Development of English Vocabulary Webpage for EFL Students

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Abstract: This research aims to develop a digital tool to enhance the vocabulary learning experience for EFL students. The method used was Research & Development with the ADDIE model, and the subjects were grade 7 students. Data collection using questionnaires and validation tests. Using User Experience Questionnaire to analyse the level of user satisfaction in using learning media. Validation was carried out by two experts, namely media experts with 96% results and material experts with 93% results. Trial results showed that the small group had an average 'excellent' score of 2.36 and the lowest 'novelty' score of 1.55, while the large group obtained an average 'excellent' score of 1.77 and the lowest 'novelty' score of 0.70. The application of the ADDIE model is proven to have a positive impact on digital media in vocabulary learning. Practically, the increased student engagement and support for self-directed learning that teachers and students can gain from this webpage and this webpage can be used as an additional tool that suits the needs of modern education

Keyword: *Development, Vocabulary, Webpage*

INTODUCTION

Learning a foreign or second language is a dynamic and complex process that can be made more effective by learners taking strategic steps to facilitate their own learning. It is widely acknowledged that vocabulary is an essential component of successful second or foreign language learning (Ghalebi et al., 2020). Vocabulary knowledge can be a valuable asset for students as they progress in their language learning and engage in real-life communication. Having a solid grasp on vocabulary can greatly enhance students' ability to communicate effectively and perform successfully in all skills related to listening, speaking, reading, and writing. It would be beneficial for young English as a Foreign Language students to start learning basic vocabulary.

In the era of digitalization, educators must be more creative to produce students who are able to understand learning by utilizing technology in the learning process (Amaliah et al., 2022). While traditional learning systems have undoubtedly evolved and English as a Foreign Language students have independent access to online learning, there are still a few concerns that remain. It is not uncommon for vocabulary materials found on the internet to be tailored to specific learning objectives, which can occasionally lead to confusion and present challenges for English as a Foreign Language students in understanding the material. Many teachers have the same ideas that to master a language, the learners should master its vocabulary (Hadi et al., 2022). Given that vocabulary remains a challenge in English as a Foreign Language learning, it would be beneficial to consider the use of appropriate media to help students master the English vocabulary they need (Wu, 2018). The vocabulary mastery is the most fundamental thing that must be controlled by students in learning English. Students would not be able to express language if they do not understand the vocabulary of the language (Karman & Indriani, 2021).

The media should provide the materials needed by English as a Foreign Language students and facilitate communication between students and teachers. This is because media can teach students new words and expand their vocabulary (Kurniawati et al., 2021). It would be beneficial to consider expanding the media provided in the vocabulary class at school to include more than just the blackboard and books. Currently, learning materials can only be obtained when teaching and learning activities are in progress, which may not always be convenient. After the teaching-learning activities are over, the materials must be searched and studied independently, which can be time-consuming. Digital learning materials could be a valuable addition as supporting technology relevant to the teaching-learning process (Yu & Wu, 2020).

The effectiveness of digital learning materials is contingent upon their design and organization. It would be beneficial to develop these materials comprehensively, with appropriate technologies in mind, with the goal of creating a more optimal teaching and learning experience. Digital whiteboards, digital portfolios, and visual aids can be useful digital learning materials for teachers. Additionally, there is the option of integrating digital learning materials with learning management systems such as Google Sites.

Google applications are among the most important educational applications used on websites in education (Allahawiah et al., 2023). Sastradika et al (2021), stated a website can be defined as a collection of information pages provided online so that anyone with an internet connection can access it from anywhere in the world. A website is comprised of various elements, including text, images, graphics, and animations, which collectively contribute to its overall appeal and engagement. This encourages lecturers to consider new approaches to both learning models and learning media. (Andriani et al., 2019), stated that innovation aims to realize student learning outcomes in accordance with curriculum achievements.

The Google Sites page is just one of several pages and features on the website that could potentially be useful in the learning process (Reskiyati et al., 2023). In this research, we propose to use web learning via Google Sites. Kucera et al (2022), stated that learning website offers a wide range of self-editable learning backgrounds, which could potentially enhance the learning experience and foster greater engagement among students. It might be suggested that Google Sites-assisted learning media could be a useful addition to the learning process, as it can be used remotely or in a more traditional, face-to-face setting.

In addition, the designed google sites meet the standard needs, as they include several media such as videos, images, and other files that attract students' attention without teacher intervention and provide immediate feedback to the learner. Google sites can be used as a tool in the creation of educational resources that are easy to understand. Another advantage of Google Sites is that they are free and easily accessible online, requiring no installation on a laptop or PC (Allahawiah et al., 2023).

The efficacy of Google Sites in producing digital learning materials has been thoroughly researched, with one study demonstrating the success of Google Sites in producing practical, easy-to-use and authentic learning resources (Suryati et al., 2023). Another study showed that mobile learning with Google Sites can provide opportunities for effective participation and interaction among learners (Allahawiah et al., 2023).

According to Aswad et al (2022) favorable effects in acquiring vocabulary are also left out by web-based educational activities. The majority of empirical studies have shown that students acquiring a second language prefer to use web-based activities that combine synchronous and asynchronous delivery to teach basic vocabulary. That web-based vocabulary process education materials can meet the expectations of a wide range of learners and increase the engagement of students of all abilities and ‘proficiency levels.

Web-based vocabulary education can meet the needs of a wide range of learners and promote the engagement of students of all abilities, proficiency levels and promote student engagement with a wide range of various studies have shown that technology-assisted teaching has a considerable impact on students' reading comprehension and vocabulary. Thus, there has been a significant increase in the use of technology to teach vocabulary which is now one of the most frequently taught language topics. Various studies have shown that technology-assisted teaching has a considerable impact on students' reading comprehension and vocabulary. Thus, there has been a significant increase in the use of technology to teach vocabulary which is now one of the most frequently taught language topics. Various studies have shown that technology-assisted teaching has a considerable impact on students' vocabulary. So, there has been a significant increase in the use of technology to teach vocabulary which is now one of the most commonly taught language topics.

This study shows that using Google Sites to organize digital learning materials significantly improves EFL students' vocabulary and reduces their reliance on verbal instructions. In addition, it is very important to organize the materials in a clear and understandable way so that students can use them effectively. Based on the background of the problems that have been described, the researcher is interested in choosing the

title "Development of English Vocabulary Webpage for EFL Students". It is hoped that this research will be able to provide solutions to improve students' vocabulary skills.

METHOD

The methodology use in this study was a Research and Development (R&D) methodology. According to Sarpong (2023) Research and Development is a series of activities undertaken to innovate and introduce new products or create new services. This research type with the product developed in the form of a website created through Google Sites. This application contains material about nouns. in this development research and development project ADDIE model is used based on (Branch, 2009). The design used was the ADDIE model with stages of analysis, design, development, implementation, and evaluation.

The development subjects are the student of the English for 7 grade students of secondary school who will target of the product development trial. Data analysis using User Experience Questionnaire (UEQ) tools. According to Schrepp (2023) UEQ data analysis tools are available in the form of an Excel sheet for analyzing the data collected from the User Experience Questionnaire (UEQ). This tool is designed to assist in the efficient analysis of the numerical data obtained from the questionnaires. It provides a standardized method for analyzing the feedback received from users, especially in the context of user experience evaluation. The questionnaire given to students is in Indonesian to make the process easier.

The data obtained from the expert questionnaire in the form of scores in the form of validation scores from material experts and media experts. The website feasibility test process involves 2 experts, namely Dr. M.Hum as a media expert and someone who understands more about the media and Hamdi Hermanto, S.Pd as a material expert also a teacher who teaches vocabulary so that he understands more about the material. Testing was carried out using a validation questionnaire given to both experts. The questionnaire given was a questionnaire adapted from the expert and adjusted again to what is needed by the research. The score the score was converted into quantitative data with a Likert scale.

After obtaining satisfactory results from the experts, the media was then tested in small groups with 11 students from private schools and had the same grade level, namely grade 7. After the results of the small group test were satisfactory, a large group trial was conducted with 21 students from public schools.

RESULT AND DISCUSSION

Based on the findings after conducting the research for several meetings, the researcher can answer the research question ‘How to develop a vocabulary web page (web-based learning media) for seventh grade English subject?’ Then the researcher outlined the research model that had been carried out.

Analysis

The analysis consists of three stages: performance analysis, needs analysis, and material analysis.

Performance Analysis

In this process, structured interviews are conducted regarding the use of existing learning media, including student responses and participation in the media used in the classroom. The purpose of this stage is to find solutions to the problems that have been identified by improving or developing existing learning media. This stage was conducted in the preliminary research.

Needs Analysis

The needs analysis interview was conducted with students in the classroom. The interview consisted of 5 questions. The interview was given to 8 students (4 boys and 4 girls).

Material Analysis

In this stage the researcher found material that was suitable for development and in accordance with the needs of students, namely mater Noun. This material needs to be developed based on the results of

the interviews that have been conducted. The interview results show that students have difficulties in understanding vocabulary and lack of fluency in the pronunciation of English vocabulary.

Design

After the analysis stage, the design can be developed by considering the analysis results. After the analysis stage, the design can be developed by considering the analysis results. The product development design that researchers do is:

Draft Application Product

In developing this website, the website structure was designed using Flowchart. Flowchart represents a diagram used to describe the process flow or logic of a system so that it is easier to understand. Flowchart was used as a basic flow and instructions in designing websites as teaching media based on Google sites.

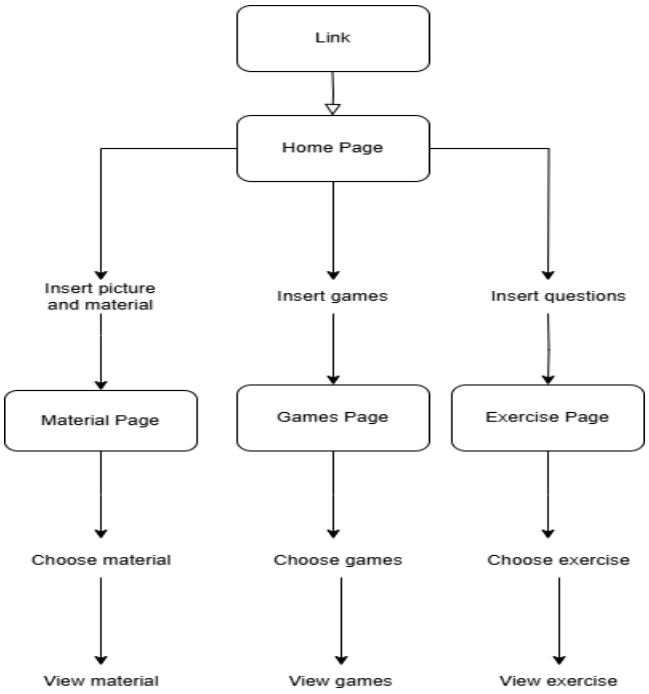

Figure 1. Flowchart of Vocabulary Website

Arranging the Vocabulary Material

The preparation of material in the development of this learning media adapts to the learning objectives and student needs. The material was adapted to the Module to achieve the learning objectives that have been set in accordance with those in the Module. The learning materials are based on the existing learning module. Based on the learning module, the material is about Noun.

Develop

At this stage of development, aim to produce a learning website that has been revised and deemed feasible based on the validation results of material experts and media experts. We believe that the input of a material expert, who has expertise in vocabulary and also a teacher of the subject, will be invaluable in validating the material that has been prepared. The media expert consists of one person who has the ability in the field of learning media so that it will provide valid validation of the website products that have been developed.

Media Creation

At the media creation stage, the website was created based on the Data Flowchart in Figure 1 and the material in the design stage. The steps are as follows:

1. Designing the Cover Website

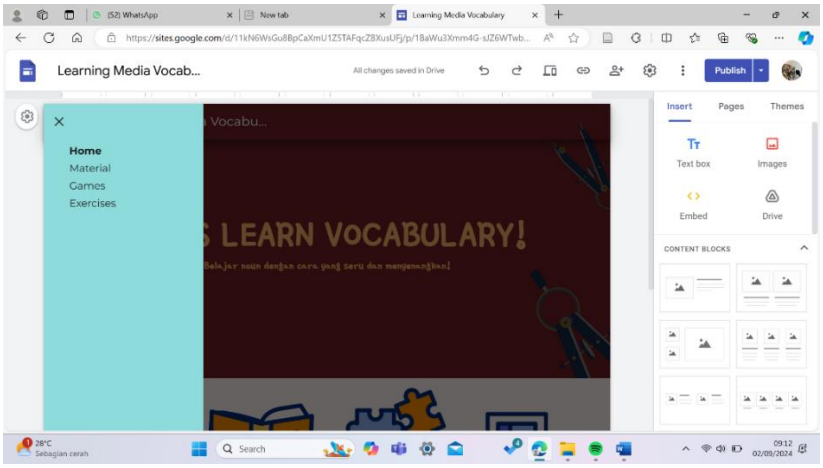

Figure 2. The Cover of Website

Designing the Main Menu

After this step, the researcher developed a main menu cover that contained the various menu options available inside.

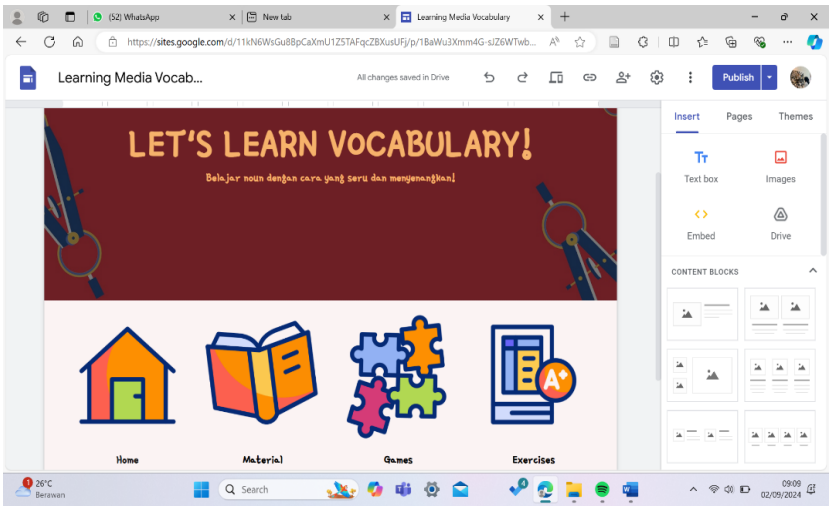

Figure 3. The Menu of Website

2. Designing the Material Menu

On this menu, the researcher designed that allows users to view the material. This material was designed using Canva.

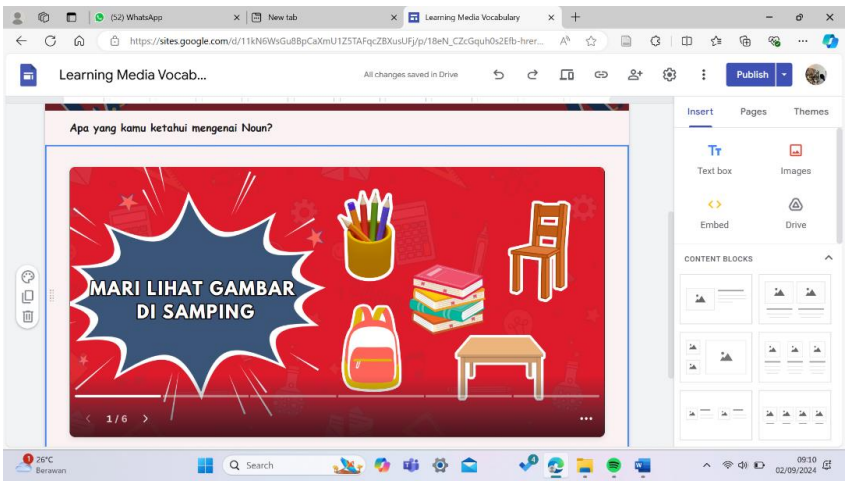

Figure 4. The Material of Website

Designing the Games Menu

In this menu, the researcher designed a tool that allows users to view games. These games were designed using the help of Wordwall. The user has to click on the image available then the game can be started.

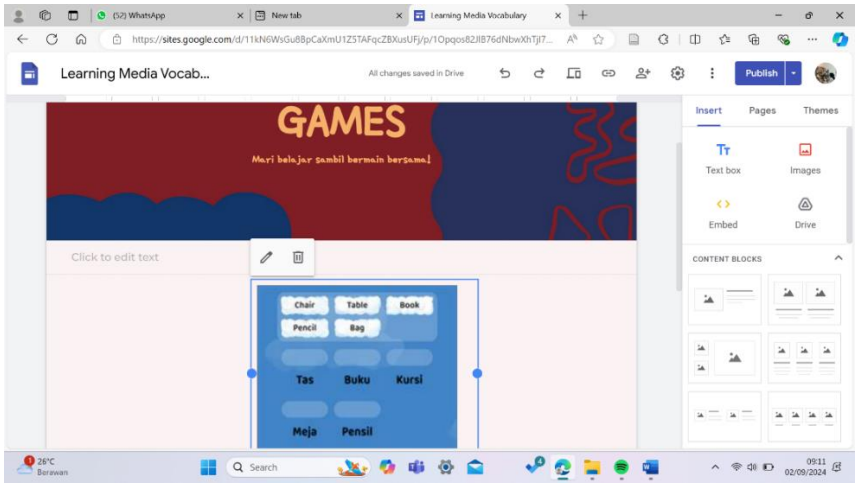

Figure 5. The Games of Website

3. Designing the Exercise Menu

In this menu, the researcher designed a menu that allows users to see the questions that have been provided according to the material that has been studied previously.

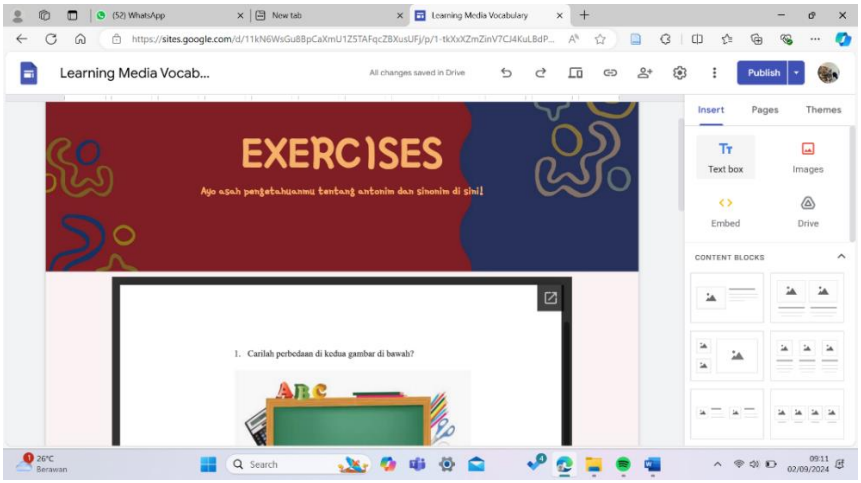

Figure 6. The Exercise of Website

Expert Validation

After the media has been made, the next stage was expert validation. Expert validation was carried out by material experts and media experts.

Table 1. Result of Material and Media Expert Validation

No	Validator	Percentage (%)	Criteria
1	Materia Expert	93%	Very Feasible
2	Media Expert	96%	Very Feasible

Based on the results of the above calculations, the results of the assessment of the material and media consist of 3 aspects. From this calculation obtained 98%, the material and media was categorized as very feasible. If the percentage result is 76-100%, categorized as very feasible, the

percentage result of 51-75% is categorized as feasible, the percentage result of 26-50% is categorized as less feasible, the percentage of 0-25% is categorized as not feasible.

Implement

The Google Sites-based learning media that has been developed was then implemented in the real situation, namely in the classroom. At this stage, product trials were carried out twice, namely in small groups and large groups by looking at the results of questionnaires that students had filled out on the media that had been developed.

Small Group Trial

The product that has been developed, validated and revised. The next step was to conducted small group trials involving 11 students from different schools with large group trials. This trial was conducted to determine the user experience and feasibility of learning media before being used for large group trials

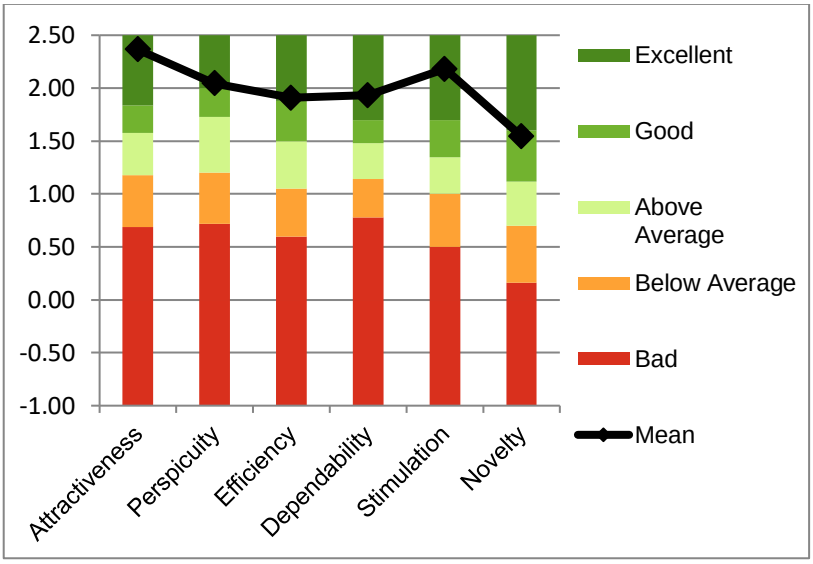

Figure 7. Result of Questionnaire Small Group Trial

Based on the results benchmark of the group trial using UEQ, attractiveness is the highest average of 2,36 in the excellent category and the lowest value is on the novelty scale which is 1,55 in the good category. Therefore, the novelty scale needs to be in terms of user experience.

Large Group Trial

Products that have been tested in small groups are then tested in large groups. This trial involved 21 students.

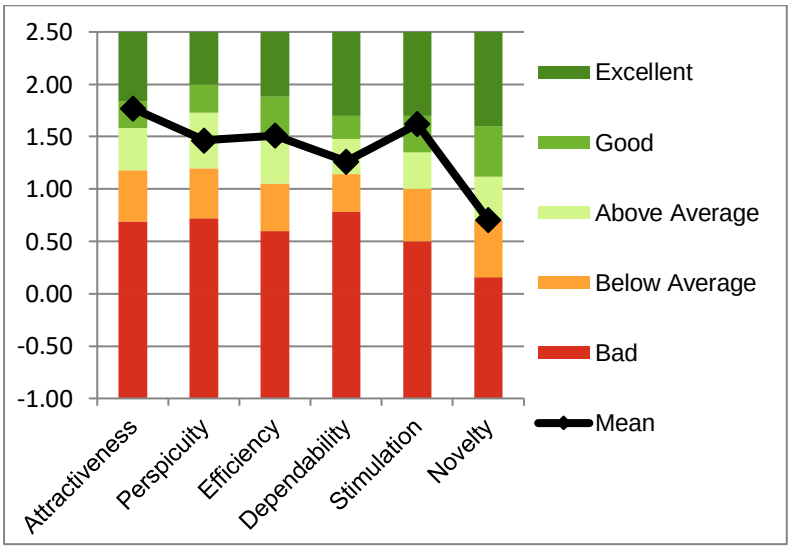

Figure 8. Result of Questionnaire Large Group Trial

Based on the results of the group trial using UEQ, attractiveness is the highest average of 1,77 in the good category and the lowest value is on the novelty scale which is 0,70 in the above average category. Therefore, the novelty scale needs to be in terms of user experience.

Evaluate

Based on the implementation stage, the website needs to be evaluated. At the evaluation stage, the final revision of the developed media was carried out based on the suggestions and input of students given during the implementation stage. Based on the results of students' responses, suggestions for learning media were obtained that the color of the material writing was changed to be brighter so that the writing could be read clearly by students, so that from this evaluation stage, the final revision was made.

The research results of this study show that the use of learning media has a positive effect on students. This was evidenced by the data that has been collected through the User Experience Questionnaire after using the media during the small group trial and large group trial. The small group trial class showed that the media was suitable for use in the large group trial. This finding was supported by Abdulkarim et al (2018), stated that students get a lot of positive impacts based on the data that has been collected, learning media through Civicpedia in Civic Education learning sits at 69.02 % (very good category), 24.48 % (good category), 5.54 % (fair category), 0.88 % (poor category), and only 0.08 % (very poor category). The dominant users` satisfaction of Civicpedia in Civic Education learning is the depth of material presented in the media, adequacy of material presented in the media, and consistency between menu views. Which means that Civicpedia can serve as a very good learning aid. The similarity of these two studies is the similarity of using Google Sites-based learning media in learning. The uniqueness of this product lies in its interactivity and ease of access, which allows students to learn independently and enjoyably. While many other learning apps focus on an individualized approach, this product integrates collaborative elements in a group context, where students can discuss and help each other. This is relevant as collaborative learning has been shown to improve comprehension and retention of material.

In addition, researchers found that the developed media can facilitate teachers in the learning process and increase students' interest in learning because there are many interesting things in the learning media. In line(2022) with this, Bulkani et al (2022), stated that the development of animated learning media has made a positive contribution to the world of education because of the challenges faced by teachers, especially in the learning process that uses information technology.

The limitation is the relatively short implementation time. This study was only conducted in two meetings, so it is not possible to ascertain the long-term effectiveness of the media used. Additional research that is longer and involves more students and various backgrounds will be needed to provide a more comprehensive picture of the impact and sustainability of using this media in vocabulary teaching.

CONCLUSION

Conclusion of this study shows that the Research and Development (R&D) process was successfully implemented through five stages. In the analysis stage, the needs of EFL students who have difficulty in understanding vocabulary were identified. The results of this analysis became the basis for the design stage, where the webpage was developed with interactive features such as materials supported by visuals that suit the needs of students based on the needs analysis that had been carried out and games that facilitate vocabulary learning in a fun way.

Furthermore, in the development stage, the webpage is designed to be attractive and user-friendly to enhance students' learning experience. The implementation stage is conducted in a real learning environment, where students are given access to use the webpage as a learning tool. Based on the evaluation results from experts, the material assessment results consist of 9 aspects with validation results

reaching 93%. For the learning media, the validation results also showed a high number of 96%, which indicated that the media used was very feasible.

The effectiveness of this product is evident from the increase in students' enthusiasm for learning, supported by positive feedback from the results of the User Experience Questionnaire which shows significant progress. The innovation presented through the use of technology and multimedia makes English learning more interesting and interactive. Thus, this research makes a significant contribution to vocabulary teaching, provides effective learning resources for educators and students, and supports more engaging independent learning.

Key features of the website include a user-friendly interface, which facilitates navigation and accessibility, and interactive content that includes materials, games and vocabulary exercises that encourage active student engagement. Thus, the vocabulary website not only contributes to students' vocabulary comprehension, but also offers a learning model that can be adapted for the development of other digital learning resources in the field of English as a foreign language education. This research provides significant insights into the use of technology in learning and supports efficiency in the language acquisition process.

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