

DEVELOPING DOMINOES CARD MEDIA FOR ENGLISH VOCABULARY LEARNING IN PRIMARY SCHOOLS

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Abstract: Vocabulary acquisition is a critical component of English language instruction at the primary school level, as it serves as the foundation for mastering English as a foreign language. Young learners, typically in the early stages of cognitive and linguistic development, are particularly receptive to acquiring new languages, including English. Despite this potential, English teaching in primary schools often falls short of expectations, with teachers predominantly relying on traditional lecture-based methods. Such approaches fail to align with principles of effective pedagogy and do not fully develop students' potential. To address this issue, this study focuses on the design and development of the "English Vocabulary Dominoes Card" as an instructional tool for teaching English vocabulary to primary school students. Employing a Research and Development (R&D) methodology, the study follows the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) as its framework. The findings indicate that the English Vocabulary Dominoes Card, as a form of flashcard-based media, is highly effective, valid, and engaging, significantly enhancing vocabulary retention among primary school learners. The media garnered highly positive feedback in terms of ease of use, visual appeal, engagement, and its contribution to memory retention, with an overall average score of 91.60%. Moreover, the ADDIE framework proves to be highly effective in designing vocabulary dominoes card specifically tailored for primary learners, promoting both engagement and retention. This study adds to the growing body of evidence supporting the English Vocabulary Dominoes Card as an innovative and dependable tool for enhancing vocabulary acquisition in primary language learning.



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A. INTRODUCTION

Learning a foreign language such as English has become an important thing to research because English is a language that is universal or worldwide and is a language that is widely studied by the public in countries around the world. English is widely studied and used either as a second language or as a foreign language (Miranda & Wahyudin, 2023). Mastering English as a global language is not only a key to accessing vast amounts of information but also a crucial skill for academic, professional, and personal development of each individual.

In the context of primary education, the teaching of English presents unique challenges and opportunities (Khulel, 2021). Primary school students or young learners are typically at the beginning stages of cognitive and language development, which makes them highly receptive to learning new languages like English. Young learners tend to have shorter attention spans, requiring engaging and interactive activities to sustain their interest in English lessons (Tran & Hua, 2023). Incorporating games into English lessons helps young learners enjoy the process and facilitates vocabulary retention (Mohamed, 2021). In many cases, traditional teaching methods that emphasize grammar and textbook-based learning fail to capture students' interest, leading to disengagement and suboptimal learning outcomes.

One of the most significant aspects of English teaching at the primary school level is vocabulary acquisition. Vocabulary acquisition plays a pivotal role in mastering English as a foreign language (Nguyen, 2021). A robust vocabulary foundation enables learners to comprehend texts, express ideas, and engage in meaningful communication (Ilmuddinovich, 2021).

At primary stage, students are expected to expand their vocabulary to support their reading, writing, listening, and speaking skills. Consequently, the demand for innovative and effective methods to teach and

learn English has grown significantly as it becomes very essential tools in teaching (Eli, 2021). Traditional approaches, while foundational, often lack the interactive and engaging elements that modern learners seek. Thus, there is a growing need to integrate creative and appealing methods into English language instruction. Introducing innovative and interactive approaches to teaching English is essential for fostering students' enthusiasm and improving their language skills (Ramzan et al., 2023).

Nonetheless, the results of the researchers' observation, learning English in primary schools so far is still conventional. In teaching, the teachers only rely on the classical lecture method. Learning methods like this do not meet the principles of effective learning and do not empower students' potential. The teachers use less supporting media other than books, so students' motivation and enthusiasm for learning are lacking, moreover, they think English lessons are complicated. Many students struggle with retaining new words, especially when teaching methods lack creativity and fail to stimulate their interest. Vocabulary learning can often be perceived as monotonous and challenging, particularly when it relies heavily on rote memorization (Ling & Abdul Aziz, 2022). This issue underscores the importance of utilizing engaging tools and strategies that make vocabulary learning enjoyable and effective.

To address this, teachers must employ strategies that make vocabulary acquisition both enjoyable and effective. Employing effective language learning strategies can assist students in achieving proficiency in English (Anggarista & Wahyudin, 2022). Teachers as one of the elements of success in the implementation of education must prepare themselves, develop and improve their competence, and understand various concepts and learning models so that they can carry out their duties properly. The learning model applied is a fun learning model, creative and interesting learning, to foster students' interests, talents, and abilities in understanding the subject matter being taught (Azmiyah & Astutik, 2021).

Game-based learning has proven to be an effective approach in this regard, as it combines fun with educational value. Incorporating games into language learning has emerged as a promising approach to address the challenges in learning (Adipat et al., 2021). Educational games provide an interactive and enjoyable learning environment, fostering active participation and motivation among students. Games can break the monotony of conventional teaching methods, enabling learners to practice and reinforce their language skills in a relaxed yet stimulating atmosphere. Among the various game-based tools, card-based games have gained attention for their simplicity, versatility, and effectiveness in promoting vocabulary retention (Agustina et al., 2024).

One such innovative tool is the use of dominoes cards specifically designed for English vocabulary learning. Dominoes cards, with their matching mechanism, encourage learners to actively engage with words and their meanings. Domino cards are one of the media that fall into the flashcard category. Flashcards are learning media in the form of picture cards. This game-based approach promotes cognitive and social interaction, which are essential components of language acquisition. Additionally, the tactile and visual nature of dominoes cards caters to diverse learning styles, making them suitable for a wide range of learners.

The present study focuses on the development "English Vocabulary Dominoes Card" as a media for teaching and learning English vocabulary for primary students. By exploring their potential to enhance vocabulary acquisition, this research aims to contribute to the existing body of knowledge on innovative teaching tools. It also seeks to provide practical insights for educators, particularly those teaching at the primary school level, on how to integrate such media effectively into their instructional practices.

B. METHOD

Research Design

This study employed a Research and Development (R&D) design guided by the ADDIE model, which consists of five systematic stages: Analysis, Design, Development, Implementation, and Evaluation. The ADDIE framework was selected because it provides a structured and iterative process for creating effective instructional media. It allows researchers to analyze learners' needs, design prototypes, develop and refine the product, implement it in real learning contexts, and evaluate its effectiveness comprehensively.

Population, Sample, and Research Site

The research was conducted at a primary school in Abepura, Papua, Indonesia. The population consisted of all students at the school, while the sample included 52 primary students who were purposively selected to participate in the implementation stage. The participants were drawn from different grade levels, ranging from lower to upper primary. They represented diverse classroom characteristics, with varying prior exposure to

English. Most students had limited English proficiency and had mainly experienced conventional teaching methods prior to this study.

Participants and Validators

In addition to student participants, the development process involved expert validators who assessed the quality of the media. Four validators were engaged: two experts in English language education and two experts in instructional media and design. The validators were selected based on their academic expertise and professional experience in developing learning media. The validation criteria included four main aspects: content accuracy, language appropriateness, design and layout, and usability.

Data Collection Techniques

Data were collected through multiple instruments. First, teacher interviews and classroom observations were conducted during the analysis stage to identify learners' vocabulary needs. Second, expert validation sheets were distributed to the validators to evaluate the prototype. Third, student questionnaires were administered during the implementation stage to gather learners' responses regarding the effectiveness, usability, and engagement of the English Vocabulary Dominoes Card. All questionnaires applied a Likert-type scale to measure responses systematically.

Data Analysis Techniques

The data from the validation sheets and student questionnaires were analyzed quantitatively using percentage scores. The percentage was calculated using the following formula:

$$\text{Percentage} = \frac{\text{Score Obtained}}{\text{Maximum Score}} \times 100\%$$

The interpretation of results followed standard criteria, where a score of 86–100% was categorized as “highly suitable/strongly agree,” 70–85% as “suitable/agree,” 55–69% as “less suitable/disagree,” and below 55% as “not suitable/strongly disagree.” Descriptive analysis was also employed to interpret qualitative feedback from validators and students.

Research Procedures: The ADDIE Model

The R&D process was systematically carried out through the following stages:

1. **Analysis:** Identification of learner characteristics and vocabulary needs through observation and interviews with teachers.
2. **Design:** Development of learning objectives, content selection, and prototype design of the dominoes cards.
3. **Development:** Construction of the prototype, followed by expert validation and revisions based on expert feedback.
4. **Implementation:** Trial of the revised product with 52 primary students in the classroom to measure practicality and effectiveness.
5. **Evaluation:** Summative evaluation of the product's overall performance, integrating quantitative results and qualitative feedback for final refinement.



Figure 1. ADDIE Model

C. RESULT AND DISCUSSION

The research findings are described based on each phase of ADDIE model to get clear understanding of the process and the results of this study. The development of this Learning Media uses the ADDIE model which has 5 stages. In the analysis stage, based on the results of interview and direct observation, the analysis of primary students' profiles reveals several characteristics that significantly influence their vocabulary acquisition needs and instructional strategies. These characteristics include:

1. **Developmental Stage:** Primary students, typically aged between 6 and 12 years, are in a critical period for cognitive and linguistic development. Their ability to absorb new language is high, but their attention span tends to be limited, requiring engaging and interactive teaching methods.
2. **Cognitive Abilities:** At this stage, students transition from concrete to more abstract thinking. Younger students in this group focus on tangible concepts (e.g., objects and actions), while older students begin to grasp abstract ideas and relationships.
3. **Learning Styles:** Most primary students are active learners who benefit from multisensory approaches, including visual aids, songs, games, and storytelling. They often learn best through play and hands-on activities that make the learning experience enjoyable.
4. **Social and Emotional Development:** Primary students are highly influenced by their social environment, including peers, teachers, and family. Vocabulary that enables them to express their emotions and interact effectively with others is particularly valuable.
5. **Cultural and Environmental Context:** Students' vocabulary needs are shaped by their cultural background and daily experiences. For instance, rural students may require different lexical items compared to urban students due to differences in their surroundings and activities.

Based on the profile analysis, the vocabulary needs of primary students are characterized by the following aspects:

1. **Frequency and Familiarity:** Students benefit most from learning high-frequency words relevant to their daily lives, such as those related to animals, fruits, family, school, food, and goods around them. This foundational vocabulary is critical for communication and comprehension.
2. **Contextual Usage:** Vocabulary should be introduced in meaningful contexts, such as stories, conversations, and classroom activities. This approach helps students understand and retain the words by associating them with real-life situations.
3. **Gradual Complexity:** Vocabulary should be presented in a step-by-step manner, beginning with simple and concrete terms and gradually progressing to more complex and abstract words as students' cognitive abilities develop.
4. **Integration with Other Skills:** Effective vocabulary instruction integrates with phonics, reading, and listening activities. Exposure to vocabulary in various modalities reinforces learning and promotes practical usage.
5. **Cultural Relevance:** Including culturally relevant vocabulary ensures that students feel connected to the material and fosters greater engagement and motivation in learning.
6. **Assessment and Feedback:** Continuous assessment is crucial for monitoring progress. Interactive tools like matching exercises, picture cards, and storytelling sessions provide valuable feedback and help address learning gaps.

After analysing the vocabulary needs of the learners in primary level, the English Vocabulary Dominoes Cards were designed. In this second stage, the themes, colours and pictures of the media were determined by the teachers and researchers which will be applied on the cards. The prototypes of the English Vocabulary Dominoes Cards are displayed on figure 1 and 2.



Figure 1. Example of English Vocabulary Dominoes Cards with “Animals” Theme



Figure 2. Example of English Vocabulary Dominoes Cards with “Fruits” Theme

The English Vocabulary Dominoes Card consists of 28 cards for each theme. This English learning media is different from other learning media because it is fun, interesting and engaging for the primary students, they can learn English while playing this media as a game. This media is really appropriate for vocabularies acquisition for the primary students as it designed based on their cognitive age.

The Design of the media is colourful, it can attract the students' attention to use the media. The size of the Domino is 6 x 9 cm, with this size, making it easier for primary school students to hold and play with it. Its material, shape, and function are very well used by primary school students. The materials used are made from duplex card-board, this duplex cardboard is soft, white in colour, thick, and not heavy. Very effectively used when primary school students use it in learning. The texture of the images is very real and the quality of the images is not broken. It is designed in such a way that the images appear so that primary school students are interested in playing the dominoes.

Although the English Vocabulary Dominoes Card visually resembles flashcards, it is categorized as a dominoes card because of its playing mechanism. Each card is designed with two sections: one side contains a picture or word, and the other side contains a different picture or word. This structure allows the cards to be connected sequentially, following the traditional rules of a domino game. Thus, the instructional medium combines the visual appeal of flashcards with the interactive, game-based nature of dominoes.

The game begins by distributing the dominoes cards among students. One student places the first card on the table. The next player must connect another card by matching the picture with the corresponding word or by linking two related pictures. The game continues until all cards are connected. The rules encourage students to recognize vocabulary items, recall their meanings, and practice them in context. The activity can be played individually, in pairs, or in small groups, making it flexible for classroom use. The primary objective is to reinforce vocabulary learning in an enjoyable and competitive manner.

At the development stage, it evaluates the validity of the media being created, assess students' perceptions of its feasibility, and refine the media based on feedback provided by product validators. This stage involves expert evaluations conducted by specialists in design, learning material content, instructional design, and teaching media.

Table 1. Validation Results of the English Vocabulary Dominoes Card

No	Validation Aspect	Total Score (%)	Criteria
1	Content	84.38	Suitable
2	Design and Layout	86.25	Highly Suitable
3	Language Quality	87.50	Highly Suitable
4	Usability	87.50	Highly Suitable
Overall Average		86.41	Highly Suitable

From the table 1, the overall average of validation results of the product gains 86.41 % which is highly suitable to be used by the students in primary level. Moreover, the media refinement was done based on the experts' inputs for the media at this stage.

The fourth stage is the implementation, after product refinement, English Vocabulary Dominoes Card products are used in the learning process. At this stage, students were given a questionnaire to evaluate the media after using it. The results of questionnaire are used to analyse students' responses toward the English

vocabulary dominoes card. Also, this questionnaire was conducted to measure the effectiveness of the media. The implementation involved 52 primary students in Abepura.

The final stage is the evaluation stage, which focuses on analysing the data collected during the implementation stage. This stage involved conducting a summative evaluation to assess whether the developed product is effective in the learning process or not. The evaluation results are summarized in Table 2.

Table 2. Students' Responses of the English Vocabulary Dominoes Card

No	Aspect	Total Score (%)	Criteria
1	Ease of Use	86.70	Strongly Agree
2	Visual Appeal	88.14	Strongly Agree
3	Contribution to vocabulary retention	90.06	Strongly Agree
4	Engagement and motivation	87.02	Strongly Agree
5	Overall satisfaction	92.15	Strongly Agree
Overall Average		88.81	Strongly Agree

The data in Table 2 highlights students' highly positive responses to the English Vocabulary Dominoes Card media for vocabulary retention, with an overall average score of 88.81%. The media was praised for its ease of use, visual appeal, and ability to enhance vocabulary retention, with a notable 90.06% score in effectiveness. It also engaged and motivated students, contributing to their overall satisfaction 92.15%. These results indicate that the media is valid, effective, and highly suitable for use in the learning process, making it a valuable tool for vocabulary instruction.

The findings of this study align with previous research emphasizing the effectiveness of flashcard media in language learning. Similar to Ni Nyoman et al., (2022) who highlighted that the digital-based flashcard media developed have been validated and deemed suitable for use in enhancing students' knowledge and competence in learning English, specifically on the topics of regular and irregular verbs. Also, the study from Hasan et al., (2023) revealed that flashcard media is very effective to be applied in learning for primary students specifically for grade 1. Furthermore, the study from Kurniati et al., (2023) found that the use of flashcard media has been shown to capture students' attention effectively, thereby enhancing their ability to retain newly acquired vocabulary.

D. CONCLUSION AND SUGGESTION

This study developed the English Vocabulary Dominoes Card as an innovative instructional medium for primary school students. The findings indicate that the media is valid, effective, and engaging for enhancing students' vocabulary acquisition. The use of the ADDIE model ensured that the product was systematically designed, validated by experts, and tested with students. The dominoes card successfully promoted student motivation, participation, and vocabulary retention, making it a practical alternative to conventional teaching methods. This study also contributes to the growing evidence supporting English Vocabulary Dominoes Card as an innovative and reliable media for vocabulary acquisition in language learning for primary students.

Teachers are encouraged to integrate the English Vocabulary Dominoes Card into English vocabulary instruction to create more interactive and enjoyable learning experiences. Future research could explore the long-term impact of using flashcard media on vocabulary retention and its effectiveness across different learning contexts, such as online and hybrid environments. Educators are encouraged to integrate flashcards into their teaching strategies, leveraging features such as spaced repetition and gamification to enhance student engagement. Additionally, further development could focus on incorporating digital technologies, such as mobile applications and multimedia elements, to increase accessibility and appeal to a broader range of learners.

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