

Enhancing English Vocabulary Through Mobile Legends: Insights from EFL Students

Yanti Kristina Sinaga¹ , Rohdearni Wati Sipayung^{2*} , Herman Herman³ , Anggi Maria

Nainggolan⁴ , Magdalena Ngongo⁵ , Endang Fatmawati⁶ , Nguyen Van Thao⁷ 

^{1,3,4}Department of English Education, Universitas HKBP Nommensen Pematangsiantar, Indonesia

²Department of English Education, Simalungun University, Indonesia

⁵Department of English Education, Artha Wacana Christian University, Indonesia

⁶Faculty of Vocational Education, Diponegoro University, Indonesia

⁷Linguistic Faculty, Graduate Academy of Social Sciences, Vietnam

¹yanti.sinaga@uhn.ac.id, ²dearsipayunk@gmail.com, ³herman@uhn.ac.id, ⁴anggimaria513@gmail.com,

⁵magdalenangongo12@gmail.com, ⁶endangfatmawati@live.undip.ac.id, ⁷nguyenvanthao@hpu2.edu.vn

*Corresponding Author

Article Info

Article history:

Submission November 15, 2024

Revised December 27, 2024

Accepted February 25, 2025

Published March 3, 2025

Keywords:

Digital Online Games

English

MLBB

Vocabulary

Perceptions



ABSTRACT

This research aimed to explore students' perceptions of playing **Mobile Legends: Bang-Bang (MLBB)** as a means to improve English vocabulary. Students had a deficient English vocabulary, which negatively affected their learning, especially in imperative statements. This research utilized a **qualitative approach** based on the **Miles and Huberman analytical framework**. The data were gathered from **150 ninth-grade students at Junior High School 10 Pematangsiantar**. Data were collected through **closed questionnaires** concerning **content vocabulary and perceptions (auditory and visual)**. The collected data were checked according to the reactions from the **5 point Likert scale questionnaire**, then inputted into **Ms. Excel** and tabulated; afterward, the data were described **descriptively in a paragraph**. This research discovered that a significant number of students had reported positive outcomes for **MLBB influence** on their vocabulary improvement. Specifically, **69.21%** of students had responded positively, comprising **13.88%** who strongly agreed and **55.33%** who agreed. **Neutral replies** had constituted **19.38%**, whereas negative comments had amounted to **11.42%**, including **8.88%** who disagreed and **2.54%** who strongly disagreed. Regarding **auditory and visual perception**, **74.34%** had exhibited a favorable response, **16.7%** had maintained a neutral stance, and **9.6%** had provided a negative response. The researcher concluded that most students at Junior High School 10 Pematangsiantar had regarded MLBB as an advantageous alternative for improving their English vocabulary, with a significant majority expressing favorable opinions of the game.

This is an open access article under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license.



DOI: <https://doi.org/10.34306/att.v7i1.545>

This is an open-access article under the [CC-BY license \(https://creativecommons.org/licenses/by/4.0/\)](https://creativecommons.org/licenses/by/4.0/)

©Authors retain all copyrights

1. INTRODUCTION

Language is a fundamental tool for communication, allowing people to express ideas, emotions, and viewpoints [1]. Its importance lies in fostering social connections and dependency through clear interactions. Language enables humans to exchange thoughts, seek assistance, and convey goals, making it essential for

effective communication [2]. It operates as a structured system of symbols, sounds, and gestures within social and cultural contexts [3].

Communication involves transmitting messages from a sender to a receiver, ensuring alignment between the intended and received meanings. It encompasses verbal and non-verbal methods, contributing to personality development and knowledge transfer, particularly in education [4]. Thus, communication is crucial for human interaction, fulfilling needs for connection and information exchange [5].

English has grown significantly in Indonesia due to globalization and advancements in technology [6]. As a global language, it is integral to education, particularly in junior high schools where it is a mandatory subject. The curriculum covers essential skills such as vocabulary, grammar, and sentence structure to enhance students' listening, speaking, reading, and writing abilities [7].

This study focuses on speaking skills, which are vital for effective communication. Speaking involves pronunciation, fluency, intonation, grammar, and vocabulary [8]. It serves functions such as interaction, transaction, and performance, encompassing vocabulary as a key element for expressing thoughts and emotions [9]. Vocabulary is critical for mastering all language skills, forming the foundation for listening, speaking, reading, and writing [10, 11].

During teaching practice at Junior High School 10 Pematangsiantar, several issues were observed [12]. First, students lacked vocabulary, leading to passivity and repetitive use of words [13]. Second, they struggled with polysemy, failing to grasp multiple meanings of words like "head" or "fair". Third, low enthusiasm for learning resulted in reluctance to write and pronunciation errors [14]. Fourth, students lacked confidence when speaking English due to fear of mistakes. Finally, teachers used monotonous methods, failing to motivate students effectively [15].

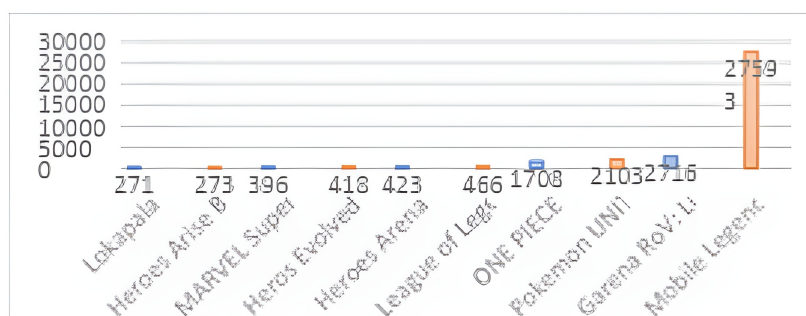


Figure 1. Modelling results

The rapid growth of science and technology has greatly benefited humanity, with Indonesia's internet penetration reaching 79.5% in 2023. Figure 1 highlights the influence of internet-based technology, particularly in entertainment, where Indonesia ranks third globally for video game usage, with 94.5% engagement in 2022.

Online games, including action, simulations, RPGs, and sports, provide users with challenges and opportunities for interaction, often fostering online communities [16]. These games also enhance English proficiency, as players encounter scenarios requiring active language use.

Games like The Sims, Hangman, and Manor Matters support vocabulary and grammar development. Popular genres such as Battle Royale, MOBA, MMOFPS, and simulation games offer immersive experiences that facilitate English learning [17].

This research focuses on MOBA online games like Mobile Legend: Bang Bang. This game involves players in an interaction between one player and another player through battle in the game, team strategy, and communication. In addition to interacting with other players, online game users engage with the game through its controls and mechanisms, including verbal and non-verbal communication. Online MOBA games involve players interacting with each other, building a sporty attitude, teamwork, improving strategic skills, and learning a language like English [18]. Mobile Legends Bang-Bang (MLBB) is a popular mobile game in Indonesia, with 5 million downloads on Google Play and Apple App Store. It is a variant of the MOBA genre and features two teams with five players each. Players communicate using voice chat or text messages, using English phrases in gameplay and instructions. The game allows players to pair with individuals from foreign nations and acquire new vocabulary without burdening them [19]. MLBB is the most popular mobile game in Indonesia, with a user rate of 67%.

Some studies have been conducted that are related to the same media. Study on English as a Foreign Language (EFL) students perceptions of using the online game Mobile Legends for vocabulary development. The study used questionnaires and interviews with 20 participants, including 8th-semester students at Universitas Muhammadiyah Purwokerto. The results showed a 74% positive perception, indicating that the game enhances vocabulary knowledge [20]. The study attributed this to the game online multiplayer aspect, exposing players to foreign languages and the motivation to improve their English proficiency for effective team communication. Studied students perspectives on using MLBB as a medium to learn English. The study involved 31 STMIK Multicom Bolang Mongondow students specializing in Information Technology [21]. MLBB significantly improved vocabulary, listening, reading, spelling, writing, English pronunciation, and oral communication skills. The study employed qualitative methodologies. This study is similar to the earlier studies because it uses the game Mobile Legend: Bang-Bang to help students learn English, significantly improving their vocabulary. Distinctions between previous studies and this study exist in the research fields, the research participants, and the number of samples chosen. Examined the impact of MMORPG on improving students' English proficiency and reducing their anxiety levels [22]. The outcome demonstrates a notable implication since it has been proven to enhance the respondents confidence and reduce nervousness when speaking. Online game was utilized to enhance speaking proficiency. The outcome demonstrates that an internet-based game can impact students speaking abilities, as observed through linguistic and non-linguistic factors [23].

2. LITERATURE REVIEW

The literature review section explores the relationship between digital gaming and educational benefits, particularly in language acquisition. While several studies have established the potential of digital games in improving English vocabulary and communication skills, this section has been expanded to include a broader range of research to provide a stronger theoretical background for this study [24].

2.1. The Role of Digital Games in Language Acquisition

language acquisition. Games provide an immersive, interactive environment where learners can engage with language in contextually meaningful ways. For instance, The role of multiplayer online games in fostering language learning by encouraging communication and collaboration among players. Additionally, Digital games provide opportunities for situated learning, where vocabulary and grammar are learned in authentic contexts [25].

Demonstrate that digital games can improve not only vocabulary acquisition but also pragmatic competence, as players learn to navigate social interactions in the target language. These findings underscore the value of integrating digital games into language learning frameworks, especially for learners who benefit from experiential and interactive learning environments [26].

2.2. Comparative Studies on Game-Based Language Learning

Several studies have examined the effectiveness of different types of digital games for language learning. For example:

- The use of role-playing games (RPGs) and found that they promote narrative engagement and vocabulary retention [27].
- Studied massively multiplayer online role-playing games (MMORPGs) and noted that these games enhance collaboration and negotiation skills, which are critical for language acquisition.
- Rhythm-based games like karaoke can improve learners pronunciation and listening skills [28].

These comparative studies suggest that the choice of game genre significantly influences the types of language skills developed, offering educators insights into selecting appropriate games based on learning objectives [29].

2.3. Criticisms and Limitations of Gaming in Language Education

While digital games hold promise, their use in language education is not without challenges. Critics argue that:

- Lack of Direct Instruction: Digital games often focus on incidental learning, which may not align with structured curricular goals.

- Access and Equity Issues: Not all students have equal access to the technology required for gaming, potentially widening the digital divide [30].
- Distractions and Misuse: Games designed for entertainment may not always be suitable for educational purposes, as students can become distracted by gameplay mechanics rather than focusing on language learning.

Addressing these limitations requires careful integration of games into language curricula, along with teacher support and monitoring to ensure alignment with educational goals [31].

2.4. Implications for the Current Study

By situating this research within the broader literature, it becomes evident that digital games like *Mobile Legends: Bang Bang* could be leveraged effectively for vocabulary acquisition. However, recognizing the criticisms discussed above, this study acknowledges the need for structured implementation and teacher-guided activities to maximize the educational potential of gaming.

3. RESEARCH METHOD

3.1. Research Design

The research design is a series of techniques and methods used to examine and collect data to define the study topic's variables. It involves building a strategy that connects research components systematically to ensure the analysis and study are more effective and efficient [32]. Research design as the systematic approach that encompasses several procedures in the research process, including data collection, data analysis, and report writing. This research employed a qualitative design, which was complemented by the Miles and Huberman analytical framework.

The revised methodology provides a more comprehensive explanation of the research processes and techniques. Specifically, it elaborates on how data were analyzed beyond the use of a Likert scale and includes additional qualitative techniques for interpreting open-ended responses [33].

Data were analyzed using a multi-step qualitative approach based on the Miles and Huberman framework [34], which includes data reduction, data display, and conclusion drawing. Each stage was conducted as follows:

- **Data Reduction:**

1. The data collected from the Likert scale responses were tabulated and summarized to identify patterns and trends.
2. For open-ended responses, thematic analysis was employed. Recurring themes were identified and coded manually to capture the context of student perceptions accurately. This approach ensured that nuanced opinions were not overlooked [35].

- **Data Display:**

1. The results were presented not only in numerical format but also as narrative descriptions. Graphical representations, such as charts and figures, were utilized to provide a clear visualization of trends and insights.
2. A thematic map was created to illustrate the connections between identified themes and the research questions derived from the open-ended responses [15].

- **Conclusion Drawing and Verification:**

1. Conclusions were drawn through triangulation of quantitative data (Likert scale) and qualitative data (open-ended responses).
 2. To enhance the validity of findings, peer debriefing and member checking were conducted. Selected participants were asked to verify the interpretations of their responses, ensuring the credibility and reliability of the conclusions [36].
-

3. By integrating these additional qualitative techniques for analyzing open-ended responses, the revised methodology strengthens the robustness of the research design. It also ensures that the qualitative nature of the study is better represented and provides a deeper understanding of student perceptions [37].

3.2. Data Source

The researcher required a suitable research subject as the data source, directly addressing the research issue and questions. Data sources are measurable, accessible, and versatile information that, when substantial, provide greater insights [38].

The population, defined as a collection of individuals with common traits, was the ninth-grade students of Junior High School 10 Pematangsiantar, totaling 192 students during the 2024-2025 academic year. From this population, a sample of 150 students was selected through specific procedures to represent the group [39]. Table 1 presents the breakdown of the sample into six classes, each comprising 25 students.

Table 1. Research Subject Table for the Questionnaire Participants

Number	Class	Number of Students
1	IX-1	25
2	IX-2	25
3	IX-3	25
4	IX-4	25
5	IX-5	25
6	IX-6	25
Total	6 Classes	150 Students

The participants were chosen to provide responses regarding their perspectives on using MLBB to enhance their English vocabulary. The selection was based on the researcher familiarity with the students and their environment from prior teaching practice at Junior High School 10 Pematangsiantar. Additionally, the researcher observed that many students actively played MLBB, making data collection more feasible and relevant. The selected sample offered optimal insights into the subject matter due to the researcher's knowledge and experience [40].

A research object refers to individuals, entities, locations, or phenomena under investigation [41]. This study explored students perspectives on the impact of MLBB in improving their English vocabulary.

3.3. Research Instrument

The researcher has the option to employ several instruments for data collection, including test questions, observation sheets, questionnaires, interviews, and other similar tools. Research instruments are implements utilized to quantify observable or investigated natural and social phenomena. For this study, the researcher employed a closed questionnaire as a data collection instrument in the field. This questionnaire enabled students to offer more structured responses and facilitated a thorough analysis. The questionnaire comprised 26 items that encompassed the range of speech components, as well as two types of perception: auditory and visual.

The details of the questionnaire items are outlined in Table 2, which provides a comprehensive overview of the statements used in the research. Specifically, there were 16 items of vocabulary, with items 1–16 related to the kind of vocabulary known as content vocabulary. Meanwhile, items 17–26 encompassed the range of two distinct forms of perception, specifically auditory and visual. These questionnaire items were designed to capture various aspects of students' learning experiences with Mobile Legends: Bang-Bang and its impact on their English vocabulary acquisition.

Table 2. Research Questionnaire Parameters

No	Statements
1	Playing MLBB helps me learn new nouns in the game.
2	I can easily recognize the nouns used in MLBB dialogues.
3	MLBB increases vocabulary of terms related to items in the game.
4	I feel comfortable using the new nouns I found from MLBB in my English class.

5	MLBB improves my understanding of the action verbs used in the game.
6	I can identify verbs in MLBB that show character movement.
7	Playing MLBB helps me learn verbs related to game strategies.
8	I utilize the verbs learned from MLBB in my daily English conversation.
9	I find new adjectives in the character descriptions of MLBB.
10	I can recognize the adjective terms used in MLBB to describe the game items.
11	MLBB improves my understanding of adjectives related to character abilities in the game.
12	I feel more confident using the adjectives I found from MLBB in my daily English conversation.
13	I find an adverb that explains how the actions in the MLBB game work.
14	I can recognize adverbs that modify verbs in MLBB discussions.
15	MLBB expands my vocabulary of adverbs related to game strategy.
16	I utilize the adverbs from MLBB to articulate actions throughout my English-speaking practice.
17	The character voices in this game improve my English skills.
18	The game's sound instructions improve my English comprehension and application.
19	I usually mimic the English expressions of the characters' phrases in the game.
20	The quick chat voice in the game helps me understand the meaning of English vocabulary.
21	I feel more confident speaking English while playing because of the voice guidance.
22	Hero icons, skills, and status effects help me grasp information quickly.
23	The visuals in this game improve my ability to memorize English vocabulary.
24	I believe that this game offers an engaging experience that improves my spoken English.
25	Visual notifications on the game screen help me understand the context in English better.
26	The tools and items provided in this game help me acquire and understand English vocabulary.

3.4. Technique of Data Collection

Researchers employ methodical strategies for data collection, emphasizing accurate techniques using structured and open-ended items. Closed questionnaires, distributed in Indonesian to avoid language barriers, ensured accurate responses, which were later translated into English for analysis.

Theoretical validity and reliable data were crucial for this study. Respondents answered predefined options or provided written responses, with closed questionnaires designed for structured data collection. This approach allowed comprehensive data gathering, efficiently processed using Ms. Excel software.

Table 3. Likert Scale Table for the Questionnaire

No.	Statements	Symbol	Score	Meaning
1	Strongly Agree	SA	5	Very Positive
2	Agree	A	4	Positive
3	Neutral	N	3	Neutral (middle)
4	Disagree	D	2	Negative
5	Strongly Disagree	SD	1	Very Negative

Source: https://www.researchgate.net/publication/276394797LikertScale_ExploredandExplained

To assess students perspectives on the impact of MLBB on English vocabulary development, the researcher used a Likert scale to measure agreement for each questionnaire item. Table 3 outlines the Likert scale, which standardized responses and enabled a thorough analysis of the collected data.

3.5. Techniques of Data Analysis

Analysis refers to the process of carefully examining something. In other word, analysis is the process of scrutinizing and evaluating anything. Data analysis, in the context of research, refers to the systematic examination and comprehension of data to derive significance, interpretations, and definitive conclusions from the acquired research data. Data analysis in qualitative research as the systematic process of gathering and organizing data from many sources, such as field notes and interviews, to enhance comprehension and facilitate effective communication of the findings.

In this study, the researcher proposed that data analysis necessitated conceptualization, which referred to generating ideas before conducting fieldwork. Subsequently, the data was classified and elucidated within the domain.

The researcher utilized the Miles and Huberman model. This model identifies three main stages in the processing of qualitative data, as explained by Sugiyono, namely:

- **Data reduction** Data reduction refers to reducing the data in a dataset while preserving its essential information. During this stage, the acquired data was condensed, prioritizing the most significant elements, identifying recurring themes and patterns, and eliminating unnecessary information.
- **Data Display** The next phase was to present it in a more precise format. The data was presented in tables with a clean format, graphs, charts, pictograms, and the like. This phase was easier to grasp because it was structured and put into a relationship pattern.
- **The final phase, involving conclusion drawing and verification, initially treated results as provisional but deemed them credible upon obtaining reliable and consistent evidence during further data collection.**

The stages of data analysis as outlined by the Miles and Huberman model are illustrated in Figure 2, which emphasizes the iterative nature of data reduction, data display, and conclusion drawing in qualitative research.

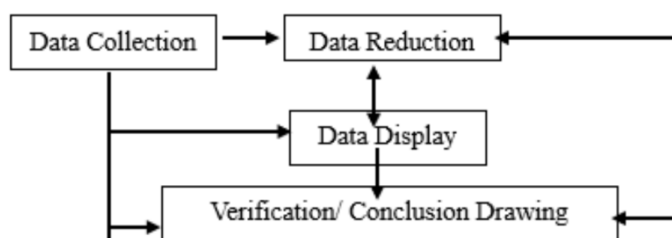


Figure 2. Modelling results

Source: https://www.researchgate.net/figure/Mile-and-Hubermans-1994-model-of-data-analysis-components-Data-reduction-This_fig1_305740381

This research meticulously and comprehensively documented the data obtained from the participants, specifically the class IX students of Junior High School 10 Pematangsiantar. Subsequently, the findings from the recording were condensed and concentrated on the salient aspects, ensuring that the data reduction yielded a lucid representation, facilitating the process of drawing conclusions. Following data reduction, the information was displayed in concise summaries and graphical representations such as charts, flowcharts, and similar formats. The data was then analyzed, conclusions were drawn, and verification was conducted. This research provided findings, validation, and conclusions in the form of a narrative text, elucidating students' perspectives on playing the MLBB game to enhance English vocabulary.

4. RESULT AND DISCUSSION

4.1. Result

The data generated from the research is presented in greater detail in Figure 3, which illustrates the results of students responses regarding content vocabulary in the MLBB game and its impact on their vocabulary improvement. The preliminary information is sourced from content vocabulary, and the additional information is derived from auditory and visual perceptions. Data collected from 150 students has been analyzed and is displayed below.

Figure 3 depicts 16 statements generated and linked with sub-indicators by the researcher. These 16 statements include four sub-types: nouns, verbs, adjectives, and adverbs, with each sub-type consisting of four statements. The data highlights that students predominantly provided favorable responses, particularly for statements 1–6 and 8–10, which featured a high frequency of 'agree' responses ranging from 70 to 109.

Despite some 'neutral' responses nearly equaling the 'strongly agree' option, this does not undermine the finding that the MLBB game positively influences students' English proficiency, particularly in improving vocabulary through new terms acquired during gameplay. The limited negative responses, particularly in statements 2, 3, and 4–9, collectively ranged from 1 to 9 responses, further validate this claim.

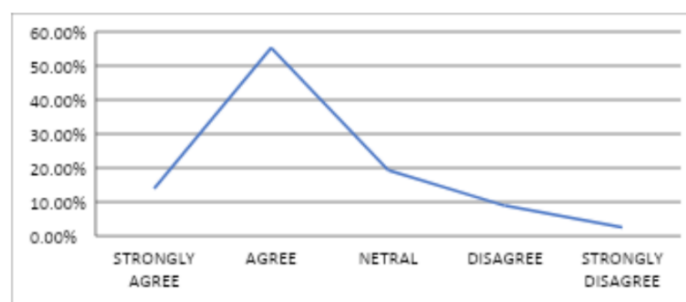


Figure 3. The Result of Students Questionnaire (Content Vocabulary)

Based on the data analysis obtained from the questionnaire completed by 9th-grade students at Junior High School 10 Pematangsiantar, it was concluded that students generally had positive perceptions regarding the use of MLBB in improving their vocabulary, specifically content words (nouns, verbs, adjectives, and adverbs). The majority of students either strongly agreed (13.88%) or agreed (55.33%) with the statements given, indicating a favorable response. A neutral stance was taken by 19.38% of students, while only a small percentage disagreed (8.88%) or strongly disagreed (2.54%). These findings suggest that MLBB is well-received and effective in enhancing students' vocabulary, as negative perceptions were minimal.

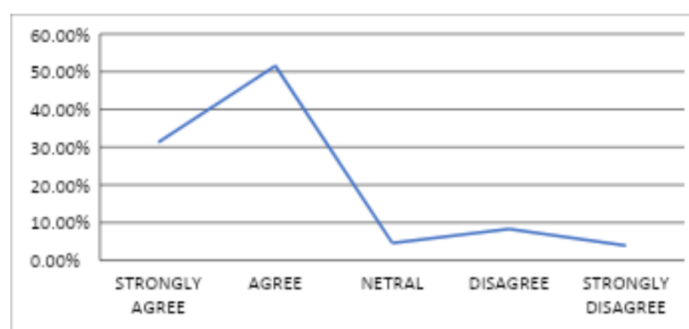


Figure 4. The Result of Students Questionnaire (Auditory and Visual Perception)

Figure 4 illustrates the aggregate results of student responses on auditory and visual perception regarding the MLBB game. The data includes assertions about sounds, words, pictures, symbols, icons, and game-related elements, analyzing their influence on vocabulary enhancement in English.

The figure categorizes ten statements into two sub-indicators: auditory and visual, each comprising five statements. Students predominantly provided positive feedback, especially for propositions 1–6 and 8–10, with favorable responses ranging between 70 and 109. This highlights students' recognition of MLBB auditory and visual elements as beneficial for vocabulary improvement.

While some neutral responses were comparable to 'strongly agree', they did not diminish the conclusion that MLBB enhances English proficiency, particularly vocabulary acquisition during gameplay. Minimal negative feedback, with only 2–5 responses for specific assertions, further supports this finding.

In conclusion, Figure 4 shows that approximately 69.21% of students had favorable responses, demonstrating that most students at Junior High School 10 Pematangsiantar perceive MLBB as an effective tool for enhancing their English vocabulary. Neutral replies showed slight ambivalence, while negative feedback was minimal, affirming the game's overall benefits for vocabulary development.

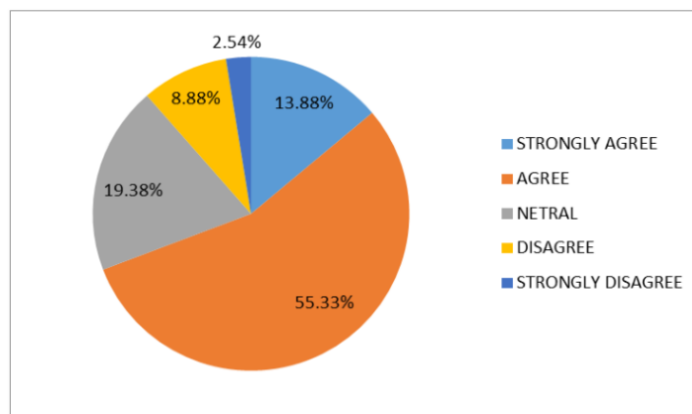


Figure 5. The Result of Students' Questionnaire (Content Vocabulary)

Figure 5 illustrates the overall percentage of student responses regarding content vocabulary improvement attributed to playing MLBB. The data reveals that, out of a total percentage of 100%, student responses are distributed as follows:

- 13.88% strongly agreed, indicating that a significant portion of students believe MLBB substantially helps in improving their vocabulary.
- 55.33% agreed, showing that more than half of the students found MLBB to have a positive impact on their vocabulary acquisition.
- 19.38% were neutral, reflecting that a considerable number of students neither agreed nor disagreed about the game impact on their vocabulary learning.
- 8.88% disagreed, indicating that a minority of students did not perceive MLBB as beneficial for their vocabulary learning.
- 2.54% strongly disagreed, representing a very small percentage of students with a negative perception of MLBB influence on vocabulary acquisition.

The minimal negative responses highlight that the majority of students respond favorably to the content vocabulary statements, which encompass nouns, verbs, adjectives, and adverbs. These findings, as visualized in Figure 5, underline MLBB effectiveness in improving English vocabulary among junior high school students, particularly at Junior High School 10 Pematangsiantar.

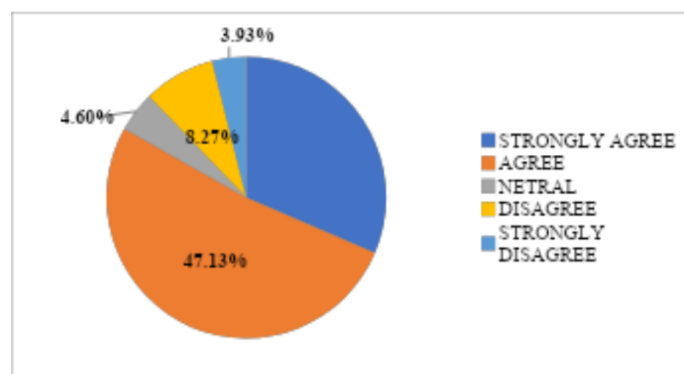


Figure 6. The Result of Students' Questionnaire (auditory and visual perception)

Figure 6 illustrates the results of students responses regarding auditory and visual perception in the MLBB game. The data demonstrates that, out of a total of 100%, student responses on auditory and visual perception are as follows:

- Approximately 31.33% of the total responses showed strong agreement, illustrating that a significant number of students regarded the auditory and visual elements of MLBB as beneficial for vocabulary improvement.
- Approximately 47.13% of the agreement responses suggest that nearly half of the students derived positive benefits from the auditory and visual elements of MLBB.
- Approximately 4.60% of the responses were neutral, indicating that a small portion of the students showed indifference towards their vocabulary acquisition of auditory and visual components.
- Approximately 8.27% of the replies reflected disagreement, indicating that a minority of students did not perceive the auditory and visual elements of MLBB as advantageous.
- Approximately 3.93% of the total responses strongly disagreed, suggesting that a negligible percentage of students have a negative perception of the aural and visual elements of MLBB.

Overall, responses indicating positivity for auditory and visual stimuli reached 78.46%, emphasizing that the majority of students primarily perceive MLBB as a valuable tool to improve their English vocabulary through auditory and visual elements. These findings, as depicted in Figure 6, underscore the efficacy of employing online games to enhance vocabulary acquisition among junior high school students, particularly at Junior High School 10 Pematangsiantar.

4.2. Discussion

The survey results indicate that a majority of students expressed positive views on the use of MLBB for vocabulary acquisition, as illustrated in Figure 4. Specifically, 69.21% of students agreed or strongly agreed that MLBB improved their English vocabulary. However, the analysis of neutral and negative responses, which together account for approximately 30.79%, reveals critical insights into the challenges of educational gaming.

- **Neutral Responses** As shown in Figure 5, 19.38% of students provided neutral responses, reflecting a degree of ambivalence. This group may not have fully perceived the educational value of the game. Possible explanations include:
 1. **Disconnect Between Gameplay and Learning Goals:** Students might have struggled to connect the fast-paced, action-oriented gameplay with language learning objectives.
 2. **Limited Engagement with Language Content:** The competitive nature of the game may have overshadowed opportunities for focused language practice.For instance, Figure 1 highlights that students with less gaming experience were more likely to respond neutrally, suggesting that familiarity with the game mechanics plays a role in their perceptions of its educational value.
 - **Negative Responses** 11.42% of students provided negative feedback, indicating dissatisfaction with the gaming context for learning, as shown in Figure 5. Further thematic analysis of open-ended responses suggests the following reasons:
 1. **Overwhelming Gameplay:** Many students reported that the rapid decision-making required in the game left little room for reflection on language use.
 2. **Complex Language Use:** Specialized in-game terminology (e.g., “jungle”, “gank”, “buff”) posed challenges for students with limited English proficiency, as highlighted in Figure 1, which correlates language proficiency levels with perceived difficulty.
 3. **Lack of Structured Guidance:** Students noted that without teacher support or instructional scaffolding, they struggled to extract meaningful language learning from their gaming experience.
 - **Implications for Educational Gaming** These findings underscore the need for strategic integration of games like MLBB into educational settings. Educators could adopt the following approaches to address the challenges highlighted by the neutral and negative responses:
-

1. **Structured Vocabulary Activities:** As suggested by the strong positive feedback, the game vocabulary can be effectively leveraged in the classroom. For example, students could create glossaries of in-game terms and discuss their meanings and usage.
2. **Guided Gameplay:** Teachers can moderate gameplay sessions to emphasize language goals, such as by pausing to discuss key vocabulary or assigning tasks related to the game.
3. **Tailored Support for Diverse Learners:** Simplifying gameplay for less proficient learners or pairing them with more experienced peers can help bridge the gap in understanding and engagement.

These strategies align with the high levels of agreement observed in Figure 4, where students who felt guided during gameplay reported higher satisfaction and perceived learning outcomes. By addressing the issues raised in the neutral and negative responses, educators can maximize the potential of gaming as a tool for language acquisition.

- **Future Research Directions**

Future studies could:

1. Investigate whether similar findings emerge with other game genres (e.g., RPGs or simulation games).
2. Compare the vocabulary acquisition outcomes of MLBB with other digital learning tools.
3. Explore the impact of teacher-mediated gameplay on learning outcomes.

5. MANAGERIAL IMPLICATIONS

The findings of this study offer actionable insights for educational institutions, game developers, and policymakers, aiming to integrate gaming as a tool for language acquisition. These implications are detailed as follows:

5.1. Educational Institutions

Educators can leverage the engaging nature of games like MLBB to design vocabulary-building exercises aligned with the curriculum. Structured gameplay sessions integrated into English classes can enhance students learning experiences, promoting both language acquisition and critical thinking. Moreover, schools should provide professional development programs for teachers to equip them with the skills needed to effectively integrate gaming into their teaching strategies.

5.2. Game Developers

Game developers should collaborate with educational stakeholders to incorporate language-learning features into gaming platforms. Interactive glossaries, real-time feedback, and targeted language objectives can address the challenges of incidental learning, making games more effective as educational tools. These enhancements can create a seamless blend of entertainment and education, optimizing the learning potential of digital games.

6. CONCLUSION

This research explores students perceptions of how playing Mobile Legends: Bang-Bang (MLBB) impacts their English vocabulary improvement. The study evaluated 26 statements, with 16 focusing on content vocabulary and 10 on auditory and visual perceptions, among ninth-grade students at Junior High School 10 Pematangsiantar.

In today society, learning English often requires engaging mediums. Online games like MLBB offer a platform for independent vocabulary acquisition. Although MLBB is not an educational game, it provides English language exposure through sounds, textual elements, symbols, and gameplay. The game also enhances communication skills, introduces new vocabulary, improves pronunciation, and helps students understand word meanings.


Research findings indicate that students have positive perceptions of MLBB impact on vocabulary improvement. While practice is essential, MLBB or similar online games can support vocabulary development outside the classroom. Ninth-grade students at Junior High School 10 Pematangsiantar view MLBB as a beneficial tool for enhancing their English vocabulary.

7. DECLARATIONS

7.1. About Authors

Yanti Kristina Sinaga (YS)  <https://orcid.org/0009-0008-0136-702X>

Rohdearni Wati Sipayung (RS)  <https://orcid.org/0000-0001-8299-8609>

Herman Herman (HH)  <https://orcid.org/0000-0001-6818-5142>

Anggi Maria Nainggolan (AN)  <https://orcid.org/0009-0000-2455-1227>

Magdalena Ngongo (MN)  <https://orcid.org/0000-0002-4316-1272>

Endang Fatmawati (EF)  <https://orcid.org/0000-0003-2133-5822>

Nguyen Van Thao (NT)  <https://orcid.org/0000-0003-4302-4267>

7.2. Author Contributions

Conceptualization: YS; Methodology: RS; Software: HH; Validation: AN and MN; Formal Analysis: EF and NT; Investigation: AN; Resources: RS; Data Curation: YS; Writing Original Draft Preparation: HH and MN; Writing Review and Editing: NT and EF; Visualization: HH; All authors, YS, RS, HH, AN, MN, EF, and NT, have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

7.4. Funding

Thanks to the State Universitas HKBP Nommensen Pematangsiantar, Simalungun University, Artha Wacana Christian University, Diponegoro University, and the Graduate Academy of Social Sciences for their invaluable support and contributions.

7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

REFERENCES

- [1] M. Aldris, *Hubungan antara Intensitas Bermain Game Online Mobile Legend dengan Kecerdasan Emosi pada Remaja di Gane Center Markonet MMTTC Medan*. Universitas Medan Area, 2023, skripsi.
- [2] R. Roosmiati, R. Wijayanti, M. Nalahudin, and A. F. N. Annisa, "Faktor-faktor yang berhubungan dengan tindakan tidak aman (unsafe action) pada pekerja di pt. x jakarta tahun 2021: Factors associated with unsafe actions in workers at pt. x jakarta in 2021," *Technomedia Journal*, vol. 9, no. 2, pp. 143–157, October 2024.
- [3] B. I. Ansari, J. Junaidi, S. Maulina, H. Herman, I. Kamaruddin, A. Rahman, and N. Saputra, "Blended-learning training and evaluation: A qualitative study," *Journal of Intercultural Communication*, vol. 23, no. 4, pp. 155–164, 2023.
- [4] M. Arif. (2024) Jumlah pengguna internet indonesia. Accessed on June 3rd, 2024. [Online]. Available: <https://apjii.or.id/berita/d/apjii-jumlah-pengguna-internet-indonesia-tembus-221-juta-orang>
- [5] D. Ary, L. C. Jacobs, and C. Sorensen, *Introduction to Research in Education*. Wadsworth: Cengage Learning, 2020.
- [6] B. Carvalho, M. M. Soares, A. Neves, G. Soares, and A. Lins, "Virtual reality devices applied to digital games: A literature review," *Ergonomics in Design*, pp. 125–141, 2020.
- [7] I. A. Mutiara, Y. Febriansyah, M. Kamal, R. Z. Ikhsan, and T. Williams, "Revolutionizing logistics business models through big data and blockchain: A business model canvas analysis," *CORISINTA*, vol. 1, no. 2, pp. 87–95, 2024.
- [8] D. Crystal and R. H. Robins. (2024) Language. [Online]. Available: <https://www.britannica.com/topic/language>
- [9] A. Dananjaya and D. P. Kusumastuti, "Students' perception on online game mobile legends for vocabulary development," *Journal of English, Literature, and Teaching*, vol. 4, no. 2, 2020.

- [10] Kobis and Tomatala, "Students' perceptions on mobile legends: Bang-bang (mlbb) as medium to learn english," *Lingua Jurnal Ilmiah*, 2020.
- [11] P. Rohmawati and N. Sintesa, "The influence of financial literacy on the investment behavior of indonesian migrant workers in japan," *APTISI Transactions on Management*, vol. 8, no. 3, pp. 175–185, 2024.
- [12] K. S. Horowitz, "Video games and english as a second language: The effect of online games on language learning in puerto rico," *American Journal of Play*, vol. 11, no. 3, pp. 379–410, 2021.
- [13] L. Judijanto, M. S. Sitompul, H. Herman, L. M. E. Manihuruk, E. Fatmawati, M. V. R. Munthe, J. Batubara, and N. Saputra, "Students' perception on the use of english pop song in improving the skill of pronunciation," *Studies in Media and Communication*, vol. 12, no. 3, pp. 218–230, 2024.
- [14] Y. B. Widodo, H. Herman, D. Afrianti, R. Rahmawati, A. Aslam, N. Saputra, and I. Sari, "An analysis on the implementation of artificial intelligence (ai) to improve engineering students in writing an essay," *Nanotechnology Perceptions*, vol. 20, no. S8, pp. 774–785, 2024.
- [15] N. Khairunnisa, F. Christiani, and A. G. Prawiyogi, "Supply chain transparency: Exploring blockchain solutions for enhanced traceability and efficiency," *Blockchain Frontier Technology*, vol. 4, no. 1, pp. 15–22, 2024.
- [16] S. Siyoto and M. A. Sodik, *Dasar Metodologi Penelitian*. Literasi Media Publishing, 2020.
- [17] M. Y. Tseng, "Creating a theoretical framework: On the move structure of theoretical framework sections in research articles related to language and linguistics," *Journal of English for Academic Purpose*, vol. 33, pp. 82–99, 2020.
- [18] R. D. Putra, "Improving students' speaking ability using lost twins game at x-tkr grade of smk yafalah ginggangtani," *Unpublished Thesis*, 2020. [Online]. Available: <https://eprints.umk.ac.id/4793/1/1..COVER.pdf>
- [19] S. Darihastining, I. Sholihah, N. A. P. Surotin, and A. Wahyu Hidayah, "Online game as a media to improve students' speaking skill," *Journal of Intensive Studies on Language, Literature, Art, and Culture*, vol. 3, no. 2, pp. 156–168, 2020.
- [20] M. Fahma, "Pengaruh celebrity endorser terhadap minat berdonasi (studi korelasi pada pengikut akun instagram @gitasav)," 2021. [Online]. Available: <http://repository.upi.edu/84950/>
- [21] E. Fedorenko *et al.*, "Language is primarily a tool for communication rather than thought," *Nature*, vol. 630, pp. 575–586, 2024.
- [22] G. N. Gordon. (2024) Communication. [Online]. Available: <https://www.britannica.com/topic/communication>
- [23] H. Herman, R. Purba, and N. Saputra, "The realization of interpersonal meanings in cosmetic maybelline new york in 2018 advertisements," *F1000Research*, vol. 12, p. 968, 2024.
- [24] P. G. D. Hulu, H. Herman, Y. K. Sinaga, I. L. Syathroh, H. N. Sari, N. Saputra, and R. Purba, "Teaching english to local vernacular students in indonesia: Effects of using picture word inductive model (pwim) on writing skills," *ISVS e-journal*, vol. 10, no. 9, pp. 187–197, 2023.
- [25] R. Joshi *et al.*, "Likert scale: Explored and explained," *British Journal of Applied Science & Technology*, vol. 7, no. 4, pp. 396–403, 2020.
- [26] R. T. Manurung, N. Saputra, R. Oktaviani, N. Nurmalinga, H. Herman, N. V. Thao, and J. Batubara, "Improving students' awareness about sustainable development goals (sdgs) through literary text: A case on language teaching," *Library Progress International*, vol. 44, no. 2, pp. 493–500, 2024.
- [27] B. Munthe, B. Bangun, K. Niswa, P. S. R. Sihombing, S. Shaumiwaty, U. E. Aritonang, and H. Herman, "Investigating the implementation of politeness strategies in conveying of god's word from the bible," *Research Journal in Advanced Humanities*, vol. 5, no. 3, 2024.
- [28] N. Purba, R. W. Sipayung, R. Rahmawati, B. A. Siagian, H. Herman, C. N. Saragi, and E. Fatmawati, "An implementation of project-based learning (pbl) teaching model in improving early child's critical thinking skill," *Library Progress International*, vol. 44, no. 3, pp. 90–96, 2024.
- [29] E. Sinambela, R. W. Sipayung, H. Herman, R. Purba, E. Fatmawati, M. Ngongo, and L. W. Manurung, "Investigating translation strategies used by students in translating metaphors from english into indonesian: A case study on translation," *Research Journal in Advanced Humanities*, vol. 5, no. 4, 2024.
- [30] Suardi and Sakti. (2020) Teacher difficulties in teaching vocabulary.
- [31] Utami and Gischa. (2021) Communication. Accessed on June 5th, 2024. [Online]. Available: <https://www.kompas.com/skola/read/2021/08/05/120000469/komunikasi--pengertian-para-ahli-fungsi-tujuan-dan-jenis-jenisnya>

-
- [32] Vardhani *et al.*, “Strategi komunikasi dalam interaksi dengan mahasiswa pertukaran asing,” *Journal Gama Societa*, vol. 2, no. 1, pp. 9–16, 2020.
- [33] Y. C. Wibowo and N. Christiani, “The effect of affective organizational commitment towards innovation capability and its impact to job performance in family business,” *Jurnal Entrepreneur Dan Entrepreneurship*, vol. 9, no. 2, pp. 99–110, 2020.
- [34] I. Shantilawati, J. Zanubiya, F. Fanani, H. Jensen, S. Millah, and N. Lutfiani, “Challenges in securing data and networks from modern cyber threats,” *International Journal of Cyber and IT Service Management*, vol. 4, no. 2, pp. 88–96, 2024.
- [35] E. Setiawati, R. Purba, T. Suwondo, L. Judijanto, D. Kencanawati, H. Herman, E. Fatmawati, and N. Saputra, “An investigation on discourse structure of video games tutorials: A case in multimodal discourse analysis,” *Research Journal in Advanced Humanities*, vol. 5, no. 3, 2024.
- [36] B. Prayogo, “The use of mobile legends to teach speaking skill to junior high school student,” *Bachelor (SI) Thesis*, 2021.
- [37] R. Ahli, M. F. Hilmi, and A. Abudaqa, “The influence of leadership dynamics and workplace stress on employee performance in the entrepreneurial sector and the moderating role of organizational support,” *Aptisi Transactions on Technopreneurship (ATT)*, vol. 6, no. 3, pp. 300–313, 2024.
- [38] R. Rani, “Dampak game online mobile legends: Bang bang terhadap mahasiswa di fakultas ilmu sosial dan ilmu politik universitas medan area,” *Universitas Medan Area*, 2020.
- [39] P. S. Rao, “The importance of speaking skills in english classrooms,” *Alford Council of International English & Literature Journal (ACIELJ)*, vol. 2, no. 2, pp. 6–18, 2020.
- [40] A. H. Arribathi, D. Supriyanti, E. Astriyani, and A. Rizky, “Peran teknologi informasi dalam pendidikan agama islam untuk menghadapi tantangan di era global dan generasi z,” *Alfabet Jurnal Wawasan Agama Risalah Islamiah, Teknologi Dan Sosial*, vol. 1, no. 1, pp. 55–64, 2024.
- [41] N. Lutfiani, U. Rahardja, and I. S. P. Manik, “Peran inkubator bisnis dalam membangun startup pada perguruan tinggi,” *Jurnal Penelitian Ekonomi dan Bisnis*, vol. 5, no. 1, pp. 77–89, 2020.
-