



## Can Interactive PowerPoint Media Revolutionize Simple Sentence Learning in Elementary Schools?

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### Abstract

Improving student outcomes in constructing simple English sentences is essential, particularly in elementary education, where foundational language skills are developed. In Indonesian elementary school, low performance in this area was linked to the lack of interactive learning media. This study aimed to address this gap by developing, assessing the feasibility of, and evaluating the effectiveness of interactive PowerPoint-based learning media for fourth-grade students. Using the ADDIE development model—comprising Analysis, Design, Development, Implementation, and Evaluation—the study involved 26 students from SDN 02 Kendengsidalit Jepara, with data collected through observations, interviews, questionnaires, and documentation. The findings revealed a significant improvement in student performance, with the maximum score increasing from 71 in the pretest to 88.89 in the post-test. This improvement was confirmed by a paired t-test validating the media's effectiveness in enhancing learning outcomes. The analysis of pretest and post-test data further indicated moderate overall improvement underscoring the positive impact of the interactive PowerPoint-based learning approach. The study demonstrated that the interactive PowerPoint media is practical and feasible for improving students' mastery of simple English sentences. It is a valuable tool for enhancing language instruction in primary education.

**Keywords:** PowerPoint, multimodal, ADDIE, English language learning, EFL youth learner.

### INTRODUCTION

Teaching English for young learners in Indonesia, particularly at the primary school level, is both crucial and challenging. As a foreign language in Indonesia, English is introduced early in the curriculum, from elementary through high school, and is now a compulsory subject under the Curriculum (Wahyuningsih et al., 2023). Despite the curriculum's emphasis on creative and flexible approaches, the effectiveness of English education can be hindered by a lack of resources, such as interactive learning media. Young learners, in particular, struggle with foundational aspects of the language, like constructing

simple sentences, due to significant differences in grammar and syntax between English and their native language.

This study was motivated by preliminary research that observed low student learning outcomes in constructing simple English sentences at an elementary school in Indonesia. The primary issue identified was the need for more interactive learning media, which hampers the effective delivery of instructional materials. Through observations and interviews with fourth-grade students at an elementary school in Jepara, Indonesia, it was found that despite implementing the independent curriculum, significant challenges persist, particularly in teaching English. Specifically, students need help composing simple sentences using the Simple Present Tense, indicating an inadequate understanding and mastery of this material. These challenges underscore the need for more engaging and effective teaching tools to enhance young learners' grasp of basic English sentence construction.

Teaching English to young learners necessitates robust pedagogical approaches and the availability of suitable tools and resources to facilitate effective language skill development from an early stage. Multimedia-assisted English teaching leverages tools such as computers, videos, images, and slides to present new information engagingly and efficiently (Wang & Lee, 2021; Mayer et al., 2014). According to Chan et al. (2018) and Kim (2022), this methodology offers two primary benefits: visualization and concretization, which aid in transforming abstract concepts into tangible, comprehensible forms. By rendering English lessons more visually stimulating and interactive, multimedia can convert potentially monotonous classes into exciting learning experiences, enhancing students' motivation and accelerating their language proficiency. Moreover, multimedia attains its maximum efficacy when it actively engages learners (Clark & Mayer, 2023). Engagement is amplified when the content is personalized and delivered conversationally, utilizing familiar language, accents, and voices. Personalized, conversational presentations that employ direct language are more engaging than formal and detached presentations which can be found in one of the famed media namely as PowerPoint (Hein, 2014).

PowerPoint-based interactive media is one effective multimedia tool that can enhance English learning outcomes. PowerPoint, a widely used software, is ideal for organizing presentation materials effectively and efficiently, but it also serves as a powerful tool for teaching and creating animations (Uzun & Kilis, 2022). Beyond traditional presentations, PowerPoint allows educators to create interactive learning materials by incorporating audio and visual elements into slides (Brock & Joglekar, 2011). These interactive materials can be easily shared in various file formats, making them accessible to students on cell phones, laptops, and computers (Mensah et al., 2021). Using vibrant colors, animations, and interactive elements within PowerPoint presentations can make the learning experience more dynamic and enjoyable (Chik, 2017). As students become more engaged and their needs in the learning process are met, their learning outcomes are likely to improve (Anwar et al., 2020).

Several studies have investigated the efficacy of PowerPoint presentations in English language learning among young EFL learners. Chen (2021), for instance, examined Taiwanese EFL adolescents who utilized PowerPoint slides as multimodal creators. Analyzing 158 slides produced by nine student groups, the study revealed a frequent combination of text, visuals, and gestures. End-of-semester group interviews indicated that

most groups adopted a "composing in pieces" approach to their slideshows. The process of creating and presenting these presentations motivated students to set learning objectives, such as improving voice projection and time management. The study concluded with pedagogical implications and recommendations for future research. Besides, [Dewi and Kareviati \(2021\)](#) explored using PowerPoint as instructional media for teaching English to Indonesian sixth-graders. With 30 students, projectors, and PowerPoint presentations as primary tools, the teacher engaged students through interactive elements, such as question-and-answer sessions and games, while reducing reliance on traditional chalkboard writing.

Additionally, [Kalantari and Hashemian \(2015\)](#) conducted a study to determine the effectiveness of storytelling on EFL vocabulary acquisition. Thirty upper-beginner EFL learners aged 8-14 were divided into experimental and control groups. The experimental group received storytelling instruction enhanced with PowerPoint visuals, while the control group followed traditional methods. Post-test results indicated significantly improved vocabulary knowledge and increased motivation among the experimental group, supporting the efficacy of storytelling for young EFL learners.

Therefore, based on the background and the context in which the preliminary research was conducted, this study aims to design, implement, and evaluate an interactive PowerPoint-based learning module to enhance the English language proficiency of fourth-grade students at SDN (State Elementary School) 2 Kendengsidialit, Jepara Regency, Indonesia. The research specifically focuses on developing students' ability to understand and produce simple English sentences through engaging and interactive multimedia content. By employing this approach, the study seeks to contribute to more effective English language teaching methodologies for young learners and improve English language skills among students in the region.

## METHOD

The method used in this research is a quantitative approach, precisely a type of development research known as research and development (R&D). This study employs the ADDIE development model, which consists of five stages: analysis, design, development, implementation, and evaluation. The ADDIE model is particularly suitable for addressing learning needs ([Spatioti et al., 2022](#)), as it is expected in this research to facilitate the development of students' ability to understand and produce simple English sentences through engaging and interactive multimedia content. The subjects of this study were 26 fourth-grade students, comprising 12 female and 14 male students from SDN 02 Kendengsidialit Jepara, Indonesia. The research was conducted from April to May 2024, providing ample time to observe and assess the impact of the interventions on the student's learning outcomes.

The data collection techniques employed in this research include observation, questionnaires, and documentation, all of which were carefully selected to understand the study's impact comprehensively. The instruments utilized in the study comprised documentation tools, response questionnaires, expert validation, pretest, and posttest. These instruments were designed to capture qualitative and quantitative data, ensuring a well-rounded analysis of the research outcomes ([Griffiee, 2018](#)). For data analysis, several statistical techniques were used to assess the effectiveness of the interactive learning media.

The data normality test, specifically the Kolmogorov-Smirnov test, was employed to determine whether the dependent and independent variables in the regression model followed a normal distribution. The homogeneity test was conducted to verify whether the sample data taken from the population had homogeneous variances, which is essential for the accuracy of comparative studies. The paired t-test was used as a critical data analysis technique to evaluate the effectiveness of the treatment by comparing the average differences in student performance before and after the intervention. Additionally, the N-gain test was applied to measure the extent of improvement between the pretest and posttest results, providing a clear indication of the learning progress made by the students as a result of the implemented learning media.

## FINDING AND DISCUSSION

This research develops PowerPoint-based interactive learning media for teaching the construction of simple sentences, utilizing the ADDIE model, which comprises five stages: analysis, design, development, implementation, and evaluation. In the first stage, the analysis phase, the needs of both teachers and students are carefully assessed to ensure the effectiveness of the learning media. This involves conducting interviews with fourth-grade teachers at SDN 02 Kendengsidialit to identify specific requirements and challenges faced in the classroom. Through these interviews, the research team gathers valuable insights into the teaching and learning dynamics, which inform the subsequent stages of the ADDIE model, ensuring that the developed media is well-aligned with the educational needs and objectives of the students and teachers.

### Analysis stage

The survey conducted among the fourth-grade students at SDN 02 Kendengsidialit provided insightful data on their attitudes toward English and their preferences regarding learning media. All 26 students liked English as a subject, showing a positive attitude toward learning the language. However, regarding the task of constructing simple sentences in English, 24 out of 26 students admitted finding it challenging, indicating a significant learning obstacle in this area. According to [Siang et al. \(2021\)](#) and [Zhou \(2009\)](#), primary English learners often need help with writing due to insufficient vocabulary, spelling and punctuation errors, lack of grammar accuracy and awareness, and a general lack of motivation. Implementing learning media seems insufficient, as only three students felt that the resources for learning sentence construction were adequate, while 23 believed the resources needed to be completed.

This finding aligns with research conducted by [Farizi et al. \(2018\)](#) and [Sukma et al. \(2023\)](#), which analyzed obstacles in Indonesian language learning in primary schools. Their study found that teachers often need more innovation, relying primarily on lecture and question-and-answer methods. They must effectively utilize diverse methods, models, or learning media in their teaching practices. This overwhelming response underscores the urgent need for improved learning tools. Reflecting on this, all 26 students expressed a desire for new media to assist in learning simple sentence construction. Regarding familiarity with technology, 19 students were aware of PowerPoint, and 18 had used it before. Notably, all 26 students agreed that the newly developed PowerPoint media should be used for teaching simple sentence structures in English.

When asked about enhancing the PowerPoint media, all students suggested incorporating a quiz game in the middle of the presentation to make learning more engaging. Incorporating a quiz game in primary school can make learning more fun and motivating, which can positively affect learning outcomes, improve classroom dynamics, and reduce student anxiety (Wang & Tahir, 2020). Moreover, 22 students agreed to include practice questions at the end of the lesson to reinforce their understanding. Regarding the current media teachers use in English lessons, 25 students noted that pictures from textbooks are the most common, with only one student mentioning posters and none citing learning videos. This suggests a preference for more dynamic and interactive materials. For the format of questions within the PowerPoint media, all students favored multiple-choice questions over short essays or descriptions, indicating a preference for more straightforward assessment methods.

### Design and development stages

The second stage is the design stage, where the researcher begins by selecting the software and hardware required for product development. The software includes Microsoft Office PowerPoint, Canva, and CapCut, while the hardware comprises a laptop and an Android smartphone. The initial step involves designing an interactive media display using a flowchart and storyboard to map the content and navigation.



Figure 1. Content and navigation

Following this, the researcher develops interactive media components, including learning videos created using the CapCut application. Once the learning videos are completed, they are integrated into the PowerPoint presentation and the learning materials. These components are enhanced with navigation buttons and hyperlinks to facilitate easy movement between sections.

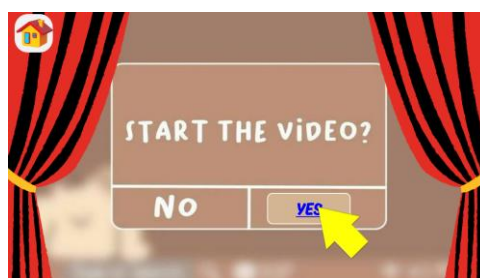


Figure 2. Integrated video learning

Additionally, the learning media includes an interactive quiz linked via hyperlinks designed to capture students' attention and assess their understanding throughout the learning process. The media is meticulously crafted, carefully considering visual elements such as image selection, color schemes, and font choices, as well as the ease of operation and clarity of audio.

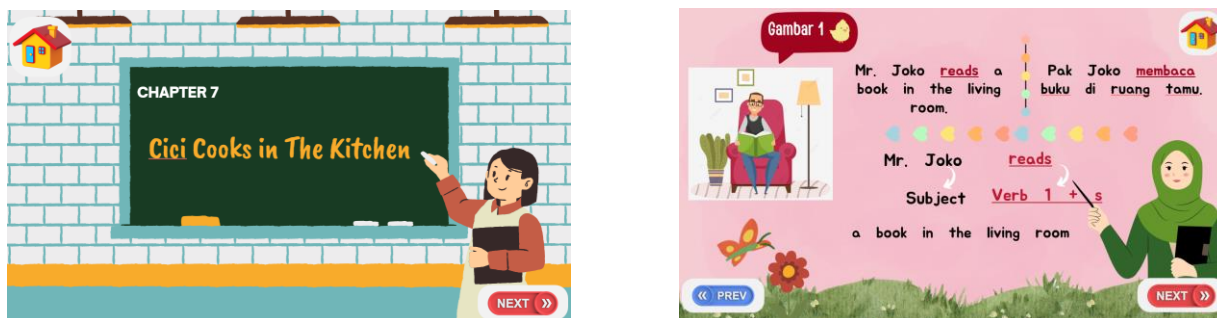


Figure 3. Learning material

The interactive learning material is carefully designed to address the specific learning needs of the students, mainly focusing on their ability to construct simple sentences in English. Recognizing that sentence construction is a foundational skill in language acquisition, the material is tailored to guide students through the basics of grammar, vocabulary, and sentence structure in a way that is both engaging and accessible.



Figure 4. Interactive quiz

Furthermore, the learning outcomes menu outlines the objectives students are expected to achieve, providing them with clear goals for their learning journey. The materials menu contains lessons on constructing simple English sentences, offering structured content that guides students through the fundamentals of sentence construction.

### Implementation and Evaluation stages

On the day the learning media was implemented, the researchers administered two tests to measure its effectiveness: one before the implementation (pretest) and one after (post-test). These tests consisted of 25 multiple-choice questions designed to assess students' understanding of simple sentence construction in English. The questions were carefully structured to cover critical areas of language use: 7 questions focused on the correct use of "To Be" (is, am, are) in simple sentences, six questions required students to fill

in blanks in simple sentences with the appropriate verbs, eight questions involved selecting the correct verb for simple sentences that corresponded to a given image, and four questions assess students' ability to complete negative simple sentences using "do not" or "does not." The effectiveness of the learning media was evaluated by comparing the students' cognitive learning outcomes before and after the intervention, as indicated by their pretest and post-test scores. The study's success was evidenced by a noticeable increase in student interest and engagement using the interactive PowerPoint media. This engagement is crucial, as it directly impacts improving learning outcomes.

To ensure the reliability of the results, the distribution of student learning outcome data was checked using a normality test. The normality test was conducted with the SPSS version 29 software, commonly used in educational research, to analyze data distribution and validate the findings. The results of this test provided a statistical basis for assessing the impact of the interactive learning media on students' performance, confirming that the media was effective in enhancing their understanding and ability to construct simple sentences in English.

**Table 1.** Normality test

	Kolmogorov Smirnov <sup>a</sup>			Shapiro Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.164	20	.168	.921	20	.105
Post-test	.134	20	.200*	.945	20	.304

The normality test results in Table 1 indicate that the data from both the pretest and post-test are normally distributed. This is shown by the significance values (Sig.) in both the Kolmogorov-Smirnov and Shapiro-Wilk tests, which are more significant than 0.05. Specifically, the pretest results have significance values of 0.168 (Kolmogorov-Smirnov) and 0.105 (Shapiro-Wilk), while the post-test results show values of 0.200 (Kolmogorov-Smirnov) and 0.304 (Shapiro-Wilk). Since all these values are above 0.05, it confirms that the data does not significantly deviate from a normal distribution, making it appropriate for parametric statistical analysis.

**Table 2.** N-gain test

	N	Minimum	Maximum	Mean	Std. Dev
pretest	26	.33	71	.5099	.10682
post-test	26	35.71	88.89	58.4085	20.612

Table 2 presents the N-gain test results, which measure the improvement in students' performance from the pretest to the post-test. The table shows that the pretest scores had a minimum value of 0.33 and a maximum value of 71, with an average (mean) score of 50.99 and a standard deviation of 10.682. This indicates that students' scores were relatively low before the intervention and clustered within a narrow range. After the intervention (post-test), the scores significantly improved, with the minimum score increasing to 35.71 and the maximum score reaching 88.89. The mean score also increased to 58.41, with a higher standard deviation of 20.612, indicating more significant variability in the post-test results. The increase in both the mean and range of scores suggests that the interactive learning media positively impacted the students' understanding and ability to construct straightforward English sentences.

**Table 3.** T-test result

	Mean	Std. dev	Std, Error Mean	Lower	Upper	t	df	Sig.
test	-22.9	7.440	1.664	-26.382	-19.418	-13.7	19	.001

Table 3 provides the results of a t-test, showing a significant difference between the pretest and post-test scores. The mean difference is -22.900, with a standard deviation of 7.440 and a standard error of 1.664. This difference is 95% confidence interval ranges from -26.382 to -19.418, indicating that the actual mean difference is likely within this range. The t-value is -13.765 with 19 degrees of freedom, and the significance level (Sig.) is .001, well below 0.05, indicating that the difference between the pretest and post-test scores is statistically significant. This suggests that the intervention had a meaningful impact on the student's performance.

Therefore, using PowerPoint media developed by researchers in the learning process has proven effective in motivating students, fostering independent learning, and stimulating the recall of prior knowledge. The scores demonstrate a clear improvement in student performance, with the maximum score rising from 71 in the pretest to 88.89 in the post-test. This significant increase highlights the effectiveness of using PowerPoint as a learning tool, suggesting that the interactive and engaging nature of the media played a crucial role in enhancing students' understanding and ability to construct straightforward English sentences. This approach allows students to visualize abstract learning material concretely, making complex concepts more accessible. According to [Abdulrahman et al. \(2020\)](#), interactive media can bridge the gap between abstract ideas and concrete understanding, which is particularly important for elementary school students. At this stage, students are in the concrete operational phase described by [Rodić and Granić \(2021\)](#), where they benefit from tangible, real-world representations to grasp learning materials effectively.

The PowerPoint media includes practice questions designed to assess and reinforce students' understanding of the material. These questions are carefully aligned with the learning objectives and accompanied by clear instructions, ensuring students can engage with the content meaningfully. The thoughtful selection of visual elements—such as images, color schemes, video presentations, and clear audio—helps to concretize abstract concepts, reducing the risk of verbalism and enhancing comprehension ([Teng, 2022](#)). Moreover, the language used in the media is tailored to the developmental characteristics of the students, ensuring that it is both accessible and appropriate. A critical aspect of developing this learning media is ensuring the content aligns with learning objectives, indicators, and essential competencies. This alignment is crucial for making classroom learning more efficient and effective. As [Persichitte et al. \(2017\)](#) emphasize, the quality of learning is significantly influenced by the alignment between learning media content and educational goals. Ensuring this alignment enhances the overall effectiveness of the learning process and contributes to achieving desired educational outcomes.

The PowerPoint-based learning media developed by the researchers offers significant advantages, particularly its flexibility, allowing students to use it anywhere and anytime without needing an ample internet connection ([Meibauer & Nøhr, 2017](#)). Students showed great enthusiasm when using the interactive PowerPoint learning media due to its attractive and user-friendly design. The clear, legible text, well-chosen color schemes, and



innovative learning videos, often accompanied by engaging background music, helped make the media visually appealing and effective in enhancing students' understanding of the material. This engaging presentation style was vital in boosting students' motivation to learn. As Lee et al. (2019) emphasize, elementary school students are naturally drawn to colorful and varied materials, which aligns with their developmental preferences. Interactive learning media, such as the PowerPoint developed in this study, assist both teachers and students in systematically understanding concepts. Ip et al. (2019) support this view, emphasizing that well-designed media can significantly enhance the learning experience. Additionally, using exciting and innovative media in learning has a positive psychological impact on students, stimulating their motivation and making learning activities more enjoyable (Puspitarini & Hanif, 2019).

## CONCLUSION

This study focused on developing and evaluating interactive PowerPoint-based learning media designed to enhance the ability of fourth-grade students at SDN 02 Kendengsidialit Jepara, Indonesia, to construct straightforward English sentences. The learning media was specifically tailored to address the needs of these students, integrating PowerPoint-based multimedia elements such as text, images, audio, and video to create an engaging and interactive learning experience. The effectiveness of this approach was rigorously tested through a pretest and post-test evaluation. The findings demonstrated a significant improvement in student performance, with the maximum score rising notably from 71 in the pretest to 88.89 in the post-test. This increase in scores highlights the potential of interactive PowerPoint-based media to make abstract language concepts more accessible and understandable for young learners. The use of multimedia captured the students' attention and reinforced their learning, enabling them to grasp the construction of simple English sentences better.

While the study demonstrated the effectiveness of the interactive PowerPoint-based learning media, several limitations should be considered. Firstly, the sample size was relatively small, consisting of only 26 students from a single school, which may limit the generalizability of the findings to a broader population. Additionally, the study focused exclusively on constructing simple English sentences, and the results may be outside of other areas of language learning. The research also relied on traditional assessment methods (pretest and post-test) to measure learning outcomes, which may not fully capture the depth of students' understanding or ability to apply the knowledge in different contexts. Future research could address these limitations by expanding the sample size and including students from multiple schools to enhance the generalizability of the findings. Additionally, exploring the effectiveness of interactive PowerPoint-based learning media in other aspects of English language learning, such as vocabulary acquisition, reading comprehension, or writing skills, would provide a more comprehensive understanding of its potential benefits. Researchers could also consider incorporating alternative assessment methods like project-based assessments or student portfolios to gain deeper insights into students' learning processes and outcomes.

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