

## **Bok kem udél: a wordbook on Tboli students' vocabulary acquisition and reading comprehension in English**

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**Abstract:** English serves as a universal medium for communication and learning, yet many students struggle with vocabulary acquisition and reading comprehension. Hence this study employing true experimental research design, examined the impact of Bok Kem Udél, a contextualized Tboli-English mini dictionary, on the vocabulary and reading comprehension of Grade 7 learners at Tboli National High School. A purposive sampling technique was employed in selecting and dividing the 60 respondents for the control and experimental group. The evaluation of Bok Kem Udél yielded a very high rating, confirming its strong quality in terms of content, organization, mechanics, and packaging. Findings on resource availability revealed that encyclopedias were the most accessible references, while dictionaries and almanacs/atlas were insufficient. Additionally, learning materials were unevenly distributed across grade levels, with Grade 9 having sufficient resources while Grades 7 and 10 faced shortages. Pre-test results showed that both groups had similar baseline proficiency levels, with no significant difference in vocabulary and reading comprehension. However, post-test findings revealed a significant improvement in the experimental group, demonstrating the effectiveness of the intervention. The experimental group outperformed the control group in both vocabulary acquisition and reading comprehension, with statistically significant mean gains. These results suggest that Bok Kem Udél is a valuable instructional tool for enhancing students' literacy.

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Keywords: Bok Kem Udél, Vocabulary acquisition, Reading comprehension, Experimental research design, Instructional tool, Contextualization, T'boli mini dictionary, Wordbook

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## INTRODUCTION

English is a universal language that is extensively used for communication and learning worldwide, transcending diverse countries and cultures. Nevertheless, numerous learners encounter challenges in developing their vocabulary and comprehension skills in the English language.

Globally, the critical role of vocabulary and comprehension skills in academic success is emphasized. Vocabulary size directly influences reading comprehension, as understanding word meanings is essential for interpreting text effectively (Al-Khasawneh, 2019). Contextualized supplementary materials are increasingly utilized to enhance students' vocabulary and reading comprehension skills in English. Recent studies indicate that these materials are particularly advantageous for non-native English speakers (Nguyen & Nguyen, 2021). However, there remains a notable gap in research concerning the customization of such materials for learners from diverse linguistic backgrounds, especially those in multilingual settings

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### *Statement of the problem*

The study aimed to determine the effect of using Bok Kem Udèl, a contextualized supplementary material on the vocabulary acquisition and reading comprehension skills of grade 7 students in English at T'boli National High School in South Cotabato.

Specifically, the study sought to answer the following research questions:

1. What is the level of quality of Bok Kem Udèl as evaluated by the experts in terms of: (a) content; (b) organization; (c) mechanics; and (d) overall package.
2. What is the level of availability of the library holdings on English in T'boli National High School, teaching acquired holdings, online, random search engines?
3. What is the level of achievement in English vocabulary acquisition of the control and experimental groups based on: (a) pretest; and (b) post test results?
4. What is the level of achievement in English reading comprehension of the control and experimental groups based on: \*(a) pretest; and (b) post test results?
5. Is there a significant difference in the achievement of control and experimental groups in their pretest as to: (a) vocabulary; and (b) reading comprehension?
6. Is there a significant difference in the achievement of control and experimental in their post-test as to: (a) vocabulary; and (b) reading comprehension?
7. Is there a significant difference in the mean gain scores of control group and experimental group as to: (a) vocabulary; and (b) reading comprehension?

## METHODOLOGY

### *Research design*

This study employed a pretest-post-test experimental research design to investigate the effectiveness of Bok Kem Udèl, a contextualized Tboli-English mini wordbook, in enhancing vocabulary acquisition and reading comprehension among Grade 7 students at T'boli National High School. The design focused on measuring participants' performance before and after an intervention to assess causality. Both control and experimental groups were pretested to establish baseline data. The experimental group received the intervention—Bok Kem Udèl—over a ten-week period, while the control group was taught using conventional methods. Post-tests were administered afterward, and results were compared to evaluate the impact of the intervention. This design is particularly suitable for establishing causal relationships in educational settings, allowing for a clear comparison of learning outcomes attributable to the use of contextualized learning materials.

### *Respondents and locale of the study*

The participants of this study were 60 Grade 7 students enrolled at T'boli National High School in the Tboli West District, South Cotabato, during the academic year 2024–2025. These students were purposively selected based on their background as full-blooded Tboli learners, their enrollment in English classes, and their reading proficiency levels—most having previously demonstrated frustration-level reading skills. The locale, T'boli National High School, was chosen due to its high concentration of indigenous students and the educational challenges posed by limited access to culturally relevant learning resources. The school, which

is the primary provider of secondary education in the area, serves a majority of indigenous learners and faces significant obstacles in improving reading skills in English as a second language, making it an ideal site for the study.

#### *Research instrument*

The primary research instrument used in this study was a researcher-made structured test composed of pretest and post-test questionnaires. The test was divided into two parts: Part I consisted of 25 reading comprehension questions derived from two selected passages, while Part II included 25 vocabulary-related items, also drawn from the same texts. This format ensured consistency and allowed for accurate assessment of students' comprehension and vocabulary skills. The test aimed to measure literacy levels before and after the intervention. Both groups took the same assessment, with the experimental group using *Bok Kem Udèl* as an instructional aid, while the control group relied on traditional English dictionaries and standard instruction.

#### *Data analyses procedure*

To analyze the data collected, various statistical methods were employed. Frequency and percentage were used to assess the availability of English reference materials in the school library. Mean scores were calculated to evaluate student performance in vocabulary and reading comprehension. To test for significant differences between the control and experimental groups, particularly in their pretest and post-test scores, the t-test was applied. This statistical method is commonly used in experimental research to determine whether the means of two groups differ significantly. The analysis of mean gain scores further helped to measure the effectiveness of the intervention. All statistical treatments aimed to validate whether improvements in the experimental group were due to the use of the contextualized wordbook rather than chance.

## FINDINGS AND DISCUSSIONS

### *The level of quality of Bok Kem Udèl*

*Bok Kem Udèl* achieves a consistently very high level of quality across all evaluated aspects, as reflected in the overall mean score of 4.44. This suggests that the material meets 91-100% of the quality expectations, demonstrating strong effectiveness in its content, organization, mechanics, and overall package.

Among the four major criteria, content received the highest mean score of 4.63, indicating that the material excels in delivering clear, relevant, and well-structured information. This suggests that users find the instructional material comprehensive and engaging.

Overall, the results confirm that *Bok Kem Udèl* is a well-developed material that successfully meets high-quality standards. Minor enhancements in content organization could further optimize user experience, ensuring even greater effectiveness and accessibility.

The findings are consistent to Huang and Liu (2021) who cited that effective instructional content is essential for facilitating learning, as it guides the learner through key concepts in an engaging and understandable way. Also, it conforms to Cheng and Li (2020) who highlighted the importance of high-quality content that is both relevant and structured in a way that enhances comprehension

### *The level of availability of library holdings on English in T'boli National High School*

In assessing the availability of general references within these educational institutions, the findings reveal that encyclopedias represent the most readily accessible resource, accounting for 94% of the overall references and are deemed adequate. This indicates a strong reliance by educators on encyclopedias to obtain broad, foundational knowledge, which may enhance their teaching capabilities; however, it does not guarantee access to specialized or current information pertinent to career advancement.

Conversely, dictionaries (4%) and almanacs & atlases (2%) are categorized as inadequate, highlighting a deficiency in diverse reference materials. The limited presence of dictionaries may hinder educators' ability to develop language skills, while the scarcity of almanacs and atlases implies restricted access to historical, geographical, or statistical information that could improve instructional effectiveness.

Among the grades, Grade 9 boasts the largest quantity of available books and references, totaling 1,293 (65%), which is classified as sufficient. This indicates that students in this grade enjoy relatively better access to learning materials, which can significantly enhance their academic performance and fulfill their curriculum requirements.

Conversely, Grade 7 has only 624 books and references (32%), while Grade 10 provides a mere 55 (3%), both categorized as insufficient. The pronounced scarcity of resources, particularly for Grade 10, suggests potential challenges in acquiring necessary learning materials, which may adversely affect students' understanding, engagement, and overall academic success.

Overall, with a combined total of 1,972 books and references, the library holdings exhibit an uneven distribution, with Grade 9 being sufficiently equipped while Grades 7 and 10 encounter substantial shortages.

These findings corroborate the research by Huang and Zhao (2020), which highlights that a lack of resources can impede students' grasp of essential concepts and diminish their overall academic achievement.

#### *The level of achievement in English of control and experimental group*

The results of the pretest for English vocabulary acquisition indicate that both the control and experimental groups started with a similar level of proficiency, as reflected in their mean scores. The control group had a mean score of 6.57 with a standard deviation of 2.96, while the experimental group had a slightly higher mean score of 7.63 with a standard deviation of 3.19. Despite this difference, both groups were verbally described as did not meet expectations, indicating that their initial vocabulary knowledge was below the desired proficiency level.

The standard deviation values suggest a moderate spread in scores, implying some variability in individual performance within each group. The slightly higher mean score in the experimental group may indicate minor initial differences in vocabulary proficiency, but it is not substantial enough to suggest a significant advantage before the intervention.

This finding aligns with similar studies from Smith and Brown (2020) where small differences in pretest scores are often not significant enough to be considered as impactful. Thus, the similarity in pretest performance across both groups indicates that any observed differences in post-test results can likely be attributed to the effectiveness of the intervention rather than pre-existing disparities in vocabulary knowledge.

#### *Level of achievement of control and experimental group in English vocabulary acquisition post-test*

The post-test results for English vocabulary acquisition reveal notable differences in the performance of the control and experimental groups after the intervention. The control group

achieved a mean score of 7.03 with a standard deviation of 2.55, reflecting only a slight improvement from their pretest mean of 6.57. This suggests that without the intervention, vocabulary acquisition remained relatively stagnant.

In contrast, the experimental group showed a significant increase in performance, with a post-test mean of 13.77 and a standard deviation of 3.58. This marks a substantial improvement from their pretest mean of 7.63, indicating that the intervention had a positive effect on their vocabulary acquisition.

Despite these gains, both groups still fall under the verbal description of did not meet expectations, suggesting that while the intervention led to progress, the level of vocabulary proficiency remained below the desired standard. The considerable gap between the experimental and control group means highlights the effectiveness of the applied intervention in enhancing vocabulary skills.

Overall, the results indicate that while natural learning led to minimal progress in the control group, the intervention significantly boosted the experimental group's vocabulary acquisition.

The results conform to Johnson and Lee (2021) whose findings have been reported that show interventions, such as focused vocabulary instruction or exposure to contextual language use, can lead to significantly better vocabulary outcomes compared to natural learning processes (Johnson & Lee, 2021).

#### *Level of achievement of control and experimental group in English reading comprehension*

The pretest results for English reading comprehension indicate that both the control and experimental groups started with relatively low proficiency levels, as both were verbally described as did not meet expectations. The control group had a slightly higher mean score (9.40) with a standard deviation of 3.90, while the experimental group had a mean of 8.93 with a standard deviation of 2.74.

The close mean scores suggest that both groups had similar initial levels of reading comprehension before any intervention was applied. The standard deviation for the control group is higher (3.90) compared to the experimental group (2.74), indicating that the control group had more variability in scores, meaning some students performed much better or worse than others.

Overall, these findings establish a baseline for comparison. Since both groups did not meet expectations in the pretest, any improvement in the post-test results can be attributed to the intervention applied to the experimental group, allowing for an evaluation of its effectiveness in enhancing English reading comprehension.

#### *Level of achievement of control and experimental group in English reading comprehension post-test*

The post-test results for English reading comprehension reveal a significant difference in performance between the control and experimental groups after the intervention.

The control group had a mean score of 10.00 with a standard deviation of 3.64, reflecting only a slight improvement from their pretest mean of 9.40. This minimal increase suggests that without targeted intervention, reading comprehension skills showed little natural progression.

In contrast, the experimental group demonstrated a substantial improvement, with a post-test mean of 14.73 and a standard deviation of 2.48, marking a significant increase from their pretest mean of 8.93. The lower standard deviation compared to the control group suggests more consistent performance among students in the experimental group.

Despite these improvements, both groups remained categorized as did not meet expectations, indicating that while the intervention was effective in enhancing reading comprehension, students still fell short of the desired proficiency level. The notable gap between the experimental and control group means underscores the effectiveness of the applied intervention.

Overall, these results suggest that while traditional methods led to minimal improvement in the control group, the intervention had a strong positive impact on the experimental group's reading comprehension. Further instructional refinements may be necessary to help students fully meet expected proficiency levels.

The findings align to Graham et al., (2020) who highlights the effectiveness of structured reading interventions in improving comprehension skills. Studies have shown that explicit vocabulary instruction, guided reading strategies, and active engagement with texts contribute significantly to reading comprehension gains.

#### *Analysis of the difference in mean gain scores of the control and experimental group in terms of vocabulary and reading comprehension*

The results of the pretest for vocabulary acquisition show that the control group had a mean score of 5.57 with a standard deviation of 2.96, while the experimental group had a slightly higher mean score of 7.63 with a standard deviation of 3.19.

A t-computed value of 1.34 and a p-value of 0.18 indicate that the difference between the two groups is not statistically significant at the conventional 0.05 level. This suggests that any variation in mean scores between the control and experimental groups is likely due to chance rather than any systematic difference in vocabulary proficiency before the intervention. This entails that both groups started with comparable vocabulary skills

These findings align with prior research indicating that pretest equivalence is crucial in experimental studies to isolate the true impact of an intervention (Johnson & Christensen, 2020). Furthermore, studies have shown that structured instructional approaches significantly improve vocabulary learning outcomes compared to traditional methods (Nation, 2021).

#### *Analysis on pretest scores of control group and experiment group in reading comprehension*

The pretest results for reading comprehension show that the control group had a mean score of 9.40 with a standard deviation of 3.90, while the experimental group had a mean score of 8.93 with a standard deviation of 2.74.

The t-computed value of 0.54 and the p-value of 0.59 indicate that the difference in mean scores between the two groups is not statistically significant at the 0.05 level. This suggests that any observed variation in reading comprehension skills before the intervention is likely due to random chance rather than an actual difference in ability.

These findings align with Fraenkel et al. (2019) emphasizing the importance of pretest equivalence in experimental studies to establish a baseline for assessing instructional impact.

#### *Analysis on post-test scores of control group and experimental group in vocabulary*

The post-test results for vocabulary acquisition show a substantial improvement in the experimental group compared to the control group after the intervention. The control group had a mean score of 7.00 with a standard deviation of 2.55, reflecting only a slight increase from their pretest mean of 5.57. Meanwhile, the experimental group demonstrated a significant increase, achieving a mean score of 13.77 with a standard deviation of 3.58.

The computed t-value of 8.39 and a p-value of 0.0001 indicate that the difference between the two groups is statistically significant at the 0.05 level. This suggests that the improvement in vocabulary acquisition observed in the experimental group was not due to chance but rather the effectiveness of the intervention.

It conforms to Snow (2020) who suggest that structured interventions significantly enhance students' reading comprehension compared to traditional methods, particularly when incorporating evidence-based instructional strategies.

#### *Analysis on post-test scores of control group and experimental group in reading comprehension*

The post-test results for reading comprehension reveal a significant difference between the control and experimental groups after the intervention. The control group had a mean score of 10.00 with a standard deviation of 3.64, showing only a slight improvement from their pretest mean of 9.40. This minimal increase suggests that traditional teaching methods had a limited impact on improving reading comprehension skills.

In contrast, the experimental group demonstrated a substantial improvement, achieving a post-test mean of 14.73 with a standard deviation of 2.48. This significant increase from their pretest means of 8.93 suggests that the intervention applied had a strong positive effect on their reading comprehension skills.

The computed t-value of 5.89 and the p-value of 0.0001 indicate that the difference in post-test scores between the two groups is statistically significant at the 0.05 level. This confirms that the improvement in reading comprehension among the experimental group was not due to chance but rather the effectiveness of the intervention.

#### *Analysis on mean gain scores of control group and experimental group in vocabulary*

The mean gain scores in vocabulary acquisition highlight a significant difference between the control and experimental groups. The control group had a mean gain score of only 0.47 with a standard deviation of 1.01, indicating minimal improvement in vocabulary skills from pretest to post-test. This suggests that traditional teaching methods had little effect on enhancing students' vocabulary acquisition.

In contrast, the experimental group showed a remarkable increase, with a mean gain score of 7.97 and a standard deviation of 3.82. This substantial improvement suggests that the intervention used for the experimental group was highly effective in enhancing vocabulary acquisition.

The computed t-value of 10.40 and the p-value of 0.0001 indicate that the difference in mean gain scores between the two groups is statistically significant at the 0.05 level. This confirms that the improvement observed in the experimental group was not due to chance but rather the effectiveness of the intervention.

Overall, the results strongly suggest that the applied instructional approach had a significant positive impact on vocabulary acquisition, far outperforming traditional methods. The intervention provided in the experimental group proved to be a successful strategy for enhancing students' vocabulary skills.

The findings aligned to Nagy and Townsend (2021) emphasizing that structured and targeted vocabulary instruction significantly improves learners' language proficiency. Moreover, it supports the stand of Elleman and Oslund, (2019) who suggests that contextualized and interactive learning methods enhance word retention and comprehension more effectively than traditional rote memorization techniques.

*Analysis on mean gain scores of control group and experimental group in reading comprehension*

The mean gain scores in reading comprehension indicate a significant difference between the control and experimental groups. The control group had a mean gain score of only 0.60 with a standard deviation of 1.38, suggesting that traditional teaching methods resulted in minimal improvement in students' reading comprehension skills.

On the other hand, the experimental group showed a substantial increase, with a mean gain score of 5.80 and a standard deviation of 1.58. This indicates that the intervention applied in the experimental group was highly effective in improving reading comprehension skills compared to conventional methods.

The computed t-value of 13.56 and the p-value of 0.0001 indicate that the difference in mean gain scores between the two groups is statistically significant at the 0.05 level. This confirms that the improvement in reading comprehension observed in the experimental group was not due to chance but was a direct result of the intervention.

Overall, these findings strongly suggest that the instructional strategy applied to the experimental group had a significant positive impact on reading comprehension. The results provide clear evidence that the intervention was far more effective than traditional methods in enhancing students' reading comprehension skills.

These results align with Kim et al. (2020) emphasizing the importance of explicit reading instruction and interactive learning strategies in improving students' comprehension abilities.

## CONCLUSIONS

The evaluation of Bok Kem Udél confirms that the material meets high-quality standards in terms of content, organization, mechanics, and overall packaging. It effectively provides clear and well-structured information, making it a valuable resource for its intended audience.

However, disparities in the availability of reference materials and learning resources were observed. Encyclopedias were the most accessible, while dictionaries and almanacs/atlasses were limited, restricting access to diverse information sources. Additionally, the uneven distribution of books across grade levels suggests that some students may face challenges in accessing necessary learning materials, which could impact their academic progress.

The findings further highlight that prior to the intervention, both the control and experimental groups had comparable proficiency levels in vocabulary and reading comprehension. This ensured that any observed improvements could be attributed to the instructional intervention rather than pre-existing differences.

After the intervention, the experimental group demonstrated significant improvements in both vocabulary acquisition and reading comprehension, far exceeding the progress seen in the control group. The effectiveness of the intervention was further reinforced by the substantial mean gains in both areas, confirming that the applied instructional strategy was highly beneficial in enhancing students' language skills.

Overall, these results strongly suggest that the intervention was a more effective approach than traditional methods, providing students with meaningful learning experiences that improved their vocabulary and reading comprehension. The study emphasizes the importance of well-designed instructional materials and targeted teaching strategies in supporting student learning and academic success.

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