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Article

THE EFFECTIVENESS OF DIGITAL STORYTELLING ON STUDENTS' LISTENING SKILL

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Abstract

This study aims to determine the effectiveness of using digital storytelling media in listening skills of grade VIII students in junior high school at Muaro Jambi. This study used a quasi-experimental design with two groups: an experimental group with 26 students who received learning using digital storytelling media, and a control group with 24 students who were taught using conventional methods. Data was collected through pre-tests and post-tests that measured students' listening skills. The results showed a significant improvement in the experimental group. The average pre-test score of the experimental group was 69.61, increasing to 86.76 in the post-test. Meanwhile, the control group only showed an average increase from 65.33 to 67.00. An independent sample t-test showed a statistically significant difference between the two groups ($t = 10.75$; Sig. $= 0.000 < 0.05$), meaning the improvement in the experimental group was due to the digital storytelling treatment. The effect size analysis (Cohen's $d = 2.92$) also showed a large and noticeable impact of using digital storytelling in the learning context. It is concluded that digital storytelling is an effective, interactive, and multimodal learning medium in students' listening skills.

Keywords: *Digital Storytelling, Effect, Listening Skill, Teaching Media*

Sari

Penelitian ini bertujuan untuk menentukan efektivitas penggunaan media digital storytelling terhadap keterampilan mendengarkan siswa kelas VIII SMP di Muaro Jambi. Penelitian ini menggunakan desain kuasi-eksperimental dengan dua kelompok: kelompok eksperimen dengan 26 siswa dan kelompok kontrol dengan 24 siswa yang diajar menggunakan metode konvensional. Data dikumpulkan melalui pre-test dan post-test. Hasil penelitian menunjukkan peningkatan signifikan pada kelompok eksperimen. Rata-rata nilai pre-test kelompok eksperimen adalah 69.61, meningkat menjadi 86.76

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pada post-test. Kelompok kontrol hanya meningkat dari 65.33 menjadi 67.00. Uji t-test sampel independen menunjukkan perbedaan yang signifikan secara statistik antara kedua kelompok (t = 10.75; Sig. = 0.000 < 0.05), membuktikan bahwa peningkatan pada kelompok eksperimen disebabkan oleh perlakuan digital storytelling. Analisis Cohen's d (2.92) juga menunjukkan dampak yang besar dan nyata. Disimpulkan bahwa digital storytelling adalah media pembelajaran yang efektif, interaktif, dan multimodal dalam keterampilan mendengarkan siswa.

Kata kunci: *Digital Storytelling, Efek, Keterampilan Mendengarkan, Media Pembelajaran*

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Introduction

Listening skill is the first and most important skill for English learners to master. It is the foundation for acquiring other language skills, such as speaking, reading, and writing. Ahmadi (2016) emphasizes that Listening is important in language learning since it provides input for learners and contributes significantly to the development of their language knowledge. Likewise, Vandergrift and Goh (2012) highlight that listening is a key skill in communication ability since it allows learners to understand speech, record intonation, and recognize language structures employed by native speakers. Without good listening skills, students cannot perform other communicative tasks effectively. Saricoban (1997) also asserts that listening is the first step in language learning and the key to effective communication. Therefore, listening should be prioritized from the beginning of English instruction.

Listening skill is not only about hearing sounds but also about understanding and interpreting meaning. Nunan (2002) describes listening as an active process that aims to understand what is heard. Hedge (2000) underlines that listening plays a significant role in daily life and communication. It is one of the receptive skills that must be mastered first by students because humans naturally understand language through hearing before they develop reading skills. Brown (2001) defines listening as an active process involving reception, interpretation, and response to messages. From these perspectives, it is clear that listening skill is a complex, active, and essential process in language learning.

There are several types of listening skills that learners need to master. Sutari (1998) classifies listening into extensive listening, intensive listening, social listening, secondary listening, aesthetic listening, critical listening, concentrative listening, and passive listening. Each type has its function, ranging from listening to general ideas, following instructions, appreciating poetry, engaging in social communication, or analyzing arguments critically. These varieties demonstrate that listening is not a single, uniform skill but a combination of sub-skills that learners need to develop for academic, social, and personal purposes.

The process of listening itself involves multiple stages. Receiving is the initial step, requiring mental and physical readiness to focus on the message. Interpreting follows, where the listener identifies the main points and contextual meaning. Remembering is essential to recall and reconstruct what is heard, while evaluating allows the listener to distinguish facts from opinions. Finally, responding shows understanding and engagement through relevant feedback. These five stages—receiving, interpreting, remembering, evaluating, and responding—illustrate that listening is an active cognitive and communicative process, not merely a passive activity.

Teaching listening is therefore a crucial part of English education. Thompson et al. (2004) explain that interactive listening skills play a major role in interpersonal communication and critical thinking. Byrnes (1984) also identifies sub-skills of listening, such as following the general trend, checking prior knowledge, and understanding the speaker's intentions. Morley (2001) describes listening as involving auditory discrimination, grammar, selecting information, remembering, and linking sounds with meaning. In practice, teaching listening can be implemented through methods such as audio-lingual drills, video-based instruction, or authentic oral discourse. Patel (2013) stresses that technology can enhance students' interest and comprehension, while Dunkel (in Ghazali) suggests providing authentic materials with audio and video. Thus, effective teaching of listening requires the integration of methods and technology to improve motivation and outcomes.

However, students often face problems in listening comprehension. Richards (2008) identifies linguistic barriers such as limited vocabulary, weak grammar, and

difficulty recognizing connected speech. Gilakjani and Ahmadi (2011) find that EFL learners lack exposure to English, which makes them struggle with understanding utterances. Field (2008) emphasizes that junior high students are unfamiliar with the speed and complexity of English input. Nation and Newton (2009) criticize conventional methods that rely only on recordings without visual context, which often confuse learners. Besides linguistic and methodological problems, affective factors such as anxiety, low motivation, and lack of self-confidence also hinder listening development. In junior high school at Muaro Jambi, students mainly rely on worksheet books rather than meaningful input, which causes difficulty in recognizing words, distinguishing sounds, and capturing essential information in English conversations.

One solution to overcome these difficulties is the use of appropriate learning media. Heinich et al. (1996) define teaching media as tools to facilitate learning, boost motivation, and enhance comprehension. Among various innovations, digital storytelling emerges as an effective medium for teaching listening. Storytelling itself has long been recognized as a powerful means of communication. Pellowski (in Nurcahyani, 2010) describes it as the art of narrating stories with or without music, while Kurtz (2014) emphasizes its role in delivering complex information in digestible ways. Anderson (2019) even calls storytelling the oldest art of human communication.

When combined with digital technology, storytelling evolves into digital storytelling (DS). Mauren, Meji, and Jong (2020) define it as a combination of traditional storytelling with animation, images, and sound, making it creative, innovative, and engaging. The Digital Storytelling Association (2002) explains DS as a modern expression of old forms of storytelling, combining multimedia elements to bring stories to life. Robin (2008) argues that DS is effective both as a teaching tool for teachers and a learning tool for students. Sadik (2008) adds that DS enhances motivation and personalizes learning experiences, while Arif, Armiwati, and Handayani (2023) show that students believe digital technology helps them improve language skills.

The advantages of DS include increasing student engagement, promoting language learning through multimodal input, and encouraging creativity. It helps students improve vocabulary, critical thinking, and communication skills. However, DS

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also has disadvantages. Naoki (2017) points out issues such as narration difficulties, time constraints, computer literacy problems, and copyright concerns. These weaknesses indicate that careful planning and guidance are necessary in implementing DS effectively.

To maximize its benefits, strategies for using DS in classrooms are essential. Sylvester and Greenidge (2009) consider DS as a constructivist method that integrates literacy with technology. Robin (2008) recommends integrating DS into the curriculum to deepen students' understanding of content. Lambert (2010) insists on a story-first approach to prioritize meaningful narratives over technology. Ohler (2008) suggests collaborative projects to foster creativity and teamwork. These strategies confirm that DS is not only a multimedia tool but also a pedagogical approach to enrich learning.

Several previous studies confirm the effectiveness of DS in improving listening skills. Akdamar and Sütçü (2021) find that DS enhances motivation and reduces listening anxiety among Turkish secondary students. Demirbaş and Şahin (2022) show that DS significantly improves listening comprehension of elementary students. Budianto, Azmi, and Putera (2021) in Bali discover that DS motivates students but also highlight challenges with vocabulary limitations. Khasanah, Herlina, and Rustandi (2023) reveal that DS makes learning interactive and fun for senior high school students. Finally, Sartafifa (2023) demonstrates the positive effect of YouTube-based storytelling on students' listening skills. Collectively, these studies suggest that DS is an effective and innovative method for enhancing listening comprehension across different levels and contexts.

Based on the theoretical foundation and empirical evidence, this study aims to investigate the use of digital storytelling in students' listening skills in junior high school at Muaro Jambi. The objective is to determine whether DS has a significant effect on students' listening comprehension. For students, the study provides resources to improve their listening skills through DS. For teachers, it offers an alternative medium to support teaching. For other researchers, it contributes new ideas and data for further exploration. Finally, the problem of this research is formulated as follows: "Is there any effect of the use of digital storytelling toward students' listening skills in junior high school at Muaro Jambi?

Methods

This study applied a quantitative method using a quasi-experimental design. Quasi-experimental is a design in which participants are divided into experimental and control groups without random individual assignment, but the groups are already formed as whole classes. In this study, one class was selected as the experimental group and the other class as the control group. The independent variable was the use of digital storytelling, while the dependent variable was students' listening comprehension.

The population of this study consisted of all junior high school students in Muaro Jambi, with a total of 158 students from six classes (VII to IX). The research sample was selected based on teacher recommendations and subject suitability. Class VIII A, consisting of 26 students, was selected as the experimental group, while class VIII B, consisting of 24 students, was selected as the control group. The selection process used a cluster random sampling method because the population was organized into groups rather than individuals.

Both groups took a pre-test to measure initial listening skills. The experimental group received three treatments using DS with stories (The Boy Who Cried Wolf, The Monkey and the Crocodile, and The Magic Paintbrush). The control group was taught using conventional audio-based listening. A post-test using a new story (The Clever Rabbit) was given to both groups. The instruments consisted of multiple-choice, true-false, and fill-in-the-blank questions. Validity was tested using Pearson Product Moment, while reliability was measured with Cronbach’s Alpha. The results confirmed that the test was both valid and reliable. Data were analyzed through descriptive statistics, normality and homogeneity tests, independent sample t-test, and effect size using SPSS 26.

Results and Discussion

This study before conducting the actual analysis, the researcher ensured that the instrument used in this study was valid and reliable. A validity test was conducted using the Pearson Product Moment correlation formula with SPSS version 26. The results showed that all items of the listening test were valid because the correlation coefficient of each item exceeded the r-table value at the 0.05 level of significance. In addition, a reliability test using Cronbach’s Alpha was carried out to measure the internal

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consistency of the items. The reliability value was higher than 0.60, which indicated that the test items consistently measured students' listening comprehension. These preliminary tests confirmed that the instrument was both valid and reliable and could be used for collecting data in this research.

The descriptive statistics of the students' scores provided an initial overview of their performance before and after the treatment. In the experimental group, which consisted of 26 students taught by digital storytelling, the mean score in the pre-test was 69.61, with a minimum of 44 and a maximum of 88. The post-test mean score increased sharply to 86.76, with scores ranging between 76 and 96. This increase of more than 17 points indicated a significant improvement in listening skills after students were taught through digital storytelling. The results of the descriptive statistics for this group are presented in Table 4.1.

Test	N	Minimum Score	Maximum Score	Mean	Standard Deviation
Pre-Test	26	44	88	69.61	13.08
Post-Test	26	76	96	86.76	5.960

Table 4.1. Descriptive Statistics of the Experimental Group

The control group, which consisted of 24 students who were taught by conventional methods, showed different results. Their pre-test mean score was 65.33, with a minimum of 32 and a maximum of 80, while the post-test mean score was only 67.00, with scores ranging from 40 to 88. The improvement was only 1.67 points, which was far lower than that of the experimental group. This indicated that conventional listening instruction without digital support was less effective in improving students' comprehension. The descriptive statistics for the control group are displayed in Table 4.2.

Test	N	Minimum Score	Maximum Score	Mean	Standard Deviation
Pre-Test	24	32	80	65.33	13.64
Post-Test	24	40	88	67.00	11.69

Table 4.2 Descriptive Statistics of the Control Group

Before conducting hypothesis testing, the assumptions of parametric analysis were examined through normality and homogeneity testing. The normality test was carried out using the Shapiro-Wilk test, and the results showed that the significance

values for both experimental and control groups were greater than 0.05, which indicated that the data were normally distributed. The homogeneity test was conducted using Levene's test, and the results also showed significance values greater than 0.05, which indicated that the data were homogeneous. These findings meant that the data met the assumptions for conducting an independent sample t-test.

The independent sample t-test was then performed to determine whether there was a significant difference between the post-test scores of the experimental and control groups. The result of the analysis showed that the t-value was 10.75 with a significance level of 0.000, which was lower than 0.05. This result indicated that the difference between the mean scores of the two groups was statistically significant. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted. In other words, the use of digital storytelling had a significant effect on students' listening skills. The result of the t-test is presented in Table 4.3.

Variable Compared	t-value	df	Sig. (2-tailed)
Experiment vs Control	10.75	48	0.000

Table 4.3 Independent Sample T-Test

In addition to hypothesis testing, an effect size analysis was conducted to measure the strength of the treatment. Cohen's d was used as the effect size measure, and the result was 2.92. According to Cohen's interpretation, a value above 0.80 was considered large. Therefore, the effect size of 2.92 indicated that digital storytelling had a very strong and meaningful impact on students' listening comprehension.

The discussion of these findings showed that digital storytelling was highly effective in improving listening skills compared to conventional methods. The improvement in the experimental group supported Paivio's Dual Coding Theory (1991), which suggested that learners processed information more effectively when it was presented through both verbal and visual channels. Digital storytelling combined narration with images, animations, and sound, thereby activating both auditory and visual memory pathways. This multimodal approach helped students to better understand and retain the information they heard.

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The results also aligned with Mayer's Cognitive Theory of Multimedia Learning (2001), which emphasized that meaningful learning occurred when students actively selected, organized, and integrated information from multiple modes. In this study, digital storytelling provided narrative input supported by multimedia, which allowed students to engage in active processing, leading to deeper comprehension.

The findings were consistent with those of previous studies. Akdamar and Sütçü (2021) reported that digital storytelling improved listening comprehension and motivation among secondary school students in Turkey. Demirbaş and Şahin (2022) also found that elementary school students improved their listening comprehension through digital stories that included multimedia elements. Similarly, Budianto, Azmi, and Putera (2021) showed that middle school students in Indonesia perceived digital storytelling as engaging and motivating, though vocabulary limitations remained a challenge. Khasanah, Herlina, and Rustandi (2023) further highlighted that digital storytelling made learning interactive and fun, while Sartafifa (2023) demonstrated that YouTube-based storytelling had a significant positive effect on listening comprehension. The present study confirmed and extended these findings by showing that digital storytelling produced a large effect size in an Indonesian junior high school context.

In contrast, the control group's slight improvement suggested that conventional methods were insufficient to meet students' needs. As Nation and Newton (2009) observed, traditional audio-based listening activities without visual support often made comprehension difficult. Students in junior high school at Muaro Jambi faced similar challenges, as they struggled with vocabulary, pronunciation, and understanding connected speech when taught by conventional methods. Digital storytelling helped to overcome these difficulties by providing visual context, clearer pronunciation through multimedia, and stories that were motivating and meaningful.

The discussion also acknowledged the potential challenges in implementing digital storytelling. Naoki (2017) noted problems such as narration difficulties, time limitations, technological issues, and copyright concerns. These challenges could also emerge in EFL classrooms. However, the benefits observed in this study outweighed the drawbacks, as digital storytelling significantly improved students' learning outcomes

and engagement. Teachers, therefore, needed to plan carefully, prepare appropriate digital materials, and guide students through the process to maximize the benefits of this medium.

Conclusion & Recommendation

This study concluded that digital storytelling had a significant and strong effect on students' listening comprehension. The experimental group showed substantial improvement compared to the control group, supported by statistical analysis and effect size measurement. DS was proven to be an effective, engaging, and innovative medium for teaching listening in EFL contexts.

For students, DS was recommended as a medium to improve listening comprehension both in class and independently. For teachers, it was suggested to integrate DS into classroom practices as an alternative to conventional listening instruction, ensuring that stories matched students' levels and curriculum objectives. Schools were encouraged to provide technological facilities and training to support teachers in implementing DS. Future researchers were advised to examine DS in different contexts, across other skills, and through qualitative approaches to explore students' experiences in depth.

In conclusion, digital storytelling was not only a tool for improving listening comprehension but also a method that motivated students, reduced anxiety, and created meaningful learning experiences. Its integration into English language teaching could contribute significantly to better outcomes in Indonesian junior high schools.

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Conflict of Interest

Potential conflict of interest, if any, should be reported here during data collection.

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