared for transfer to be effective and to demonstrate whether pupils were aware of these cognates, and activate them in reading comprehension. The study used a cross-sectional survey research design to assess the effect of Lumasaaba on pupils' English reading comprehension in Mafudu Sub County, Budadiri West, Sironko District in Uganda. The study used a language test to evaluate Primary Five (P5) pupils' English reading comprehension, cognate awareness, and spelling proficiencies. The results showed that pupils who did not receive Lumasaaba instruction performed slightly better than those pupils who received Lumasaaba instruction. Besides, Lumasaaba orthography and cognates were significant predictors of English language reading comprehension proficiency, Lumasaaba Cognates emerged as the most significant predictor ( $\beta = .294$ ,  $p = .000$  compared to Lumasaaba Orthography ( $\beta = .196$ ,  $p = .006$ ). The researchers conclude that lexical similarities between Lumasaaba and English as well as the nature of Lumasaaba writing patterns enhance English language reading comprehension proficiency. The findings highlight the need for educators to consider Lumasaaba orthographic patterns and cognates when designing reading instruction for Lumasaaba bilingual pupils.

### APA CITATION

Namukuta, Z. & Buyera, G. (2024). Lumasaaba and English Language Reading Comprehension among Primary School Pupils of Sironko District in Uganda. *International Journal of Advanced Research*, 7(1), 417-426. <https://doi.org/10.37284/ijar.7.1.2505>

### CHICAGO CITATION

Namukuta, Zainorice and Geoffrey Buyera. 2024. "Lumasaaba and English Language Reading Comprehension among Primary School Pupils of Sironko District in Uganda". *International Journal of Advanced Research* 7 (1), 417-426. <https://doi.org/10.37284/ijar.7.1.2505>.

**HARVARD CITATION**

Namukuta, Z. & Buyera, G. (2024) "Lumasaaba and English Language Reading Comprehension among Primary School Pupils of Sironko District in Uganda". *International Journal of Advanced Research*, 7(1), pp. 417-426. doi: 10.37284/ijar.7.1.2505.

**IEEE CITATION**

Z., Namukuta & G., Buyera "Lumasaaba and English Language Reading Comprehension among Primary School Pupils of Sironko District in Uganda", *IJAR*, vol. 7, no. 1, pp. 417-426, Dec. 2024.

**MLA CITATION**

Namukuta, Zainorice & Geoffrey Buyera. "Lumasaaba and English Language Reading Comprehension among Primary School Pupils of Sironko District in Uganda". *International Journal of Advanced Research*, Vol. 7, no. 1, Dec. 2024, pp. 417-426, doi:10.37284/ijar.7.1.2505

**INTRODUCTION**

Bilingual education is a dynamic and complex field facing various current issues worldwide among others; a debate about the most effective bilingual education models that cater to diverse linguistic and cultural contexts. There has been a scarcity of research specifically focusing on how bilingual education, particularly involving Lumasaaba and English, affects the reading comprehension of primary school pupils. Most studies tend to focus on either language in isolation (Melby-Lervåg, 2013). Consequently, this limits our understanding of how Lumasaaba influences English language reading comprehension among primary school pupils. Historically, English became the official language of Uganda during British colonisation in 1894, with a significant shift in language policy after independence. The introduction of a thematic curriculum in 2007 established mother tongue instruction for early grades, transitioning to English in later years. However, reports indicate that reading comprehension remains low among pupils, particularly in Sironko District.

The cross-linguistic transfer theory guided the study, which suggests that language learning can benefit from similarities between a learner's first and second languages. Despite Lumasaaba and English being non-etymologically related, they share some cognates and orthographic similarities that may influence reading comprehension. The Ugandan government's educational reforms aimed to improve literacy through mother tongue instruction, but recent assessments highlight ongoing challenges in reading proficiency

(Kamugisha, 2017; Uwezo, 2016; Masinde, 2016). Despite these policy efforts, a significant percentage of pupils struggle with reading comprehension, particularly in English. The study was guided by two objectives:

- To establish the effect of Lumasaaba language orthographic patterns on English language reading comprehension
- To investigate the effect of Lumasaaba Cognate awareness on English Language reading comprehension

The research could significantly shape language education strategies, promote cultural inclusivity, and ultimately improve literacy and academic success among primary school pupils in Uganda.

**LITERATURE REVIEW**

Orthographic transparency refers to how consistently letters and sounds correspond in a language. Languages with transparent orthographies, like Spanish, have direct letter-to-sound correspondence, making them easier to learn to read. In contrast, English has a deep orthography with many irregularities. Studies show that learners from transparent orthographic backgrounds may initially struggle with English reading due to these inconsistencies (Moats, 2019). Additionally, phonological awareness, the ability to recognize and manipulate sounds in spoken language, is crucial for reading development. Research indicates that L1 orthographic patterns influence phonological awareness in English. For instance, learners from languages with complex orthographies may develop

stronger phonological skills, aiding their English reading comprehension (Moats, 2019). Further, the ability to recognise and decode words is fundamental to reading comprehension. L1 orthographic features can affect how learners approach word recognition in English. For example, learners from languages with logographic systems (like Chinese) may rely more on visual memory for word recognition, which can impact their reading strategies in English (Borleffs et al., 2019).

Moreover, spelling is closely tied to orthographic knowledge and reading comprehension. Studies have shown that L1 orthographic patterns influence spelling skills in English. Learners from languages with consistent spelling rules may find English spelling challenging, affecting their overall reading comprehension (Moats, 2019). Still, effective instructional interventions can mitigate the challenges posed by differing orthographic patterns. Phonics-based interventions, which emphasize the relationship between letters and sounds, have been shown to improve reading comprehension in English, especially for learners from diverse orthographic backgrounds (Moats, 2019). Lastly, the cultural and linguistic context of learners plays a significant role in reading comprehension. Research highlights the importance of culturally relevant materials and instruction that acknowledges the learners' L1 background. This approach can enhance engagement and comprehension in English reading (Majorano, et al., 2021).

While there is substantial research on individual languages, comparative studies across different L1 orthographies are limited. Understanding how various orthographic systems (e.g., alphabetic, logographic) influence English reading comprehension can provide deeper insights (Moats, 2019). Besides, there is a growing recognition of the role of morphological awareness in reading comprehension, but its interaction with orthographic knowledge remains underexplored. More research is needed to understand how morphological skills in

L1 influence English reading comprehension (Fumeroa & Tib, 2020; Moats, 2019).

On the other hand, cognates are words in two languages that share a similar meaning, spelling, and pronunciation. For example, the English word "information" and the Spanish word "información" are cognates. Cognate awareness can significantly aid bilingual learners in understanding and acquiring vocabulary in a second language (L2), thereby enhancing reading comprehension (Robles, 2010). Research indicates that learners who can recognize cognates between their L1 and English tend to have better reading comprehension skills. This is because cognates provide a bridge between the two languages, allowing learners to transfer their existing vocabulary knowledge to English (Proctor & Mo, 2009). For instance, Spanish-English bilingual students who are aware of cognates can leverage their Spanish vocabulary to understand English texts more effectively (Robles, 2010; Proctor & Mo, 2009). Cognate awareness is closely linked to phonological and morphological awareness.

Phonological awareness involves recognizing and manipulating sounds, while morphological awareness involves understanding the structure of words. Studies show that bilingual learners with strong phonological and morphological skills in their L1 are better at recognizing cognates and, consequently, have improved reading comprehension in English (Toboada, 2009). Further, effective instructional strategies can enhance cognate awareness and reading comprehension. Teachers can explicitly teach cognates, highlight similarities and differences between L1 and English, and use cognate-based activities to reinforce vocabulary learning. Research suggests that such strategies can significantly improve reading comprehension among bilingual learners (Robles, 2010). Cross-linguistic transfer refers to the influence of L1 knowledge on L2 learning. Cognate awareness facilitates this transfer, enabling learners to apply their L1 vocabulary knowledge to

English. Studies have shown that bilingual learners who are aware of cognates can transfer their L1 reading skills to English, leading to better reading comprehension (Toboada, 2009; Robles, 2010). Despite the benefits, there are challenges in leveraging cognate awareness. False cognates, or words that look similar but have different meanings (e.g., “actual” in English and “actual” in Spanish, which means “current”), can confuse learners. Additionally, the effectiveness of cognate awareness may vary depending on the linguistic distance between L1 and English (Melby-Lervåg, 2013).

The literature review highlighting the orthographic features of Lumasaaba and English indicates that the Lumasaaba alphabet includes 33 letters (including both vowels and consonants), while English has 26. Both languages share consonant letters but differ in certain characters and the treatment of vowels (Fountain Publishers, 2016). Studies indicate that while shared orthography may suggest potential transfer, actual outcomes can vary. Deacon et al. (2009) argue that orthographic skills are often language-specific and may not facilitate reading across languages. In terms of cognate awareness, the Lumasaaba Language Academy (1995) recognizes that both languages share cognates, primarily through borrowed words. Research shows that cognates can aid comprehension by providing translation aids between languages. However, other studies, such as those by Proctor & Mo (2009), suggest that learners may not effectively utilise cognate awareness unless both languages are well-established and explicitly taught.

## METHODOLOGY

The study used a cross-sectional survey research design to assess the effect of Lumasaaba on pupils' English reading comprehension in Mafudu Sub County, Budadiri West, Sironko District in Uganda. The researchers chose this design because the study was conducted during COVID19 pandemic; thus, it allowed for the collection of data at a single point in

time, providing relevant information for generalizations about the sampled population (Creswell, 2014). The study used a language test to evaluate pupils' English reading comprehension, cognate awareness, and spelling proficiencies.

The study population consisted of Primary Five (P5) pupils. The researchers selected this group because it had fully transitioned from Lumasaaba to English as the medium of instruction following a transitional year in P4. The study used a stratified random technique to sample the pupils. Using Krejcie and Morgan's (1970) formula for sample size calculation, the researchers sampled 202 pupils from a population of 441. The researchers subjected pupils to a language test consisting of 45 items, structured into five sections: Section A had two items eliciting responses about pupils' gender and Lumasaaba instruction. Section B had 10 multiple-choice test items assessing recognition of English words that mirror Lumasaaba spelling patterns. Section C had 10 cognate words matching test items while Section D had 10 cognate meaning matching test items.

Finally, Section E had a short comprehension passage with 13 multiple-choice comprehension question items. The researchers designed the test following Heaton (1990) and Akampurira, Bamwoyeraki, and Odoi, (2016) guidelines. The study assessed the validity of the instruments by consulting experts in Early Grade Reading Assessment (EGRA), who evaluated the relevance of the test items. The Content Validity Index (CVI) was computed, resulting in an overall CVI score of 0.851, exceeding the recommended threshold of 0.7 (Amin, 2005). Reliability was measured using Cronbach's alpha.

The overall reliability coefficient for the test items was 0.724 indicating acceptable internal consistency (Amin, 2005). The researchers scored the pupils' language test scripts and coded them to generate quantitative data. A right response to the test item was coded three (correct), an unanswered test item was coded two (not sure), and a wrong response to

the test item was coded one. The researchers then entered the coded data into SPSS version 20 for analysis to summarise and interpret the findings. Descriptive statistics especially means and standard deviations were used, alongside Pearson Product-Moment Correlation Coefficient, Analysis of Variance (ANOVA), and Multiple Regression Analysis to evaluate relationships and predictors of reading comprehension.

## RESULTS

### Demographic Data

The study examined the gender and Lumasaaba instructional background of participants as the control Variables that may affect the relationship between Lumasaaba and English language Reading Comprehension among Primary School Pupils in Sironko district.

#### *Respondents' Gender*

The respondents' gender is presented in Figure 1 below

**Figure 1: Sex of the respondents**

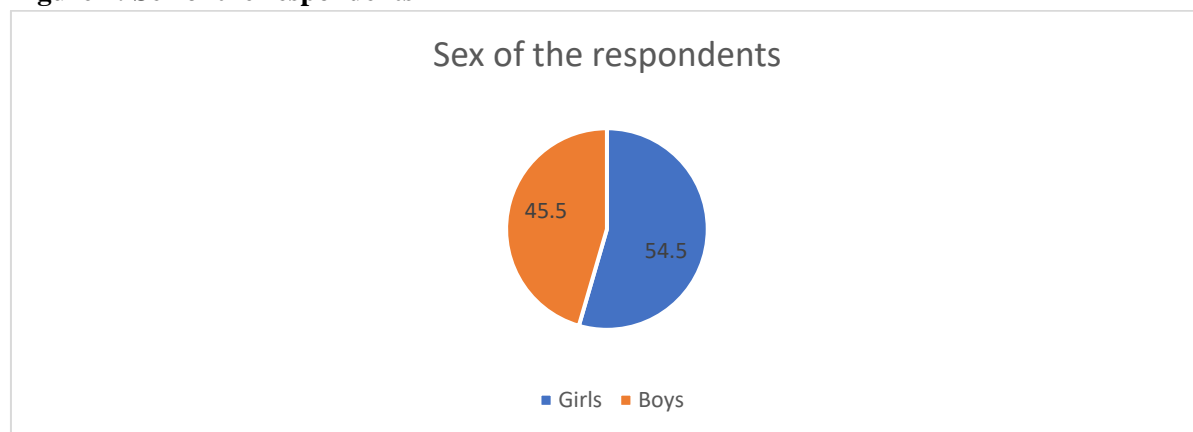


Figure 1 above shows that the majority of respondents were girls (54.5%), consistent with Uganda's enrolment statistics (UBOS, 2020).

#### *Lumasaaba Instructional Background*

The results of the pupils' Lumasaaba instructional background are presented in Figure 2 below.

**Figure 2: Pupils' Lumasaaba Instructional Background**

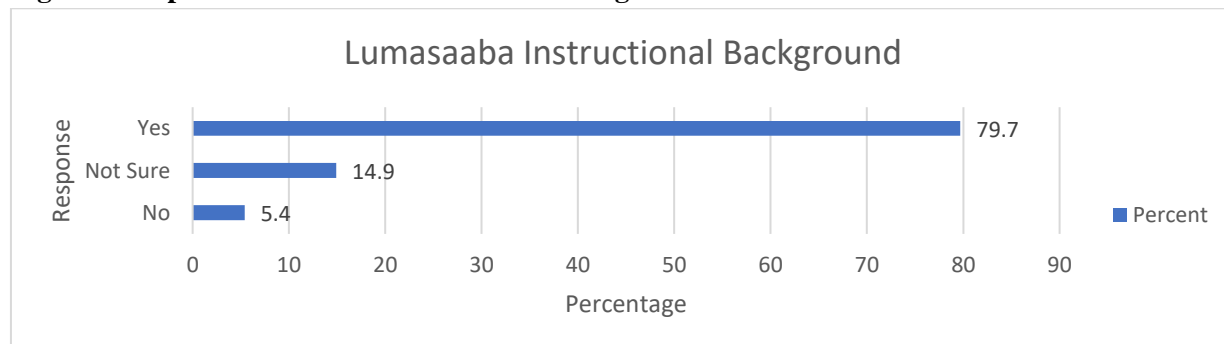


Figure 2 above shows that 79.7% of respondents had been taught in Lumasaaba from Primary one to

three, increasing the credibility of findings based on their linguistic background.



## Testing the Hypotheses

**H1: There is a significant interaction between sex and Lumasaaba instruction, such that the effect of Lumasaaba instruction on English Language Reading Comprehension will differ by sex.**

The researchers conducted a two-way between-groups analysis of variance to examine the effect of sex and Lumasaaba instruction on English language reading comprehension proficiency. Participants were divided into three groups according to their Lumasaaba instruction background (Group 1: pupils who were instructed in Lumasaaba from P1 to P3; Group 2: pupils who never had Lumasaaba instruction from P1 to P3; Group 3: pupils who were not sure whether they had had Lumasaaba instruction or not). The interaction effect between sex and Lumasaaba instruction was not statistically significant,  $F(2, 196) = .211$ ,  $p = .810$ ,  $\eta^2 = .002$ , with females ( $M = 26.936$ ,  $SD = 4.007$ ) scoring higher than males ( $M = 26.294$ ,  $SD = 3.778$ ). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for pupils with Lumasaaba instruction group ( $M = 26.578$ ,  $SD = 3.810$ ) was significantly different from pupils without prior Lumasaaba instruction group ( $M = 28.181$ ,  $SD = 4.045$ ), suggesting that pupils who did not receive Lumasaaba instruction performed slightly better than those pupils who receive Lumasaaba instruction. The group that was unsure of their Lumasaaba instruction ( $M = 26.433$ ,  $SD = 4.376$ ) did not differ significantly from the pupils in the Lumasaaba instruction group. The main effect for sex,  $F(1, 196) = .031$ ,  $p = .859$ ,  $\eta^2 = .000$  did not reach statistical significance.

**H2: There is a statistically significant effect of Lumasaaba orthography on English language reading comprehension.**

The researchers first investigated the relationship between Lumasaaba orthographic patterns and English language reading comprehension using a Pearson product-moment correlation coefficient.

The study found a moderate, positive correlation between the two variables,  $r = .300$ ,  $n = 202$ ,  $p = .000$ , with high levels of Lumasaaba orthographic patterns associated with moderate levels of English language reading comprehension proficiency.

Then the researchers calculated a simple linear regression to predict English language reading comprehension based on Lumasaaba orthographic patterns. A significant regression equation was found ( $F(1, 202) = 19.730$ ,  $p = .000$ ), with an  $R^2$  of  $.300$ . English language reading comprehension is equal to  $17.726 + .386$  (English language reading comprehension) percent when English language reading comprehension is measured in percentage. English language reading comprehension increased by  $.386$  percent for each percentage of Lumasaaba orthographic patterns. It was found that the predictor significantly predicted the response ( $\beta = .300$ ,  $p = .000$ ).

**H3: There is a statistically significant effect of Lumasaaba Cognates on English language reading comprehension.**

The researchers first investigated the relationship between Lumasaaba Cognate Awareness and English language reading comprehension using a Pearson product-moment correlation coefficient. The study found a moderate, positive correlation between the two variables,  $r = .351$ ,  $n = 202$ ,  $p < .05$ , with high levels of Lumasaaba Cognate Awareness associated with moderate levels of English language reading comprehension proficiency.

Then the researchers calculated a simple linear regression to predict English language reading comprehension based on Lumasaaba Cognate Awareness. A significant regression equation was found ( $F(1, 202) = 28.121$ ,  $p = .000$ ), with an  $R^2$  of  $.351$ . English language reading comprehension is equal to  $16.513 + .235$  (English language reading comprehension) percent when English language reading comprehension is measured in percentage. English language reading comprehension increased by  $.235$  percent for each percentage of Lumasaaba

Cognate Awareness. It was found that the predictor significantly predicted the response ( $\beta = .351$ ,  $p < 0.000$ ).

**General Objective: to investigate the effect of the Lumasaaba language on the English language reading comprehension among pupils of selected primary schools in Sironko District.**

The study employed hierarchical regression analysis to examine the impact of various predictors on English language reading comprehension proficiency. The analysis was conducted using SPSS version 20, with two models specified. In the first model, we entered two predictors: Lumasaaba Instruction Background and Sex. The overall model was not significant, ( $F(2, 199) = 1.075$ ,  $p = .343$ ), indicating that the predictors accounted for an insignificant portion of the variance in reading comprehension proficiency. The  $R^2$  for Model 1 was .011, suggesting that 1.1% of the variance in reading comprehension can be attributed to these predictors. Both Lumasaaba Instruction Background and Sex did not significantly contribute to the model with  $p > .05$ .

In the second model, the researchers added Lumasaaba orthography and cognates as additional predictors. The inclusion of these variables significantly improved the model, ( $F(4, 197) = 10.219$ ,  $p = .000$ ). The  $R^2$  for Model 2 was .172, which indicates that the combination of all four predictors explained 17.2% of variance in reading comprehension proficiency compared to Model 1. Lumasaaba Cognates emerged as a significant predictor ( $\beta = .294$ ,  $p = .000$ ), emphasizing the importance of lexical similarities between languages in enhancing comprehension skills. Lumasaaba Orthography also significantly predicted reading comprehension ( $\beta = .196$ ,  $p = .006$ ), suggesting that the nature of Lumasaaba writing systems plays a crucial role in pupils' reading proficiency. Overall, the results of the hierarchical regression analysis highlight the importance of Lumasaaba orthography and cognates in predicting English language reading comprehension proficiency. The findings

underscore the need for teachers to consider Lumasaaba orthographic systems and cognates when designing reading instruction for Lumasaaba-speaking pupils.

## DISCUSSION

The result indicates that the first model, which included Lumasaaba Instruction Background and sex as predictors, was not significant. The p-value of 0.343 is greater than the typical significance level of 0.05, meaning that the variables included in this model (Lumasaaba Instruction Background and Sex) did not account for a statistically significant portion of the variance in reading comprehension proficiency. The R-squared value of 0.011 indicates that the Lumasaaba Instruction Background and Sex explained only 1.1% of the variance in reading comprehension proficiency. This is a very small proportion, suggesting that these two predictors alone have minimal impact on reading comprehension proficiency in this context. The individual predictors, Lumasaaba Instruction Background and sex, did not significantly contribute to the model (with p-values greater than 0.05), further reinforcing that they are not strong predictors of reading comprehension proficiency.

In contrast to Model 1, Model 2, which included the additional predictors of Lumasaaba orthography and cognates, was significant. The p-value of 0.000 (which is less than 0.05) indicates that the combination of the four predictors (Lumasaaba Instruction Background, sex, Lumasaaba Orthography, and Lumasaaba Cognates) accounted for a significant portion of the variance in reading comprehension proficiency. This suggests that these predictors together are more important in explaining reading comprehension proficiency. The R-squared value of 0.172 shows that the four predictors in Model 2 explained 17.2% of the variance in reading comprehension proficiency. This is a substantial increase compared to Model 1, which only explained 1.1%. This jump in  $R^2$  indicates that the addition of Lumasaaba orthography and cognates as

predictors considerably improved the model's ability to predict reading comprehension proficiency. The findings support previous studies by Durgunoglu and Hancin-Bhatt (1992) and Odlin (2003), which affirm that cross-linguistic transfer can occur across language subsystems.

Among the predictors in Model 2, Lumasaaba Cognates and Lumasaaba Orthography both emerged as significant: The result indicates that the presence of lexical similarities between Lumasaaba and English significantly predicted reading comprehension proficiency. A  $\beta$  value of 0.294 suggests a moderate positive effect, meaning that students with a stronger knowledge of Lumasaaba cognates are likely to perform better in English reading comprehension. Cognate awareness emerged as a crucial factor in facilitating reading comprehension, supporting findings by Hipfner-Boucher et al. (2016).

Further, the result suggests that the structure and characteristics of the Lumasaaba writing system (such as how words are spelt and the rules of orthography) also significantly influence reading comprehension. The  $\beta$  value of 0.196, while smaller than that for cognates, still reflects a moderate positive impact, implying that the nature of the Lumasaaba writing system aids in better understanding and processing English reading materials. The result highlights the positive role of orthographic patterns, aligning with Chetail (2015) and Deacon, Wade-Woolley, and Kirby, (2009). However, this contrasts with Fender (2008), who found no correlation between spelling precision and comprehension.

Generally, the significant role of cognates highlights the importance of leveraging similarities between Lumasaaba and English vocabulary. Teachers could use cognate knowledge as a strategy to help Lumasaaba-speaking pupils make connections between their native language and English, enhancing their reading comprehension skills. Besides, the impact of Lumasaaba orthography suggests that the structure of the language's writing

system may influence how pupils decode and understand English texts. Teaching strategies that address both the similarities and differences between Lumasaaba orthography and English spelling conventions might help improve reading comprehension.

## CONCLUSION

The researchers conclude that lexical similarities between Lumasaaba and English as well as the nature of Lumasaaba writing patterns enhance English language reading comprehension proficiency. The findings underscore the need for educators to consider Lumasaaba orthographic patterns and cognates when designing reading instruction for Lumasaaba bilingual pupils.

To enhance our understanding of Lumasaaba and its implications for English instruction, the researchers recommend further studies in the following areas.

- **Broaden Geographical Scope:** Conduct research across the entire Bugisu Region to capture a more comprehensive picture of Lumasaaba's impact.
- **Longitudinal Studies:** Explore the long-term effects of Lumasaaba on English reading comprehension.
- **Investigate other Lumasaaba Components:** Examine additional factors, beyond orthographic patterns and cognates that may influence English reading comprehension.

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