

**DEVELOPING VOCABULARY ASSESSMENT USING GIMKIT FOR
ELEMENTARY SCHOOL**

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Abstract

This study aims to develop a GIMKIT-based interactive game for improving vocabulary mastery among fifth-grade students at UPT SD N 1 Pringsewu Selatan. Using the ADDIE model, the study identifies challenges in vocabulary learning and proposes game-based media to address issues such as low engagement and vocabulary retention. The design process involved needs analysis, material development, and expert validation, followed by a classroom trial. The results demonstrate that the GIMKIT application significantly improved students' vocabulary mastery and motivation. Expert evaluations and student responses indicate the product's effectiveness, with scores of 94% for user satisfaction and 88% for media quality.

Keywords: ADDIE Model, Game-Based Learning, GIMKIT, Student Engagement Vocabulary Mastery

INTRODUCTION

Vocabulary mastery is a critical ability that students must achieve in language learning because it forms the foundation for understanding meanings, expressing ideas, and communicating effectively (Alqahtani, 2015; Sun, Chen, & Zhu, 2023). In educational contexts, mastery refers to students' achievement of specific objectives, including cognitive understanding and performance outcomes (James, 1981). Vocabulary, defined as the collection of words known and used by a person or group (Ray, 1988), is essential for linguistic proficiency and supports the development of the four language skills, listening, speaking, reading, and writing (Brown, 2003; Rahmah, 2023). Research consistently shows that robust vocabulary knowledge is significantly correlated with language skills, particularly reading comprehension and speaking ability (Sun et al., 2023; Correlation studies, 2025).



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<https://ejournal.umpri.ac.id/index.php/smart/index>
SMART Journal: Journal of English Language Teaching and Applied
Linguistics

Recent theoretical frameworks conceptualize vocabulary mastery as a multidimensional construct that includes word form, meaning, usage, and pronunciation (Schmitt, 2019). Dimensions of vocabulary knowledge, breadth and depth, have been shown to significantly affect language comprehension and performance (Dagnaw, 2023; Zeng, 2025). Empirical studies report that learners with greater vocabulary breadth and depth achieve higher performance in reading and language tests (Chen & Liu, 2020; Sun et al., 2023). Meta-analyses also highlight a strong positive relationship between strategic vocabulary learning and language achievement (Afini, Suratni, & Kumalasari, 2023).

Despite vocabulary's central role, preliminary observations at UPT SD N 1 Pringsewu Selatan in September 2025 identified challenges: low vocabulary retention, monotonous teacher-centered instruction, and limited interactive media, which contributed to low motivation and passive participation among fifth-grade students. These issues underscore the need for innovative learning media to enhance engagement and learning efficacy.

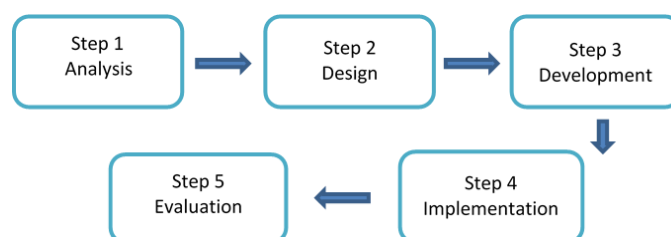
Game-based learning has been recognized as a promising solution to these challenges, showing positive effects on student motivation and vocabulary acquisition (Aini et al., 2023; Integrative game studies). GIMKIT, an interactive game-based learning platform, supports quizzes, real-time competition, and collaborative gameplay designed to actively engage learners (Saputra, Ansi, & Sitorus, 2025; McClanahan & Varjonen, 2021). Empirical evidence from recent classroom research indicates that using GIMKIT significantly improves vocabulary mastery and student engagement compared with conventional methods (Saputra et al., 2025; Osadhi, 2024). Therefore, this study investigates the potential of GIMKIT to enhance vocabulary mastery and engage elementary learners in meaningful English learning experiences.

RESEARCH METHOD

This study employs the ADDIE model, a well-established research and development (R&D) framework used to design, develop, and evaluate educational products such as learning media, curricula, or teaching methods. The ADDIE model consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. This iterative model allows for systematic improvements at each stage, ensuring that the final product is both

effective and practical for real-world application. The study combines qualitative and quantitative data analysis to assess the feasibility and impact of the developed learning media.

Figure 1. The Organization of the Research Procedure



The participants in this study are fifth-grade students from UPT SD N 1 Pringsewu Selatan, with a sample consisting of two classes: 5A (28 students) and 5B (27 students). The primary group for testing and evaluating the developed GIMKIT-based learning media was class 5B.

The instruments used in this study include observation sheets, interviews, needs analysis questionnaires, and evaluation questionnaires. The observation sheets were used to document classroom conditions, student behavior, and the use of existing learning media. Interviews with the English teacher helped to identify the challenges and limitations of the current vocabulary instruction methods. A needs analysis questionnaire was distributed to students to assess their learning needs, interests, and preferences. Additionally, evaluation questionnaires were developed for media experts, material experts, the English teacher, and students to assess the quality and effectiveness of the developed media.

1. **Analysis Stage:** The needs analysis was conducted using a combination of classroom observations, interviews with the English teacher, and a needs analysis questionnaire for students. These methods provided valuable insights into the challenges students face in vocabulary learning and highlighted the need for interactive and engaging media.
2. **Design Stage:** During this stage, the researcher designed an interactive online game using the GIMKIT platform. The design process involved prototyping, selecting appropriate content, and integrating the design elements using tools such as Canva and Gemini AI. The chosen topic, “What a nice skirt!”, was aligned with the English vocabulary curriculum for fifth-grade students.
3. **Development Stage:** The developed media product underwent validation by media and material experts, who assessed the design, graphics, content, and educational relevance

of the media. Feedback from the experts was used to revise the product before it was trialed. Evaluation questionnaires were distributed to gather feedback on the design and effectiveness of the media from both experts and the English teacher.

4. Implementation Stage: The GIMKIT application was initially trialed in class 5A (28 students) to gather early feedback on its usability and effectiveness. The final version of the media was then implemented in class 5B (27 students), where it was used to test its feasibility in a real classroom setting. Data was collected on how students interacted with the media and the impact it had on their vocabulary learning.
5. Evaluation Stage: Evaluation occurred at each stage of the development process, focusing on expert assessments of design, content, and graphics, as well as teacher and student feedback. The evaluation aimed to determine the effectiveness of the GIMKIT-based learning media in improving vocabulary mastery. Students reported that the interactive features of the media made learning vocabulary easier and more engaging, and the use of multimedia enhanced their motivation and ability to learn new vocabulary.

Both qualitative and quantitative data analysis methods were applied to the collected data. Qualitative data from interviews, observations, and open-ended questions were analyzed thematically to identify common patterns and insights. Quantitative data from the needs analysis and evaluation questionnaires were analyzed using descriptive statistics to measure the effectiveness of the media and its impact on student engagement and vocabulary mastery. The analysis results provided a comprehensive evaluation of the GIMKIT-based learning media's feasibility and its effectiveness in enhancing vocabulary learning.

FINDINGS AND DISCUSSION

Finding

This study comprehensively assesses the initial phase of the project in September 2025, highlights the importance of primary school students' understanding of English lessons, addresses challenges such as students' lack of interest in learning English, difficulties in understanding comprehension, and emphasizes the potential of technology in education, thus laying the groundwork for innovative solutions in the design phase.

Stage 1: Analysis

At this stage, observations were conducted in September 2025. This was done to obtain data as a basis for designing the GIMKIT game. Activities carried out in the needs analysis include Teacher Interview Analysis, Classroom Observation and Field Notes, Student Needs Analysis Questionnaire, and Learning Material Focus.

Needs Analysis

1. Teacher Interview Analysis

The teacher interview revealed that English vocabulary mastery remains a major challenge for fifth-grade students at UPT SD N 1 Pringsewu Selatan. The English teacher stated that many students were not accustomed to using English vocabulary actively, which hindered their understanding of lesson content. This condition was confirmed by the teacher's statement that students "are not yet used to using English vocabulary," indicating limited exposure and practice in vocabulary usage.

In addition, the teacher explained that English instruction mainly relied on textbooks, with minimal use of supporting learning media. As a result, classroom activities tended to be monotonous and less engaging. The teacher emphasized the urgent need for innovative learning media beyond textbooks to create a more enjoyable and motivating learning atmosphere. According to the teacher, interactive media are essential to help students learn vocabulary more easily and prevent boredom during English lessons.

These findings indicate that both teachers and students require alternative learning media that can support vocabulary mastery while increasing student engagement in the learning process.

2. Classroom Observation and Field Notes

Classroom observations and field notes supported the results of the teacher interview. During English lessons, many students appeared passive and showed low motivation, particularly when vocabulary learning was conducted using conventional methods. The learning process was largely teacher-centered, and students rarely interacted actively with the material.

Field notes also showed that the limited use of learning media contributed to students' lack of attention and enthusiasm. The teacher mostly depended on printed textbooks, which did not fully accommodate students' learning characteristics as young learners who prefer visual, interactive, and game-based activities. These observations confirm that the existing

learning process had not optimally facilitated students' vocabulary development and engagement in English learning.

3. Student Needs Analysis Questionnaire

The results of the student needs analysis questionnaire further strengthened the findings from interviews and observations. The questionnaire was distributed to 27 fifth-grade students and covered three main aspects: needs, lacks, and wants. The analysis showed that students' learning needs reached **90%**, categorized as *very valid*, indicating that most students strongly agreed that they needed supporting learning media to help them master English vocabulary more effectively.

In terms of learning deficiencies, the lack aspect reached **81%**, also categorized as *very valid*. This result reflects a significant gap between students' current vocabulary abilities and the expected competencies. Students reported difficulties in understanding new vocabulary and expressed that English lessons often felt boring and monotonous when conducted without interactive media.

Furthermore, the want aspect showed the highest percentage at **96%**, categorized as *very valid*. This finding indicates that students had a very strong desire for fun, interesting, and game-based learning media. Most students stated that they wanted to learn English vocabulary through digital games equipped with colorful visuals, images, animations, and instant feedback. These results demonstrate that students not only need instructional media but also expect learning experiences that are enjoyable and motivating

4. Learning Material Focus

Based on the curriculum analysis and the results of the needs analysis, the vocabulary material selected for development focused on the topic *types of clothes*. This topic was chosen because it is concrete, closely related to students' daily lives, and suitable for visualization through images and game-based learning activities.

Focusing on *types of clothes* was expected to facilitate students' vocabulary comprehension, pronunciation, and retention. The topic also aligns with the basic competencies of English learning for fifth-grade elementary school students, making it appropriate for integration into a digital game-based learning medium such as GIMKIT

Overall, the analysis stage confirmed the gap between students' current vocabulary abilities and the expected learning outcomes. The findings justify the development of

GIMKIT as an alternative learning medium to address students' vocabulary difficulties and to create a more engaging English learning environment.

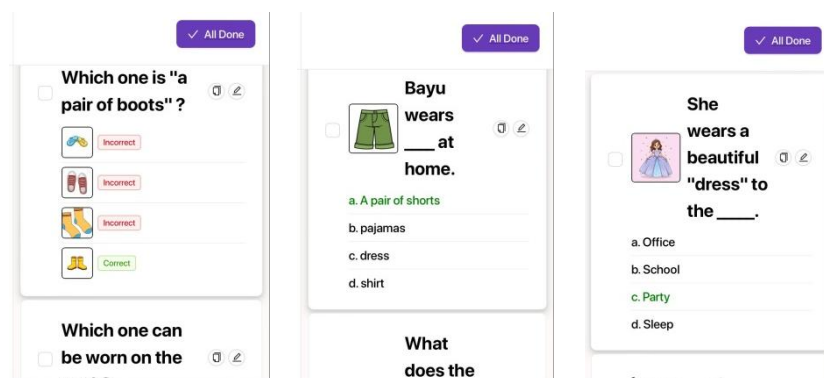
Stage 2: Design

At the design stage, the development process focused on translating the results of the needs analysis into a structured plan for developing a GIMKIT-based vocabulary learning medium. This stage included determining learning objectives, designing learning materials, planning the game structure, and preparing evaluation instruments to assess the feasibility of the media.

Designing Learning Objectives and Material Content

The learning objectives were formulated based on the English syllabus and basic competencies for fifth-grade elementary school students. The main objective was to improve students' mastery of English vocabulary, particularly on the topic *types of clothes*. This topic was selected because it is concrete, closely related to students' daily lives, and suitable for visualization through images and game-based learning activities.

The vocabulary material was designed by selecting relevant words related to *types of clothes* and organizing them from simple to more complex items. Each vocabulary item was accompanied by clear and attractive images to support students' comprehension and retention. The material design emphasized vocabulary recognition, meaning understanding, and correct pronunciation.



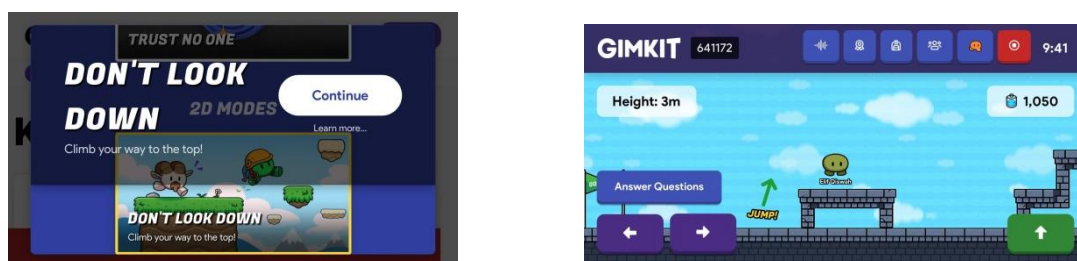
Picture 1: Prototype Questions Created by Researchers in the GIMKIT Game which will be tested by Experts.

Designing the GIMKIT Game-Based Learning Media

At this stage, the GIMKIT application was selected as the learning medium based on students' needs and preferences for interactive and game-based learning. The researcher

designed the structure of the GIMKIT game by determining the types of questions, scoring system, time allocation, and feedback features. The game was designed to be played collaboratively through group-based activities, where students answered questions displayed via a projector while the researcher operated the game using a laptop.

To enhance student motivation, the researcher also designed specific game rules, including group competition, point accumulation, and rewards. This design differs from the original use of GIMKIT, as it was adapted to suit elementary school classroom conditions and students' learning characteristics.



Picture 1: Initial Game Design before Validation by Experts

Designing Evaluation Instruments

Evaluation instruments were designed to measure the feasibility and quality of the developed GIMKIT media. These instruments included validation sheets for material experts and media experts, as well as response questionnaires for students and teachers. The instruments assessed aspects such as content suitability, presentation clarity, media design, ease of use, attractiveness, and user satisfaction. The results of these instruments served as the basis for revising and improving the product before implementation.

Stage 3: Development

This stage aims to produce a GIMKIT-based learning media that has undergone a revision process based on experts' suggestions and input. The results of the experts' suggestions can be seen in the following table.

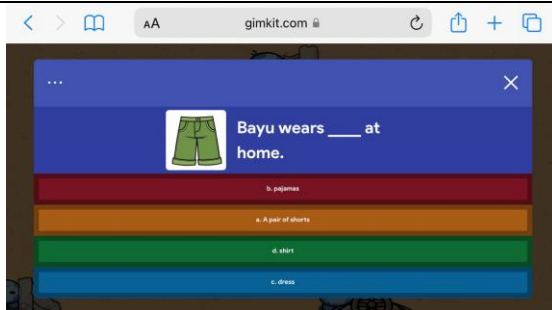
Table 1. Results of Expert Suggestion

No	Experts	The Suggestions
1	From Users (Teacher)	The teacher gave input to use a good and stable internet network so that when using the product it can run smoothly without any problems
2	Material Expert	input from material expert, namely to replace the type of game "DON'T LOOK DOWN" into a game that is easier for students to play, this statement is in accordance with the result of the expert

		questionnaire which state “choose the type of game that is easy to use for elementary school students” because expert assess that if the game is too difficult for elementary school children to play, the game will not make learning in class fun.
3	Media Expert	input from expert media, namely to replace the type of game “DON’T LOOK DOWN” with an easier game, namely “APOCALYPSE”. This statement is in accordance with the result of the media expert questionnaire which stated “the game in the GIMKIT application ‘DON’T LOOK DOWN’ can be replaced with the game ‘APOCALYPSE’ because it is easier and more interesting to use for elementary school students”.

From the table above, it can be described that teacher responses evaluated learning, curriculum relevance, content suitability, interaction, and feedback of the GIMKIT application. Material expert validation focused on content and presentation aspects, including relevance, clarity, accuracy, and alignment with learning objectives. Lastly, Media expert validation emphasized design and graphics aspects, such as layout, visual appearance, readability, and media quality. Overall, these evaluations contributed to the improvement of the GIMKIT-based learning media.

Table 2. Revised Version

NO	Experts	Revised Version
1	From Users (Teacher)	
2	Material Expert	

3 Media Expert


Stage 4 and 5: Implementation and Evaluation

This stage aimed to implement the revised learning media and to evaluate its feasibility, practicality, and effectiveness after undergoing expert validation and revision. The implementation was conducted in a real classroom setting, followed by an evaluation process using questionnaires distributed to users (teachers and students) as well as material, media, and multimedia experts.

The evaluation results were obtained from questionnaires that assessed various aspects of the developed product, including usability, learning effectiveness, content quality, and media design.

Table 3. Results of Questionnaires

Expert	Criteria	Percentage	Category
User	a. Operation/ Use of Media	94%	Very good
	b. User Reaction		
	c. Supplementary Material		
Material Expert	a. Appropriate of Content	80%	Good
	b. Appropriate of Presentation		
Media Expert	a. Appropriate of Design	88%	Very good
	b. Appropriate of Graphic		

Based on Table 3, user evaluations showed a high percentage of 94%, categorized as Very Good. These results indicate that the developed media is suitable for use as a medium for learning English vocabulary, is easy to use, effectively supports the learning process, and successfully increases student interest and motivation.

The evaluation from the material experts resulted in a percentage score of 80% which is included in the Good category. This means that the assessment in the media presented is very appropriate to the flow of learning stages, basic competencies and indicators, and the appropriateness of the provision of practice questions on the material of types of clothing is

able to measure students' learning abilities and increase student motivation in learning vocabulary. The assessment in GIMKIT is also displayed and presented clearly, easy for students to understand, the use of language in the vocabulary learning assessment is easy for students to understand, the exercises or questions in GIMKIT are categorized systematically and can encourage students to learn and work together in groups.

Furthermore, media experts gave a percentage score of 88%, which is categorized as Very Good. This evaluation emphasizes the technical and visual quality of the GIMKIT media, including size, color design, navigation buttons and content layout. Experts provide an assessment of the Design of the GIMKIT game, the GIMKIT display is in accordance with the material, the media title and menu display are clear and easy to understand. Up to the determination of the control sequence, and the ease of use of the buttons, This is related to the consistency of button placement and the proportion of the layout contained in GIMKIT. Media experts also assessed the graphics section as very good, namely, the Accuracy of background selection in the use of color, and the Consistency of the use of icons as navigation buttons, as well as the Accuracy of sound/audio presentation in the graphic aspect is good. There are also graphic aspects of the Color used in the page background, font size, Animation display, Suitability of the images used in the assessment and the quality of Sound/audio are very attractive, clear and appropriate so that the expert gave a score of "very good".

Based on the overall results of the implementation and evaluation stages, it can be concluded that after testing and revision, the GIMKIT educational game is feasible, practical, and effective for use by fifth-grade students at UPT SD N 1 Pringsewu Selatan. Positive responses from users and experts confirm that the final product supports meaningful, engaging, and effective learning.

Discussion

Evaluation of the Initial Phase: Challenges in Vocabulary Learning

This study focuses on assessing the initial phase of a project conducted in September 2025, which aims to address key challenges in English vocabulary learning among fifth-grade students at UPT SD N 1 Pringsewu Selatan. The findings highlight several issues that affect students' engagement and understanding of English vocabulary.

Lack of Student Interest and Motivation

The teacher's interview revealed that many students at UPT SD N 1 Pringsewu Selatan struggled with English vocabulary mastery, primarily because they were not accustomed to using English vocabulary actively. As highlighted by Mudori (2025), the teacher noted that students had limited exposure to and practice with English vocabulary, which hindered their ability to comprehend lesson content. This lack of active language use contributed to students' low motivation and engagement during lessons. Classroom observations further supported these findings, as students were observed to exhibit passive behavior, particularly when traditional vocabulary lessons were conducted. The monotonous learning environment, which relied heavily on textbooks, did not effectively engage the students or facilitate active participation (Gagné et al., 2013).

Limited Use of Interactive Media

A significant challenge identified in the study was the limited use of interactive media in the classroom. The teacher's reliance on textbooks and traditional teaching methods left little room for more engaging, multimedia-based learning experiences. Anderson and Krathwohl (2001) emphasize the importance of incorporating diverse teaching methods to cater to the needs of young learners, who tend to engage better with visual, interactive, and game-based activities. The study identified that such conventional methods failed to stimulate students' interest or adequately support their learning of English vocabulary.

Student Preferences for Game-Based Learning

The student questionnaire revealed that there was a strong demand for more engaging and interactive learning methods. With 96% of students expressing a desire for game-based learning media that incorporated visuals, animations, and instant feedback, the findings underscore the students' preference for dynamic and enjoyable learning experiences. Al-Emran et al. (2016) argue that the integration of mobile and game-based learning in classrooms can significantly improve student engagement, motivation, and overall learning outcomes. This indicates a clear gap between the current instructional methods and the learning preferences of students, suggesting the need for innovative solutions.

The Gap Between Current Abilities and Learning Outcomes

The comprehensive analysis of the findings revealed a noticeable gap between the students' current vocabulary abilities and the desired learning outcomes. This gap justifies

the development of GIMKIT, a game-based learning tool, as a solution to improve vocabulary mastery and enhance student engagement. O'Malley and McCroskey (2016) support the use of educational technology, such as game-based platforms, in increasing student interest and supporting meaningful learning experiences. GIMKIT, designed to incorporate interactive features and instant feedback, is well-positioned to address these challenges by offering a more engaging and effective approach to vocabulary learning.

Designing an Engaging and Dynamic Learning Environment

The development of GIMKIT as a learning medium aims to foster motivation and improve vocabulary comprehension. According to Mayer (2009), multimedia learning environments that integrate visual elements, interactive features, and real-time feedback are proven to support better retention and understanding of new information. By adapting GIMKIT to suit the classroom setting, this study aims to create a more dynamic and enjoyable learning environment that meets the students' needs for engaging, interactive, and game-based vocabulary learning.

CONCLUSION

The findings of this study provide crucial insights into the challenges faced by fifth-grade students in mastering English vocabulary at UPT SD N 1 Pringsewu Selatan. The initial analysis phase revealed significant gaps in students' vocabulary mastery, primarily due to a lack of active language use, low motivation, and limited exposure to interactive media. The teacher interviews and classroom observations highlighted these issues, confirming that traditional textbook-based instruction was not engaging enough for young learners. Furthermore, the results from the student needs analysis questionnaire reinforced the demand for more engaging, game-based learning methods, with 96% of students expressing a strong preference for media that incorporated visuals, animations, and instant feedback.

The findings clearly indicated that the existing instructional approach did not adequately meet the students' learning needs, motivating the development of an innovative solution in the form of GIMKIT, a game-based learning tool. The GIMKIT game was designed to address these challenges by providing a dynamic and interactive learning experience that aligns with students' preferences and enhances their vocabulary

comprehension. By integrating visual and interactive elements with real-time feedback, GIMKIT aims to create a more engaging learning environment that can increase student participation and motivation.

Overall, this study underscores the importance of adapting educational tools to meet the needs of students and the growing role of technology in enhancing learning outcomes. The development of GIMKIT as a learning medium is a direct response to the identified challenges and aims to provide an effective solution that fosters vocabulary mastery while maintaining student engagement. The findings of this study serve as a foundation for further research and development in educational technology, highlighting the potential of digital learning tools in improving English language instruction for primary school students.

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