

A Systematic Review on The Use of Digital Storytelling to Improve Students' Writing Skills Using SPAR-4-SLR Protocol

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ABSTRACT

This systematic review evaluates the results of previous studies that have been selected in this review regarding the effect of implementing DS in improving students' writing skills across all educational levels. Utilizing the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol, 11 articles published between 2020 to 2025 were analyzed through thematic analysis to address the research questions. The findings indicate that DS can positively impact the improvement of students' writing skills. Implementing DS facilitates collaboration and interaction, allowing students to indirectly improve their social skills; this is further supported by the results of several studies mentioned above. Future researchers are encouraged to explore in greater depth the comparison of the results of improving students' writing skills with DS versus traditional methods, examine the effects of DS on students' writing skills across various backgrounds in previous studies, and investigate the implications of technology adoption in educational contexts.

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INTRODUCTION

Writing is one aspect of the four important language skills. Students need to learn to write precisely, effectively, and accurately because the ability to write is a valuable asset for an individual in their lifetime (Berdan et al., 2006; Darazi et al., 2021). Writing skills are a means of communicating through arranging letters, words, sentences, and paragraphs (Akmal, 2021; Nofitasari et al., 2024). It is an activity that involves an individual physically and mentally by putting pen to paper to organize ideas and thoughts into a clear piece of writing (Nitami & Santosa, 2024; Nunan, 2003). Through writing, an individual can express ideas, thoughts, feelings, or important messages they want to convey to others. It is believed that mastery of good writing skills can make it easier for students to articulate ideas as well as thoughts and feelings that they have and put them into writing (Nitami & Santosa, 2024). However, the problem is that many students have difficulty to write. Writing skills are difficult for some students to because of the organization of ideas and the many processes that must be passed in order to complete their writing (Mughtar et al., 2020). Expressing ideas and attention to the use of vocabulary, content, mechanics, and grammar are some of the factors that cause students to have trouble in writing (Zarei & Navidinia, 2024).

In writing classrooms, teachers play an important role in the learning process. Thus, teachers must be able to provide various learning activities by utilizing interesting learning media. The selection and application of technology as a learning media can make students feel more enjoyable in learning to write. The current education system strongly recommends the utilization of technology in the English teaching and learning process (Athar Hussain et al., 2010; Hidayat et al., 2024). The implementation of appropriate technology in English language learning can have a significant impact. In addition, technology enables learning experiences that are more flexible, engaging, efficient, and participatory (Hidayat et al., 2024; Wafa & Chakim, 2022). Henceforth, DS can be one of the learning media that has the implementation of technology. DS is the combination of several multimedia components such as text, images, sound, and music and then using computers, digital cameras, and editing software to form interesting and interactive teaching media (Nuriyah et al., 2024; Rahayu et al., 2023). DS is a platform that offers students more creative learning in self-expression, it can also grow student motivation and engagement (Azir et al., 2024; Wen, 2023). DS provides a new learning experience that makes students engage together in learning while practicing critical thinking, information retrieval, and improving the understanding of the material (Pandiangan et al., 2024). Through DS, students can practice the four language skills in English: writing, listening, reading, and speaking (Nuriyah et al., 2024).

The current education system strongly recommends the utilization of technology in the English teaching and learning process (Athar Hussain et al., 2010; Hidayat et al., 2024). Therefore, conducting a systematic review of the literature on DS to improve students' writing skills would be useful and provide new insights into this promising field. Several previous studies have evaluated the use of DS in improving writing skills in students. One is a study by Ramamuthie & Abdul Aziz (2022), who reviewed 16 Malaysian articles published between 2017 to 2021. Focus on the theoretical/pedagogical framework, context and participants, technology used, and focus of investigation. This study aims to analyze the effectiveness of various digital tools in supporting the writing skills of students learning

English as a second language. The research subjects came from various levels of education: 5 studies at the college level, 5 in secondary schools, and the last 6 in elementary schools. In their study, various types of digital media were found to be used, including digital storytelling, Kahoot, Edmodo, Google+, Penpal School, TikTok, Wattpad, and social media applications (SNS). From the studies reviewed, this study groups the findings into 2 groups, namely the product approach used by 9 previous studies and the process approach used by 7 previous studies. The results of the review found that the use of digital tools can improve students' writing skills and enrich other language knowledge, such as aspects of grammar, vocabulary, spelling, and punctuation. A study conducted by Aryati et al., (2025) reviewed 10 articles on the effectiveness of DS in improving writing skills published between 2019 and 2023. Focus on the theoretical/pedagogical framework, context and participants, methods used, and research focus. This study uses a comparative descriptive method to evaluate the effectiveness of DS in improving writing skills in elementary schools. Elementary school is the most dominant level of education reviewed in this study. The 10 articles reviewed mostly used quantitative, qualitative, and mixed methods. The results show that DS has been proven effective in improving the writing skills of elementary school students.

Based on the results of a systematic review of previous studies described above, it can be seen that the first systematic review shows that the review was conducted on all digital tools and did not focus on DS. The second systematic review shows that the review focused on DS and writing skills, but only at the elementary school level. Thus, the above information shows that there has been no recent review focusing on the implementation of DS at all levels of education. From this, it is crucial to conduct a current review that focuses on the effectiveness of DS use in improving writing skills across all educational levels. This aligns with the opinion of Shadieff & Yang, (2020), who stated that due to the differences in teaching years, the creative and engaging learning tools used before 2021 are not necessarily effective and interesting tools in the current year, as it has become outdated (Pardede, 2024). This paper will examine the results of previous studies on the effect of DS on improving students' writing skills from 2020 to 2025. Through this synthesis, it is expected to achieve the goal of understanding the effect of using DS on improving students' writing skills in English learning. Therefore, this study will answer the following research question: "How does the use of DS improve students' writing skills in English learning?"

METHODS

This systematic literature review used the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol to investigate this systematic review's objectives. SPAR-4-SLR aims to provide a reliable review protocol that researchers can depend on to synthesize and justify the accurate results of SLR (Paul et al., 2021). There are three main phases of SPAR-4-SLR: assembling, organizing, and assessing, and each of these phases has two sub-phases. Thus, there are a total of six phases in the SPAR-4-SLR process: identification, acquisition, organization, purification, evaluation, and reporting (Tandiono & Sanjaya, 2023).

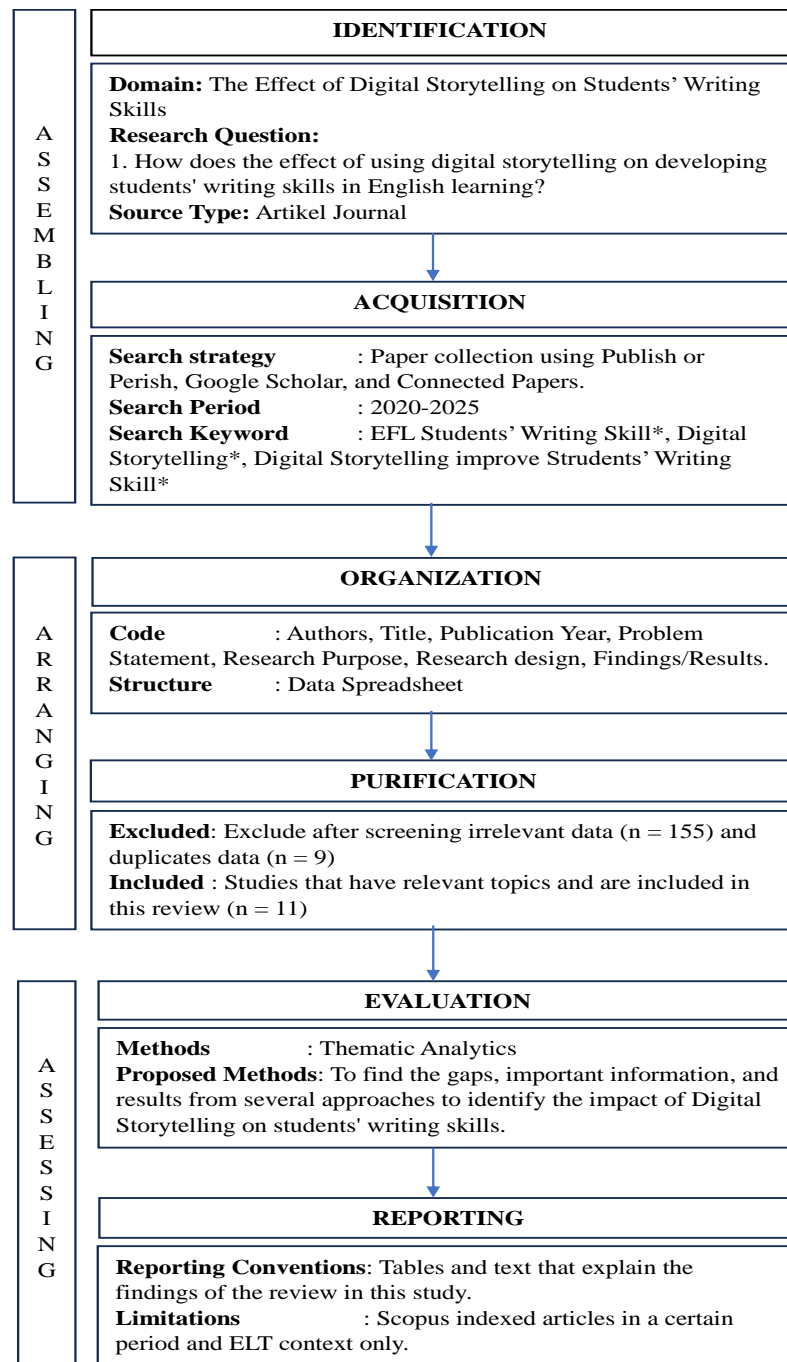


Figure 1. SPAR-4-SLR diagram

Data Collection Methods and Instruments

The Publish or Perish application is used for the main source database in this paper. In addition, the author also uses Google Scholar and connected papers to search for data sources. Enter some keywords that match the topic, namely "ELT Students * Digital Storytelling * Writing Skill *" and "DS Improve student writing skills" in the period of

publication 2020-2025. In the data recruitment process, the authors combine the web Covidence and the inclusion and exclusion process to filter out irrelevant data and avoid data duplication.

Data Collection Procedures

In database collection, SPAR-4-SLR coaching is carried out in three main steps with each having 2 sub-stages so that there are 6 stages. Starting from determining the Research Question followed by database extraction. The Publish or Perish application is used for the main source database in this paper. In addition, the author also uses Google Scholar and connected papers to search for data sources. Enter some keywords that match the topic, namely "ELT Students * Digital Storytelling * Writing Skill *" and "DS improve student writing skills" in the period of publication 2020-2025. In the data recruitment process, the authors combine the web Covidence and the inclusion and exclusion process to filter out irrelevant data and avoid data duplication. The following are the inclusions and exclusions criteria:

Table 1. Inclusions and Exclusions Criteria

Inclusions Criteria	Exclusions Criteria
The use of Digital Storytelling on Students' Writing Skills	Not using Digital Storytelling on Students' Writing Skills
Research on the implementation of digital storytelling to improve students' writing skills	Research that is not about the implementation of digital storytelling to improve students' writing skills
Using a scientific approach including qualitative, quantitative, or all types of both	Not using a scientific approach including qualitative, quantitative, or all types of both
Time of publication in the past five years (2020-2025)	Publication time of more than the past five years
ELT and EFL context	Non-ELT and EFL context
English Language	Non-English Language

Data Analysis Methods

The database was compiled from the Publish or Perish application, which has been used as the main database source in this paper. Furthermore, the author used Google Scholar and connected papers to search for data sources. By entering several keywords related to the topic, namely "ELT Students*Digital Storytelling*Writing Skill*" and "DS improving students' writing skills" for the publication period 2020-2025. During the data collection process, the author used Covidence to identify duplicate data, finding 9 duplicate entries. Subsequently, 157 data points underwent the inclusion and exclusion process to filter out irrelevant data. The results of the inclusion and exclusion process revealed 11 articles that met the criteria, while 146 data points were excluded for not meeting the criteria.

In addition, 11 articles to be reviewed come from various researchers, subjects, and places. After selecting 11 articles that met the criteria, the researcher used thematic analysis

to identify themes/contexts in the 11 articles and explore important information to answer the research questions in this systematic study. In this thematic analysis process, the researcher will identify the data and then note or highlight the important parts of the data. All the important information that has been obtained and highlighted in each article will be summarized into one table, and the results will be discussed and reported in the findings section below. This systematic literature review reviews what previous research has found about the use of DS in improving students' writing skills. So that this study will not make findings outside of previous research.

FINDINGS AND DISCUSSIONS

Based on the database collection process followed by data screening to evaluation, eleven articles were selected and considered relevant and met the criteria according to the topic, namely the use of DS in improving students' writing skills. These articles are the result of screening the database collected through Publish or Perish and connected papers with a time frame covering the last five years (2020-2025). Based on previous studies, it is known that some studies were conducted in Indonesia such as in Sulawesi, Lombok, and Jakarta. In addition, some studies come from abroad such as London, Iran, Taiwan, and Ecuador. DS implementation is mostly done at the elementary, high school, and university levels. The eleven articles will be presented in the form of a table that aims to summarize and collect important information in a more structured way. Thus, facilitating the analysis process and supporting further research development.

Based on the SPAR-4-SLR method and the table above, it is easier for the researcher in the process of collecting important information, and it was found that DS has a significant influence on students' writing skills in several articles that examine the effect of DS on students' writing skills. In addition, several studies show that DS improves other aspects, namely improving vocabulary, listening skills, motivation, self-confidence, and critical thinking.

Puspitarini et al., (2024) focused on improving students' writing skills by using DS and how students perceived it. the results showed that Digital storytelling significantly improves students' narrative writing skills and shows a positive perspective on integrating DS in writing classroom activities. Similar results were also found by Zarei & Navidinia, (2024) who used mixed methods to examine the effect of Digital storytelling on students' writing skills and found the results that Digital storytelling positively develops students' writing skills, especially in content, organization, vocabulary, mechanics, etc. Moreover, digital storytelling also develops other aspects in students, this is conveyed through the students' perspectives, namely digital storytelling encourages students to actively participate, and collaborate, enhance creativity and confidence, social skills, and motivation. Alemi et al., (2022) highlighted how Digital Storytelling impacts young learners' writing skills and motivation to write. Uses a combination of qualitative and quantitative methods to collect data, thus resulting in a finding that digital storytelling is effective in improving students' writing skills. In addition, the thematic analysis of the interview results shows a positive impact on increasing student motivation.

Table 2. An overview of selected articles.

	Authors	Results	Method	Implications for Future Research
1.	Puspitarini et al., (2024)	Digital storytelling (DS) enhances students' narrative writing skills and fosters a positive attitude towards learning to write narratives.	Quantitative Method	Not mentioned.
2.	Zarei & Navidinia, (2024)	DS positively develops students' writing skills and other language aspects.	Mixed Methods	Investigating the efficiency of DST use in the teaching of other language skills.
3.	Alemi et al., (2022)	DS effectively improved students' writing skills and positively increasing student motivation.	Mixed Methods	Investigating the importance of digital literacy and technology adoption impact in learning,
4.	Meletiadou, (2022)	DS can improve students' writing skills and have a positive impact on student self-development.	Mixed Methods	Utilizing other research methods to analyze DS in various language skills in education.
5.	Munajah et al., (2022)	DS is recommended for use because it can increase students' interest in learning.	Mixed Methods	Not mentioned.
6.	Castillo-Cuesta et al., (2021)	DS (Storybird) positively impacted students' writing skills, especially in vocabulary and grammar.	Mixed Methods	Digital tools such as Storybird are suggested for future researchers to investigate other aspects of language.
7.	Fitri et al., (2021)	Digital storytelling positively impacts students' writing skills and other language aspects.	Mixed Methods	Examine digital storytelling-based project learning with other research methods and other language skills.
8.	Riani et al., (2021)	DS shows significant results on students' writing skills, but has the opposite effect on students' speaking skills.	Quasi-experiment	Investigate the lack of student engagement and other aspects in English language learning.
9.	Azis & Husnawadi, (2020)	DS significantly improved students' writing skills, engagement, motivation, and interpersonal relationships.	Action Research	A re-examination of DS effect on improving students' writing skills using an experimental method.
10.	Nofitasari et al., (2024)	DS positively influences students' narrative writing skills.	Pre-experimental	Investigate the novel approach of Digital

11.	Chen & Yeh, (2024)	DS improved students' writing skills, and other aspect of language.	Quasi-experiment	Storytelling in other midwives of study. Investigate the impact of scripted collaborative DST in various educational and language environments.
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Still in the mixed method conducted by Meletiadou, (2022), with a research focus on improving academic performance especially writing skills and their motivation towards learning, as well as exploring their attitudes towards new instructional strategies oriented towards dynamic learning. and the results show that learners improved their writing skills through the use of DS, not only that their critical thinking skills, self- confidence, and cultural awareness also developed. Furthermore, the qualitative results showed that the students felt proud of their final products (digital stories). Apart from that, Fitri et al., (2021) also used the same method, namely the mixed method, which showed findings that there is a positive impact of using Digital Storytelling on students' writing skills. The interview results show that several skills have also developed: vocabulary, listening, and motivation. So, this study proves that Digital storytelling also influences other language aspects indirectly.

In the quantitative research area, especially quasi-experimental, there is a study conducted by Riani et al., (2021) which highlights the research focus on the use of teaching medium in learning students' narrative writing and speaking. The findings of this study show that digital storytelling has a significant effect on students' writing skills but different results with DS which does not have a significant effect on students' speaking skills. This is caused by the limited time of the study and the lack of student engagement. Furthermore, research from Chen & Yeh, (2024) showed that the DS with scripted collaboration approach improved students' writing skills, and in addition, vocabulary acquisition and graphic skills also improved. Another study from Castillo-Cuesta et al., (2021), used a quasi-experimental approach combined with a mixed-method design and conveyed the results that digital storytelling (Storybird) has a positive impact on the development of writing skills in students, especially in the aspects of vocabulary and grammar.

Research by Azis & Husnawadi, (2020) highlights how collaborative DST-based tasks affect students' writing skills and students' perceptions of this learning approach. The findings of this study showed that Digital storytelling can significantly improve students' writing skills. Students' perceptions stated that learning can improve their English language skills development, engagement, motivation, and interpersonal relationships. Next is a study from Nofitasari et al., (2024) indicates that Digital storytelling positively influences students' narrative writing skills. And the last research from Munajah et al., (2022) highlighted is to identify the teachers' and students' needs in using digital storytelling. The findings of this study show that Digital Storytelling needs to be used in writing learning. This can be seen from the response of students who are very enthusiastic and excited when learning using technology (DS).

Based on the description of the findings above, DS can have a positive effect on improving students' writing skills across all educational levels. Several findings also show that DS also has an indirect positive effect on other aspects such as listening skills, vocabulary, motivation, engagement, etc. This finding can be seen from various research

locations, including national and even international articles with different levels, some for young learners, adolescents, and adults. Furthermore, DS has the potential to improve student learning outcomes, it can provide a more enjoyable and interesting learning experience for students. The results of the study show that DS is consistently superior compared to the traditional method in improving students' writing skills, and even other aspects as well. Thus, DS can be an effective strategy in improving students' writing skills significantly.

The researcher highlighted how to improve writing skills in students; the important thing is to provide students with opportunities to actively participate in improving their writing skills by integrating technology in learning. Some studies also show the same thing, namely, students feel more excited and enthusiastic in learning where there is technology integration, especially DS. In addition, the importance of the appropriate learning strategy can be a support factor in the implementation of DS in the learning process. The synchronization of materials, methods, and learning strategies will implement DS very useful in improving students' writing skills. Providing feedback to students during the learning process is also important. Through feedback, students will be able to recognize their weaknesses, mistakes, and strengths during the learning process. Providing feedback is also a form of reflection that can lead students to correct their weaknesses and improve their strengths. Based on the findings, the practical implication that educators can take is to implement technology, namely DS in learning, especially to improve students' writing skills. Several studies have consistently proven that DS can improve writing skills in students significantly. DS can be a fun and interesting learning strategy for students and provide a more enjoyable and meaningful learning experience, especially in improving students' writing skills.

All findings from previous studies have proven that the use of DS can significantly improve students' writing skills. DS can be an effective learning strategy in English learning, especially in writing skills. The practical implications of some studies also show that the use of DS can be considered to improve students' ability to learn English, especially in improving writing skills. Through an enjoyable and interesting learning strategy will make students actively participate in learning. Learning will be more meaningful so it has a positive impact on learning outcomes, especially in the improvement of student writing skills. In addition, the implementation of DS also provides experiences of collaboration and interaction, so that students indirectly build their social skills, which is also proven by the results of several studies on the findings above. The implementation of DS will be more meaningful and helpful when matched with other learning strategies. It will be a unity of appropriate strategies and produce a good and significant impact on English learning, especially in improving students' writing skills. To achieve the expected goals, education needs to understand and learn how to utilize technology well in learning. Thus, this requires training for education in implementing technology in English learning. This support can promote the use of technology in learning, which directly plays an important role in the success of implementing DS. These findings highlight the importance of integrating technology in education; effective and innovative learning strategies using technology can support the learning process in this digital era to help achieve learning objectives successfully.

CONCLUSION

This systematic literature review identifies the effects of DS in improving students' writing skills across all educational levels. The researchers identified several articles published from 2020-2025 that showed the implementation of DS has a significant effect on improving students' writing skills. The results of previous research also prove that DS can provide a more interesting and enjoyable learning experience for students learning to write. Implementation of DS provides experiences of collaboration and interaction so that students indirectly build their social skills, this is also proven by the results of several studies on the findings above. However, some drawbacks were found in some studies that did not compare the application of DS with traditional methods in their research. Time limitations were also a factor in the lack of satisfaction with data collection. Therefore, future researchers can investigate more deeply by using pure experiments to see the comparison of the results of students' writing improvement by applying DS with traditional methods. In addition, by looking at the scope of the research area, which is dominant in the city, it makes it interesting to examine the scope of rural areas or villages. Examining the effect of DS in different student conditions and situations from previous research and exploring the effects on technology adoption in an academic context, it is recommended for future researchers.

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