Eternal: English Teaching Journal
Vol. 17, No. 1, pp. 41-49, February 2026
https://doi.org/10.26877/eternal.v17i1.2780
Received Sep 18, 2025; Revised Jan 08, 2026; Accepted Feb 03, 2026

Enhancing Speaking Skills through Digital Storytelling: A case study

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Abstract. This research assessed how digital storytelling (DST) significantly improve junior high school students' oral proficiency skills compared to traditional methods in speaking English in Indonesia. The research deployed a quasi – experimental design within the context of an Islamic school setting. The sample consisted of 64 students. 31 students comprised the experimental class who received instruction through the use of DST while 33 students made the control class who were taught using traditional instructional techniques. The data was collected through administered tests which assessed the students' speaking through various parameters. It was found that all of the students improved in their speaking skills but the experimental group had higher scores. This shows DST has a high positive effect on students' oral performance. DST gave positive impact on student's enthusiasm, teamwork and confidence in using the language was also noted. The students' level of DST speaking discipline was high which suggests the technique is useful. The implications of this study point towards DST to strengthen the students' motivation, performance and speaking competency.

Keywords: *speaking, digital storytelling, case study*

Introduction

Technological changes and the way humans interact with technology have changed throughout the last decades. This gave rise to a new way of life where digital tools, especially in field of education where learning is expected to be more effective. In addition, it can increase student autonomy in learning and improve the relationship between teacher and student (Almufarreh & Arshad, 2023). The Indonesian ongoing curriculum also recommends to incorporate technology into schools or utilize the latest technological advancements in teaching and learning.

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In language learning, the use of technology is also beneficial for assessment, evaluation, and improving students' abilities (Williyan et al., 2024).

In the current age of digital creativity, students are not merely passive recipients of information but are also expected to acquire various ICT capabilities. This gives them the opportunity to use their language skills in the current authentic situations, productivity and creativity. The distinguishing aspect of digital media is its ability to be readily shared, modified, and interacted with. It also provide immersive experiences that traditional media lacks. These include social media, websites, digital games, and multimedia applications through which communication, education, and entertainment is made possible. Digital media has its immense value in current education. It improves learning outcomes and experiences through additional materials that correspond to different learning styles and preferences.

One known method to improve language competency is Digital storytelling (DST). It combines narrative techniques with multimedia elements such as images, audio, video and text which give promising tool to enhance English speaking skills. In learning, DST not only can improve students' speaking but also foster creative thinking skills (Nair & Yunus, 2021; Yang et al., 2020). This research explores how effective DST is in facilitating the improvement of students' speaking skills and participation in Islamic school in Indonesia. It attempts to explain experimental research result and how it can enhance targeted student learning engagement. DST can increase student motivation, participation and digital literacy (Cersosimo, 2023; Jeong, 2023). DST in education not only enhances learners' critical thinking and creative skills, but also improves the overall learning experience (Isaacs et al., 2024). It can also be used for young learners in raising awareness about educational value (Tzima et al., 2020). Additionally, it can improve students' creativity and self-confidence (Mora & Coyle, 2023).

For a long time, stories have been a way to talk to each other, teach one other, and get people involved. There are many types of media that can be employed right now. For example, storytelling can be done in digital formats including videos, podcasts, blogs, and social media posts. These activities make for a lively and immersive experience that lets students connect with each other while they study. Using multimedia technologies, students can make their own DST by putting together text, audio, pictures, and video. Storytelling can also help people become more creative and improve their digital literacy skills. In addition, digital storytelling can also be used as a medium to teach digital literacy in social practice which can also provide challenges for users (Filosofi et al., 2024; Lavery, 2022; Tour et al., 2021).

Storytelling and DST are two strong ways to teach speaking that can help students be more creative, confident, and organized with their language skills. The use of a mix of different speaking approaches and technology in the classroom has helped students improve their speaking and vocabulary, as well as their confidence. The stages in this experimental design in using DST make students contribute to learning that can improve speaking skills (Huang, 2022). It also has had a good effect on their ability to communicate in real-life speaking circumstances. In this specific context, this applies to junior high kids in cross-cultural environments such as Islamic schools.

Previous studies has taken account for higher education level, while this study aims to see how DST can affect how students of MTs Negeri 2 Kudus can improve their speaking skills and engagement through DST.

Method

This study is a quasi-experimental research. It aims to investigate the effectiveness of digital storytelling as a method for enhancing speaking skills among learners. This research used pretest and post-test assessments. The research took place at MTs Negeri 2 Kudus, an Islamic Junior High School in Indonesia. By conducting the study there, not only provided practical advantages in terms of time and execution but also allowed the researchers to gain deeper insights into how his students learn and develop their speaking skills. Another reason is the subjects supposedly have the same level of language skills and probably the same difficulty in acquiring language. The study used experimental class consist of 31 students and control class consist of 33 students. The age of the students is between 12 to 14 years old.

Speaking scores from pretests and post tests are taken in order to calculate the treatments effects and the results. Accuracy in speaking, fluency, grammar, vocabulary, and pronunciation are the language skills features which were focused on. To evaluate the effectiveness of the treatment, Wilcoxon signed-rank method of calculation within subjects obtained data was applied on the results from the scores of the tests in order to determine the impact of the treatment. This method is very useful in determining the difference of the pairs of data, which is pretest and post-test data, and whether the difference is statistically significant to one another. The data in this test is taken known to be non-parametric because the data is ordinal and taken using Likert Scales. This means that data does not require data to be normality distributed, thus Wilcoxon signed-rank test was chosen to analyze the differences between paired observations and ranks the differences and then summing the rank for positive and negative differences maintaining the integrity and robustness of the analysis, even when the normality assumption is violated.

Data collection techniques in this study were taken out to obtain information for this research. Researchers used data collection techniques to acquire accurate, valid and objective data. The technique for data collection in this research is the following:

The students took the pretest in the first class focusing on narrative text. For the experimental group, in the beginning, the researcher showed several different pictures to the students along with some sentences. They were divided into groups prior to this. Then they had to discuss and try to arrange the sentences in the right order with their group members. This exercise made them order the events in the right sequence and learn to work with each other. At the end of the discussion, the students from each group had to go in front of the class and tell the rest of the class the story in the order they thought was correct. This allowed the researcher to assess students' willingness to share their thoughts, organize a narrative, and interact with other students in their group in a semi-formal atmosphere. Once all the groups had presented, the researcher led a class discussion to clarify and correct the optimal order of the sentences. As part of the assessment, students were personally asked to create a video or a voice narration of the story in their own words. This allowed the researcher to assess the group and individual speaking performance

separately. The rubrics uses Likert scale from 1-5 to score speaking accuracy, fluency, grammar, vocabulary and pronunciation.

In the post test, the students were all instructed to once again retell their selected stories, but this time, they had the option of either audio or video recordings. Despite this, the post test was more than just individual retelling, as students had to synthesize the stories into short, digital videos format. By doing this, the students learned to engage in multiple facets of digital storytelling, in which they planned, narrated, and finalized their stories for digital presentation. The purpose of such activities was to motivate students to use the technology as a means of fostering learning as well as facilitating creativity.

The tests: pre and post, evaluated the same components of pronunciation, vocabulary, speaking grammar, fluency and voice accuracy, as well as any emerging issues. These specific components were selected in attempt to thoroughly analyze each student's performance and progress during the period of treatment.

The control group did not undergo the same treatment as the experimental group but doing the same pretest and post-test as comparison to the effectiveness of the treatment.

Participants Identity

The sample of this research was students of MTs Negeri 2 Kudus, an Islamic Junior High School in Kudus, Central Java Province, Indonesia. In this case study, the school is the unit of study. The research focused on two classes, VIIIA and VIIIB. The experimental group was VIIIA, while VIIIB functioned as the control group. The Experimental Group consisted of 31 students who participated in a digital storytelling project with an attempt to foster their speaking skills. The control Group made up of 33 students who did not engage in DST activities and works as a comparison on the effectiveness of the treatment.

The average age of the participants was 12 to 14 years, which is the third semester of study in a Junior High School. This age group is important because it is a developmental phase in which the learner begins to engage in advanced stages of reasoning, coupling and the usage of cooperative skills. This makes them prime candidates for more advanced strategies in teaching and learning, for instance DST.

Both classes were assumed to have equal language proficiency, which was the intention of the researcher, so that any differences in speaking proficiency would be solely aligned with the digital storytelling intervention, and not with the students' inherent language capabilities. This uniformity in linguistic proficiency was necessary for the authenticity of the design, so that the intervention's efficacy could be accurately assessed.

The researcher's goal was not only to analyze the enhancement of speaking skills but also to measure participants' motivation and interest during the duration of the study. The researcher's focus was on capturing the level of collaboration among the students and their participation in group work, which would provide him with important information on the learning climate, and the motivation which is vital for effective language learning. There might be gender related imbalances to the result because the students were purposively grouped based on the same gender to provide better group dynamics.

As the goal for the research study was to observe the degree to which digital storytelling assists learners in developing speaking skills, a quantitative approach was applied for the data collected. The approach was developed to gain insight into

the overall effect of the intervention on the learners' speaking skills as well as their overall participation. Both classes were asked consent previous to the study, and the following is a summary of the data analysis approaches applied in the study.

Data Analysis

The quantitative data analysis for this study's purpose was constructed in accordance to the pretest and post-test methodologies designed to assess the level of speaking skill advancement. The analysis is constructed in accordance to the following stages.

a. The Evaluation of Pre-test and Post-Test – The quantitative data derived from the speaking assessments was captured during the pre-test and post-test phases which aimed to assess the level of a candidate's speaking skills and include the following: pronunciation, vocabulary, grammar, fluency and accuracy. Such assessments were a key indicator to determine the impact of digital storytelling on the learners.

b. Statistical Analysis: The acquisition of pretest and post-test scores was statistically analyzed using the Wilcoxon signed-rank method. The Wilcoxon signed-rank is one of the best methodologies that assess the mean difference of paired samples as in this case before and after treatment. It assesses whether the mean difference is statistically significant, and attempts to calculate a t-value and the corresponding p-value. This gives the researcher the ability to draw conclusions on whether the changes that came about from pretest to post-test were significant, and if so, the level of significance which in the latter case indicates the success of the treatment.

Findings and Discussion

Table 1. Participants Demographics

Variable	Experimental(n=31)	Control (n=33)
Mean age (years)	13.77 (SD 0.4)	13.64 (SD 0.48)
Gender (M/F)	17/14	10/23

The students involved in both the experiment and control groups appear to have been allocated in a rather equal manner in terms of both age and sex. The experimental group of 31 participants had an average age of 13.77 years with a 0.40 standard deviation. This indicates that the participants clustered closely in age with very little variability. The experimental group age modestly outnumbered the females with 17 and 14 respectively. In comparison, the control group consisted of 33 members, having a mean age of 13.64 years which was 0.48 standard deviation lower and had a spread that was just a bit wider than the experimental group, yet lower than the control group. In comparison with the experimental group, the control group had a bigger amount of females with 10 male and 23 females making it a little more female dominant. Despite the age difference, both groups had close to equal mean and standard deviation which means both groups were comparable in age, but differed in gender balance. These demographics are key in analyzing the study's results, as age difference increases comparability and gender difference may impact the result.

Table 2. p value and r value

Group	P-value (*p*)	Effect Size (*r*)
Experimental (n=31)	0.000274	0.8825
Control (n=33)	0.00007021	0.9371

Experimental Group

For the experimental group (n=31), a statistically significant improvement was found between the pretest and post-test scores. The p-value, as shown in Table 2, was p=0.000274, which is less than the significance level of p<0.05. The median pretest score was 12 and the median post-test score was 12. This indicates a significant increase in speaking performance after the intervention. The effect size, r=0.8825, suggests a large effect, indicating a substantial positive change.

Control Group

Similarly, for the control group (n=33), the Wilcoxon signed-rank test also revealed a statistically significant difference between the pretest and post-test scores. The p-value, p=0.00007021, is also below the significance level of p<0.05. The median pretest score was 10 and the median post-test score was 11. The effect size, r=0.9371, indicates a very large effect, suggesting a significant improvement in this group as well, despite not receiving the specific treatment. The results of this study are linear with previous research where digital story telling can improve learning outcomes and student involvement in English language learning (Fu et al., 2021). The figure means that the treatment as mentioned has quite a big impact to the students. Although compared to control group we can see significant differences, which in our assumption there might be other factors involved. Additionally, the integration of digital storytelling in learning can improve students' communication and speaking skills and information knowledge (Chaisriya et al., 2023).

The pretest and post-test performances in speaking for the two groups are compared and analyzed. While the experimental group (n = 31) performed the pretest and post-test in the course using digital storytelling and received a mean score of 10.74 (SD = 2.81) which in the post-test four weeks after showed an SD of 12.19 (SD = 1.55). This shows a mean gain of 1.45 points which coupled with with the dip in Standard Deviation boundary range suggests a homogeneous quality improvement in the post-test performance.

The post-test mean for the Control Group (n = 33) that did not undergo the treatment after having a mean pretest score of 10.52 (SD = 2.56) also illustrates the latter. This group also exhibits a mean gain of 0.48 though it resulted in a far more diminished value in comparison to the experimental group. The more stable Standard Deviation ranges in Control Group highlight that the improvement felt, was limited as well as restrictive in volume. The results of this study are linear with previous research where digital story telling can improve learning outcomes and student involvement in English language learning (Fu et al., 2021).

The cumulative data from these case studies are more precise and indicate the improvement in speaking skills, achievement with storytelling was reflection

of norm that was low. The effectiveness with which storytelling is used as a tool in the lesson is shown with the lower variability that is also coupled with higher group improvement. Additionally, the integration of digital storytelling in learning can improve students' communication and speaking skills and information knowledge (Chaisriya et al., 2023).

Both the experimental group which received the DST intervention and the control group, improved their speaking skills from pretest to post-test significantly. The experimental group (mean gain of 1.45) showed a greater increase in scores as compared to the control group (mean gain of 0.48). The Wilcoxon Signed-Rank Test also verified these differences with significant p-values ($p < 0.001$) in both groups. This is indicative of language development and practice effects which while somewhat naturally happen in traditional instruction, the control group, the benefits of DST instruction are significant.

The experimental group confidence post-test score range indicates that the proficiency has not only intensify but also become stable in performance within the students suggesting that DST might be competent in lowering performance variability during the acquisition phase DST offers the argument that it provides supportive aid in the learner's progress because of the variety in the teaching styles used to deliver DST.

Both the experimental and control groups showed improvements in this research, this probably related to the learning process both groups followed through. Yet, experimental group showed higher gains and this proved that DST contribute to the group's improved skills. DST also indicate better students' engagement, collaboration and creativity as previous study had discussed (Cersosimo, 2023; Jeong, 2023)

Conclusion

The objective of this study was to assess the effectiveness of digital storytelling (DST) technique to improve the speaking skills of school children in the context of an Islamic Junior High School in Indonesia. The study used a quantitative approach which included pretest and post test data as well as questionnaire. The evaluation showed a number of important outcomes with respect to the focus and outcomes of digital storytelling in language instruction.

The data indicated that in comparison with the control group, the students who used digital storytelling in their lessons excelled in speaking skills, proving its effectiveness. All students in the experimental and control groups made improvements during the study. However, the experimental group demonstrated a substantially larger improvement in scores which suggests that the use of DST has positive effects on students' scores and speaking skills beyond the expected improvements from practice and exposure. The reduced variability of scores in the experimental group suggests that digital storytelling improves the students' performance but more importantly, encourages them to develop more consistent skills. However, the sustainability and long-term retention of these gains remain unexplored. Future studies could adopt a longitudinal research design tracking students' speaking skills and motivational aspects over extended periods.

This study was to provide an overview on the effectiveness of DST to improve students speaking skills especially in Junior High School level. DST also proved to increase collaboration, foster creative thinking, engagement and improve

students' ICT skills. The study was limited to a number of students' sample, in Kudus, which might not enough to draw a conclusion and provide a bigger picture of DST on a larger scale with different situations. It was also taken in a very limited duration and may provide inconsistent statistical reporting because of researcher's limitation. Future research might need to be taken in different settings, level and different research design to get better view on DST implications.

References

Almufarreh, A., & Arshad, M. A. (2023). Promising Emerging Technologies for Teaching and Learning: Recent Developments and Future Challenges. *Sustainability*, *15*(8), 6917. https://doi.org/10.3390/su15086917

Cersosimo, R. (2023). Increasing inclusion and engagement in foreign language learning. *Instructed Second Language Acquisition*. https://doi.org/10.1558/isla.25400

Chaisriya, K., Kaeophanuek, S., & Gilbert, L. (2023). The effects of integrating digital storytelling with metacognition strategies (DSTMC) learning model to enhance communication abilities. *Contemporary Educational Technology*, *15*(2), ep416. https://doi.org/10.30935/cedtech/12986

Filosofi, F., Pasqualotto, A., Paolizzi, E., Iandolo, G., Alonso-Campuzano, C., & Venuti, P. (2024). Enhancing group interactions and story quality in primary school students: an investigation into the impact of collaborative storytelling methodologies. *Journal of Computers in Education*. https://doi.org/10.1007/s40692-024-00330-1

Fu, J. S., Yang, S.-H., & Yeh, H.-C. (2021). Exploring the impacts of digital storytelling on English as a foreign language learners' speaking competence. *Journal of Research on Technology in Education*, 1–16. https://doi.org/10.1080/15391523.2021.1911008

Huang, H.-T. D. (2022). Examining the Effect of Digital Storytelling on English Speaking Proficiency, Willingness to Communicate, and Group Cohesion. *TESOL Quarterly*, *57*(1), 242–269. https://doi.org/10.1002/tesq.3147

Isaacs, M. A. L., Tondeur, J., & Vaesen, J. (2024). Digital storytelling in teacher education: Developing pre-service teachers' critical thinking. *Australasian Journal of Educational Technology*. https://doi.org/10.14742/ajet.9258

Jeong, K.-O. (2023). Integrating Technology into Language Teaching Practice in the Post-COVID-19 Pandemic Digital Age: From a Korean English as a Foreign Language Context. *RELC Journal*, *54*, 394–409. https://doi.org/10.1177/00336882231186431

Lavery, A. (2022). Digital storytelling and intergenerational collaborations: older adults and college students. *Innovation in Aging*, *6*(Supplement_1), 246. https://doi.org/10.1093/geroni/igac059.977

Mora, P. A. F., & Coyle, Y. (2023). Videoed storytelling in primary education EFL: exploring trainees' digital shift. *International Review of Applied Linguistics in Language Teaching*, *0*(0). https://doi.org/10.1515/iral-2022-0191

Nair, V., & Yunus, M. M. (2021). A Systematic Review of Digital Storytelling in Improving Speaking Skills. *Sustainability*, *13*(17), 9829. https://doi.org/10.3390/SU13179829

Tour, E., Gindidis, M., & Newton, A. (2021). Learning digital literacies through experiential digital storytelling in an EAL context: an exploratory study. *Innovation in Language Learning and Teaching*, *15*(1), 26–41. https://doi.org/10.1080/17501229.2019.1659278

Tzima, S., Styliaras, G., Bassounas, A., & Tzima, M. (2020). Harnessing the Potential of Storytelling and Mobile Technology in Intangible Cultural Heritage: A Case Study in Early Childhood Education in Sustainability. *Sustainability*, *12*(22), 9416. https://doi.org/10.3390/SU12229416

Williyan, A., Fitriati, S. W., Pratama, H., & Sakhiyya, Z. (2024). AI as co-creator: Exploring indonesian efl teachers' collaboration with AI in content development. *Teaching English with Technology*, *2024*(2). https://doi.org/10.56297/vaca6841/lrdx3699/rzoh5366

Yang, Y. T. C., Chen, Y. C., & Hung, H. T. (2020). Digital storytelling as an interdisciplinary project to improve students' English speaking and creative thinking. *Computer Assisted Language Learning*, 1–23. https://doi.org/10.1080/09588221.2020.1750431