The Development of Edpuzzle-Based Video Learning Media for English Language Learning in Elementary Schools

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ABSTRACT

English is one of the subjects reintroduced in elementary schools under the independent curriculum. Based on observations conducted at an elementary school in Tasikmalaya, students showed less interest in learning English due to finding English vocabulary challenging to comprehend. One feasible approach was to utilize media that could enhance their interest in the English subject. Therefore, Edpuzzle was selected as a platform to develop an engaging digital learning media. The research methodology employed was the Research and Development (R&D) using the ADDIE model. The research findings revealed that the Edpuzzle-based learning media was suitable for teaching English, particularly focusing on the topic of "-ing verbs" in the fourth grade. The validity testing regarding the quality of the learning media scored an average percentage of 97.17%, while that concerning the content reached an average percentage of 85.3%. Furthermore, the implementation of the Edpuzzle-based media at SDN 2 Linggajaya demonstrated that both teacher and students responded positively to this learning media, with an average student response rate of 95.3% and an average teacher response rate of 96.5%. It can be concluded that the Edpuzzle-based English learning media is very suitable for elementary school use, particularly concerning "-ing verbs."

ABSTRAK

Bahasa Inggris adalah salah satu mata pelajaran yang ada di sekolah dasar yang diberlakukan kembali pada kurikulum merdeka. Berdasarkan hasil observasi yang dilakukan di salah satu Sekolah Dasar di Tasikmalaya, peserta didik kurang tertarik terhadap pembelajaran Bahasa Inggris karena merasa sulit untuk memahami kosa kata Bahasa Inggris. Salah satu yang dapat dilakukan adalah menggunakan media yang dapat meningkatkan ketertarikan mereka terhadap mata pelajaran Bahasa Inggris. Oleh karena itu, *Edpuzzle* dipilih sebagai platform untuk mengembangkan media pembelajaran digital yang menarik. Metode penelitian yang digunakan adalah metode R&D (*Research and Development*) model ADDIE. Hasil penelitian menunjukkan bahwa media pembelajaran berbasis *Edpuzzle* cocok untuk digunakan pada pembelajaran Bahasa Inggris pada topik kata kerja (*ing-verbs*) di kelas IV. Skor uji validitas terkait kualitas media pembelajaran mencapai rata-rata persentase sebesar 97,17%, sementara terkait konten mencapai rata-rata persentase sebesar 85,3%. Selanjutnya, implementasi media berbasis *Edpuzzle* yang dilaksanakan di SDN 2 Linggajaya menunjukkan bahwa pendidik dan peserta didik merespon positif media pembelajaran ini dengan rata-rata persentase respon para peserta didik mencapai 95,3% dan rata-rata respon pendidik mencapai 96,5%. Dapat disimpulkan bahwa media pembelajaran Bahasa Inggris berbasis *Edpuzzle* ini sangat cocok digunakan di SD terutama pada topik -ing verbs.

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INTRODUCTION

Considering the rapid technological advancements and the increasing global competition among nations, it's crucial to establish communication on a global level (Putri & Sya, 2022). In today's era of globalization, where technological advancements persist, mastery of the English language is imperative to confront the challenges of this modern age. The goal of English language education in schools is to assist students in effective communication, both verbally and in writing. Proficiency in English communication skills enables individuals to express themselves accurately, whether in conversations, letter writing, articles, and more. Therefore, comprehensive English language learning should engage students in communicative situations that enable them to understand the learning process effectively, fostering proficient English learners (Andika & Mardiana, 2023).

One of the difficulties in mastering English is the lack of practice in the students' environment, causing the knowledge acquired at school to fade without leaving a lasting impact on their memory. Furthermore, the lack of motivation among students to learn English negatively impacts their understanding of the language. Given the low awareness among students of the importance of English, English classes are necessary to familiarize them with English conversations (Arief et al., 2020).

The quality of English language learning heavily relies on the learners' motivation and the teacher's creativity. English learning supported by high motivation, especially with teachers capable of enhancing such motivation, leads to achieving learning targets. The assessment of learning targets can be observed through changes in the learners' attitudes and abilities throughout the learning process. A well-designed English language learning environment, complemented by adequate facilities and enriched by teachers' creativity, will facilitate learners in reaching their learning objectives. Teachers considering various factors in selecting suitable learning media can significantly enhance the success of English language learning. The appropriate choice of learning media also enables teachers to bring positive impacts into the classroom during the teaching and learning process.

Learning media plays a crucial role in the learning process and cognitive development, particularly in the context of English language learning. Appropriate learning media can encourage students to be more interactive, providing support to engage learners more actively in English language learning. In the digital era, another advantage of using learning media is its ability to enhance learning through interactive effects used to facilitate the delivery of taught content. In its application,

the use of color, effects, and formats can be adjusted as needed, creating an effective teaching experience and aiding learners in understanding the conveyed learning contents (Kaltsum, 2017).

In English language learning, there are several language skills that must be mastered, namely speaking, listening, reading, and writing (Abarca, 2021). These four elements must be considered by teachers in the learning activities. However, in reality, learners still find it difficult to understand English vocabulary. English language learning is often considered challenging by learners, so during the implementation of learning activities, learners are less motivated to participate.

One reason for this is that teachers have not been using learning media that can enhance the motivation and activeness of learners in learning activities. Based on observations in one elementary school in Tasikmalaya City, although teachers have been using videos in delivering learning content (such as YouTube videos), it is insufficient in increasing the motivation and activeness of students in learning. This is also highlighted by Kurnia (2021), stating that inadequate learning tools or media can worsen activities, leading to learning difficulties for students.

Hence, this research aims to develop interactive video-based learning media using Edpuzzle for English language learning in the fourth grade of elementary school. According to Achmad et al. (2021), Edpuzzle is a video-based learning media platform that can be accessed and used by all teachers in learning activities to make video-based lessons more engaging and interactive. Edpuzzle is an easily accessible digital platform for developing video-based learning media. It allows teachers to create instructional videos uploaded to the Edpuzzle platform.

The Edpuzzle is a platform used to create engaging, interactive, and effective learning experiences through video (Qadriani, Hartati, & Dewi, 2021). Furthermore, Edpuzzle demonstrates significant potential in developing students' self-learning skills (Silverajah, 2018). According to Qadriani et al. (2021), several features are available within Edpuzzle: 1) Students cannot skip video content without answering the embedded questions. If the video stops, students must respond to the presented questions, enhancing their focus during video consumption; 2) Edpuzzle videos can be sourced from various platforms like YouTube, tailored by educators to align with the topic of study. These videos can be uploaded through laptops or mobile devices. 3) The number of questions integrated into Edpuzzle videos is unlimited, allowing teachers to cater to specific learning needs and diversify question types. 4) Educators can monitor students' video-viewing duration and track their performance statistics in answering questions. 5) Teachers can provide feedback on student responses either automatically or manually. 6) Automatic assessment for multiple-choice questions allows students to instantly view and gauge their scores.

The aim of this research is to design and develop interactive video-based learning media using Edpuzzle, focusing on introducing -ing verbs to fourth-grade elementary students. This study also evaluates the validity and practicality of the developed media. The anticipated outcome is to assist teachers in utilizing and developing Edpuzzle-based learning media during educational activities. Prior research related to Edpuzzle-based media development was conducted by

Supriusman et al. (2023), who developed English language learning media using Edpuzzle for understanding language expressions in listening and speaking classes. In that study, the validation results indicated an overall average score of 4.10, categorized as valid. Therefore, Edpuzzle-based videos as English language learning media are assumed to be suitable for implementation in listening and speaking classes in Indonesia.

Edpuzzle learning media allows teachers to engage in more flexible instructional activities. Students can access the Edpuzzle platform anytime and anywhere. This is supported by Jayantika & Andini's statement (2022) that the use of Edpuzzle facilitates teachers in monitoring students' learning activities, especially those utilizing instructional videos.

Methods

The method employed in this study was the Research and Development (R&D) method aimed at developing and validating an existing learning product. The development model utilized was the ADDIE model, as described by Branch (2009), consisting of five stages: Analyze, Design, Develop, Implement, and Evaluate. Research subjects included content validator, media validator, students, and teacher from SDN 2 Linggajaya. Data collection techniques involved both qualitative and quantitative methods (mixed methods). The use of qualitative and quantitative techniques aimed to obtain comprehensive data and a more accurate understanding in addressing the research problem. This methodology encompassed several stages, including observation, interview, document analysis, expert validation questionnaires, and response questionnaires to obtain feedback from both teacher and students. The data was subsequently analyzed qualitatively and quantitatively. The stages of ADDIE that have been implemented are presented below.

Analyze

The analysis phase involved analyzing the curriculum, students' characteristics, and facility analysis. This stage aimed to analyze what learning media was suitable considering these three aspects.

Design

The design phase involved designing an interactive video using Edpuzzle for English language learning on the topic of -ing verbs in fourth-grade elementary school. Elements designed included learning targets, learning objectives, concept of the video content, and questionnaires to test the suitability of the developed video.

Develop

The development phase involved creating learning media product based on the established design. The initial video content creation was done using the Canva application. Subsequently, the video was edited using the KineMaster application and then uploaded to YouTube. The completed video was then validated by learning media expert and English language teaching expert.

Implement

The product, which had undergone the development process and had been validated, was implemented in English language teaching activity in elementary school. To ensure the smoothness of this implementation process, several aspects were considered, including preparing the learning environment and managing a conducive classroom. This stage was conducted to obtain feedback from students and teachers regarding the Edpuzzle-based instructional media.

Evaluate

Within the framework of ADDIE model development, formative evaluations were conducted at each stage. In other words, evaluations were carried out during the Analyze, Design, Develop, and Implement stages. However, the main evaluation was conducted summatively after the implementation phase.

The primary instrument in this study, the questionnaires, contained several statements where validators, teacher, and students were asked to select one of several provided options using a Likert-scale format as presented in Table 1. Then, the learning media's suitability level was interpreted based on the criteria presented in Table 2.

Table 1. Likert Scale

Category	Score
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4

(Sugiyono, 2019), modified

Table 2. Suitability Level Interpretation

Percentage	Category
37% - 52%	Not Suitable
53% - 68%	Fairly Suitable
69% - 84%	Suitable
85% - 100%	Highly Suitable

(Wahab et. al., 2021), modified

Quantitative data regarding statements with multiple-choice Likert-scale-based options collected through questionnaires were then analyzed quantitatively. Qualitative data obtained, such as comments from validators, were processed qualitatively. This analysis process also involved transforming raw data from the questionnaire into easily understandable sentences. Thus, the information obtained from respondents could be articulated clearly, facilitating interpretation and comprehension of research findings.

Results and Discussion

The development of interactive video media based on Edpuzzle for the English subject focusing on -ing verbs in fourth-grade was undertaken using the ADDIE model. This section presents the research outcomes and discusses them based on the ADDIE model.

Analyze

The analysis phase in this research involved curriculum analysis, student characteristics, and facilities assessment. The curriculum analysis aimed to identify the learning outcomes, objectives, and required content. Meanwhile, the analysis of student characteristics sought to determine the most suitable media based on students' learning abilities, variations in knowledge, and/or skills of fourth-grade students at SD Negeri 2 Linggajaya. The facilities assessment was conducted to understand the current conditions and the school's readiness to implement digital learning media.

The results from interviews and observations indicated a strong suitability for developing interactive video learning media. Despite the integration of the Merdeka curriculum where English becomes one of the subjects in the school, interactive audiovisual-based learning media for the English subject, specifically on -ing verbs, was absent. Nevertheless, the school was highly supportive of the development of technology-based learning media.

Moreover, the analysis of student characteristics revealed their difficulties in understanding English lessons related to -ing verbs, thus justifying the alignment of the developed learning media with student needs and characteristics. The urgency of understanding student characteristics was elucidated by Miftah & Rokhman (2022), explaining that the use of learning media is a decision made by teachers based on instructional design according to students' learning styles.

Learning facilities and infrastructure are tools that support the smooth learning process. An assessment of the facilities at SD Negeri 2 Linggajaya shows that they are adequate to support the implementation of learning well. Facility assessment is an important thing to do so that school facilities can function optimally and meet the needs of students and teachers. This assessment can be carried out with the aim of determining the suitability of facilities and improving facility performance. The physical condition of the technology facilities at this school is suitable for use and well maintained. Complete technological facilities are also adequate to support student and teacher learning and activities.

Design

The design phase was the second step in this process. In this phase, an Edpuzzle-based video learning media was designed. Based on the previously conducted curriculum analysis, the topic that needed to be taught to the students was -ing verbs. In this design phase, the learning outcomes to be achieved in the English subject, based on the Merdeka curriculum, were determined. The learning outcomes and objectives are presented in the following table.

Table 3. Mapping of Learning Outcomes and Learning Objectives

Learning Outcomes	Learning Objectives
Listening-Speaking: Students can use English to interact in social and expanding classroom situations while still being predictable using sentences with specific patterns. They can modify some sentence elements to participate in classroom routines and learning activities, such as expressing feelings, stating needs, and asking for help. Students understand the main idea of orally presented information with visual aid and use simple vocabulary. They can follow simple instructions related to classroom procedures and learning activities with visual support.	Through video listening activity, students can accurately state examples of sentences using -ing verbs. Through group discussion activity, students can correctly mention the concept of understanding -ing verbs. Through discussion activity, students can solve Edpuzzle questions on -ing verbs correctly. Through discussion activity, students can create sentences using -ing verbs correctly.

Writing-Presenting: Students can communicate ideas and experiences through drawings and simple written copies. With the guidance of the teacher, students can produce simple descriptive and procedural texts using simple words/phrases and pictures. They can write simple vocabulary related to the classroom and home environment in English using self-created spellings.	Through interactive video watching activity, students can form sentences about their activities using -ing verbs.

In this phase, the technical process of video creation was also designed. Firstly, the determination of the applications used in the video creation process was conducted. Canva was used for design, writing, and image arrangement. Meanwhile, KineMaster was chosen for video editing. The next stage involved creating a flowchart, storyboard, and script elements for the video. The creation of the flowchart aimed to visually illustrate the overall video flow. The flowchart in this interactive learning video displays the development steps of the created media using symbols to help developers understand the program's operation. The created storyboard aimed to provide an overview of the video display design. It could serve as an aid to explain the developed product. Additionally, a video script, which is the intended learning content, was also prepared. The subsequent step was designing the components of the interactive video learning media using the Canva application. An example of the design result is presented in Figure 1.
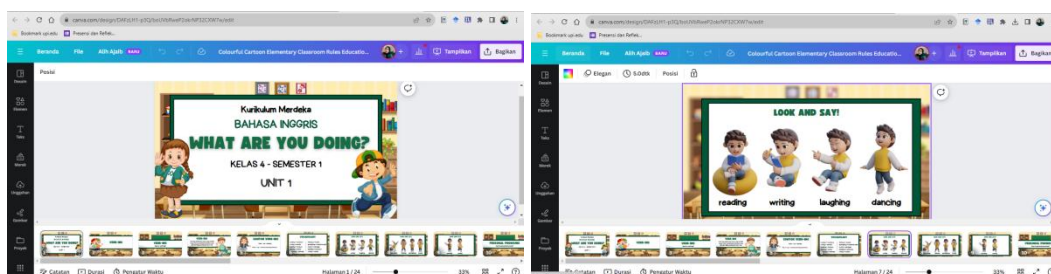

Figure 1. Interactive Video Learning Design

Develop

The development phase is the most crucial stage in creating this interactive video learning product. This stage aimed to produce a high-quality product that aligned with user needs. During the development phase, each design created in the design stage was processed and transformed into the actual product. This phase involved video creation, editing, and the addition of interactivity. Video creation entailed generating material slides using the Canva application. Video editing was performed to merge designs, colors, texts, images, and voice-over to match the conveyed message or information.

The addition of interactivity was executed using the Edpuzzle application. In this phase, the edited video learning media was uploaded to YouTube, and its link was then embedded in the Edpuzzle platform. Through Edpuzzle, students could answer the presented questions. The product development stage also encompassed the creation of a validation questionnaire and the validation test for the learning media product. The validation test for the learning media product was conducted by experts in the fields of media learning and English language learning.

The learning media expert assessed the Edpuzzle-based learning media product, evaluating various aspects. The assessment results from the learning media expert revealed: (1) The selection of words and images received an average assessment percentage of 100%, falling within the criteria of highly suitable; (2) Language use obtained an average assessment percentage of 98.5%, also categorized as highly suitable; (3) On-screen appearance received an average assessment percentage of 100%, categorized as highly suitable; (4) The alignment of content presentation with indicators and learning outcomes received an average percentage of 97.6%, falling within the highly suitable category; (5) Exercise and question presentation received an average assessment percentage of 90.5%, also considered highly suitable; and (6) The effectiveness of media usage received an average assessment percentage of 96.4%, categorized as highly suitable. The cumulative average percentage of these six aspects was 97.17%, meeting the criteria for highly suitable. The expert validation data for the learning media are presented in Table 4.

Table 4. Learning Media Expert Validation Result

No	Aspect	Rate	Category
1	Selection of words and images	100%	Highly Suitable
2	Language usage	98,5%	Highly Suitable
3	On-screen appearance	100%	Highly Suitable
4	The alignment of content presentation with indicators and learning outcomes	97,6%	Highly Suitable
5	Exercise and question presentation	90,5%	Highly Suitable
6	The effectiveness of media usage	96,4%	Highly Suitable

The assessment results conducted by the English language learning expert demonstrated: (1) The alignment of content with core competencies and learning outcomes obtained an average assessment percentage of 87.3%, fitting within the highly suitable category; (2) The presentation of complete and sequential content received an assessment percentage of 86.5%, categorized as highly suitable; (3) The suitability of example questions with the content achieved an average assessment percentage of 83.2%, falling within the suitable category; (4) Exercise questions aligned with the established indicators achieved an average percentage of 84.3%, considered suitable. The cumulative average percentage obtained from these four aspects was 85.3%, meeting the valid criteria. The data from the English language learning expert validation are presented in Table 5.

Table 5. English Language learning Expert Validation Result

No	Aspect	Rate	Category
1	The alignment of content with core competencies and learning outcomes	100%	Highly Suitable
2	The presentation of complete and sequential content	98,5%	Highly Suitable
3	The suitability of example questions with the content	100%	Highly Suitable
4	Exercise questions aligned with the established indicators	97,6%	Highly Suitable

The cumulative analysis of the media and material expert evaluations resulted in an overall average percentage of 91.25%. This percentage reflects the comprehensive assessment of the developed interactive video learning, indicating that the Edpuzzle-based interactive video learning is highly suitable and ready for field testing after revision based on the experts' feedback.

Implement

The developed interactive learning video, validated by experts and revised accordingly, was tested on the students of SD Negeri 2 Linggajaya. The implementation involved 45 fourth-grade students divided into 10 groups. There were two learning sessions with each session consisted of five groups. Each group provided with a digital device to collectively watch the animated video and solve the

Edpuzzle questions. After the session, they were given a questionnaire to gauge their response to the learning media.
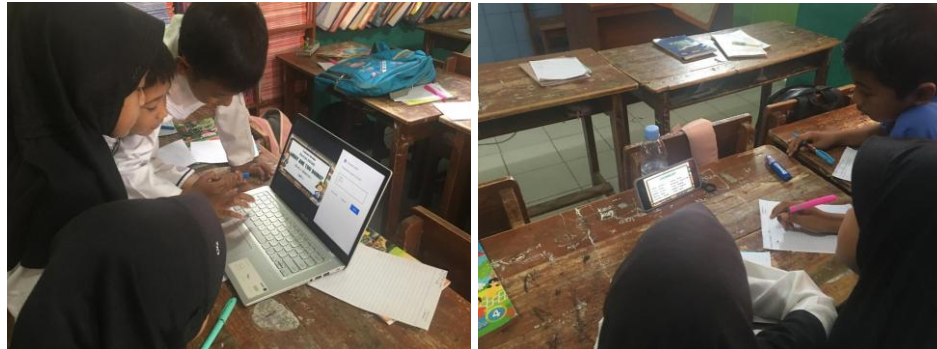

Figure 2. Implementation of Edpuzzle using laptop dan handphone

Evaluate

Based on the students' responses after engaging with the interactive video learning, it was found that: (1) The average assessment percentage of the learning media display aspect reached 97.3%, falling into the highly suitable category; (2) The average assessment percentage of the media usage aspect reached 92.3%, also falling into the highly suitable category; (3) The average assessment percentage of the content and question presentation aspect reached 96%, falling into the suitable category; (4) The average assessment percentage of the image and video display aspect reached 96.5%, also falling into the highly suitable category; and (5) The average assessment percentage of the practicality and flexibility aspect of media usage reached 94.5%, falling into the highly suitable category. Overall, the average percentage of these five aspects was 95.3%, also falling into the highly suitable category. The students' responses to the Edpuzzle-based video learning are presented in Table 6.

Table 6. Student Response Questionnaire Results

No	Aspect	Rate	Category
1	The learning media display	97,3%	Highly Suitable
2	The media usage	92,3%	Highly Suitable
3	The content and question presentation	96%	Highly Suitable
4	The image and video display	96,5%	Highly Suitable

5	The practicality and flexibility aspect of media usage	94,5%	Highly Suitable

Moreover, the implementation process also involved the fourth-grade class teacher with the aim of understanding his/her response to the Edpuzzle-based interactive video learning. Based on the teacher's feedback after reviewing the interactive video learning, it was found that: (1) The average assessment percentage of the learning media display aspect reached 100%, falling into the highly suitable category; (2) The average assessment percentage of the media alignment with student characteristics reached 95.6%, also falling into the highly suitable category; (3) The average assessment percentage of the question presentation aspect reached 93.3%, falling into the highly suitable category; and (4) The average assessment percentage of the exercise questions in stimulating student enthusiasm reached 97%, also falling into the highly suitable category. Overall, the average percentage of these four aspects was 96.5%, also falling into the highly suitable category. The teacher's responses after reviewing the Edpuzzle-based video learning are presented in Table 7.

Table 7. Teacher Response Questionnaire Results

No	Aspect	Rate	Category
1	The learning media display	100%	Highly Suitable
2	The media alignment with student characteristics	95,6%	Highly Suitable
3	The question presentation	97%	Highly Suitable
4	The exercise questions in stimulating student enthusiasm	96,5%	Highly Suitable

The results from both student and teacher response questionnaires were combined and analyzed cumulatively. The cumulative calculations showed an overall average percentage of 95.9%, falling into the "highly suitable" category. This percentage reflects the overall responses of students and teacher after utilizing the developed interactive video learning. Therefore, the interactive video learning has proven highly suitable as a learning media to support the teaching and learning process. The use of Edpuzzle-based interactive video learning is considered beneficial in enhancing English language comprehension, particularly for the -ing verbs topic.

Conclusion

Edpuzzle proved to be an effective platform in enhancing the quality of English language learning at the elementary school level. Leveraging its interactive features, Edpuzzle provided a more engaging and captivating learning experience for students. Edpuzzle allows educators to embed questions, quizzes, and direct comments into the instructional videos, enabling students to develop their language skills. The obtained data from the analysis of responses from students and teacher yielded an overall average percentage of 95.9%, indicating the high suitability of Edpuzzle-based learning media for English language learning at elementary school, particularly concerning the topic of -ing verbs in the fourth grade. Several benefits from using Edpuzzle learning media include enriching English language education in schools, assisting students in overcoming learning obstacles, fostering active student engagement in the learning process, enhancing the allure of English language education, and motivating learners to develop interactive and enjoyable English language skills.

Acknowledgments

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