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# **Technological-Based Application in Writing Instruction: A Model of Project-Based Learning**

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#### **Abstract**

This study aimed to describe the implementation of technologically based applications for teaching writing. We used Storyjumper, a digital writing tool, as a technological application to complete a writing assignment. We used a case study method to understand the students' involvement in utilizing digital tools for writing assignments within a project-based learning framework. This study also aimed to describe the students' perceptions of using the digital writing tool Storyjumper in writing activities. We collected the data using a 5-point Likert scale questionnaire and an observation technique, adhering to Stoller's (2006) project-based learning steps. The findings revealed that we could categorize the project-based model for teaching writing using a technological application into three stages: the planning stage, the implementation stage, and the reporting stage. We then expanded these steps into more specific stages. Meanwhile, the results of the questionnaire data analysis showed that students had positive attitudes toward using Storyjumper in writing activities. Storyjumper proved to be an engaging tool for writing activities, effectively enhancing students' writing efficiency and performance while fostering flexibility in terms of time and place to write.

**Keywords:** Digital storytelling, project-based learning, storyjumper, writing activity

#### Introduction

Multimodal composition, which extends beyond traditional written forms to encompass various kinds of expression, is one strategy that has evolved in English as a second language or foreign language writing to address new forms of representation in digital media. According to social-semiotic theory (Kirshner, D., & Whitson, 2021), Design is the multimodal process an author does when creating a text. The author utilizes semiotic resources, an alternate word for grammar, to contextualize the text within a genre and to apply various modes (e.g., written, oral) in its composition. Students in the classroom are required to participate in active design, which involves the

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selection and combination of semiotic resources to convey the intended meanings by arranging and rearranging the message's presentation (Accurso, 2020; Marzuki & Santiana, 2022; Albana et al., 2020).

Therefore, when working with multimodality, it's crucial to integrate resources like images, sounds, or text through a process known as synesthetic semiosis (Sanjinés, 2020). This technique enables writers to comprehend the influence of both the inclusion and exclusion of design components on readers' responses to the multimodal text, along with the significance of the form of representation as a design element (Wardani & Kurniasih, 2023).

In addition to multimodal text, Tandiana et al. (2020) point out that understanding of digital genres has shifted: from a focus on the individual approach to writing to a focus on the social; from a simple understanding of what constitutes a text (i.e., writing) to a more complex understanding of what a text might be one that is not limited to the writing mode. These new genres, like blogging, tweeting, or digital storytelling, are redefining the basic categories of participation, authorship, and text. This has had a tremendous impact on how one sees the role of technology in social and educational practice (Molin & Godhe, 2020; Alek et al., 2022).

One of the emerging genres, digital storytelling, is worth considering for two reasons: the process of converting the syntax or structural complexity of sentences from a narrative (written) story into a digital story script, and the transition from written narration to spoken language, which involves the integration of images, music, and sound (Wu & Chen, 2020). Digital storytelling (DST) is the process of utilizing digital technologies to create meanings through the narration of personal narratives or stories (Choo et al., 2020). Digital storytelling, a technological tool, effectively utilizes usergenerated content to help educators overcome challenges in effectively integrating technology into their classes. At its core, digital storytelling allows computer users to become creative storytellers through the traditional processes of selecting a topic, conducting some research, writing a script, and developing an intriguing story (Yang et al., 2022).

According to Kim, & Li (2021), the integration of written information with visual images enhances and expedites student comprehension. Digital storytelling is a technological instrument that is particularly effective for the collection, production, evaluation, and fusion of visual images with written text. Not only can digital storytelling be particularly beneficial in engaging students in the content, but it can also facilitate discussion about the topics presented in a narrative and assist in the comprehension of abstract or conceptual content. Additionally, digital storytelling can be employed by learners as a writing instrument for effective communication, thereby increasing their representation in English Foreign/Second Language (EFL/ESL) classrooms by allowing them to transmit their intended messages in a variety of formats (Tanrıkulu, 2022).

Many studies support the idea that digital storytelling tools can enhance English foreign language writing (Mousazadeh et al., 2018; Tanrıkulu, 2022; Nguyen, 2019). There is proof that getting students involved in digital storytelling may increase their motivation (Liu et al., 2018), learning autonomy (Lenkaitis, 2020), and student engagement (Nicoli et al., 2022). Additionally, recent studies have demonstrated that DST can significantly afford students' development of higher-order thinking skills, including critical thinking (Çetin, 2021).

In terms of academic achievement, there is a positive correlation between digital storytelling and students' learning performance (Gürsoy, 2021). Another benefit of using DST in writing instruction is the ability for students to work collaboratively, either

synchronously or asynchronously, in or out of the classroom (Hava, 2021). Although digital technology is not necessary for collaborative activity, educators and academics have observed the potential of combining the use of digital tools for educational and research objectives using the collaborative writing methodology. Teachers can introduce students to these digital writing tools by incorporating digital storytelling tools into their instructional model. These days, a diverse array of digital storytelling tools are accessible online, and numerous educators employ them in the classroom to enhance the literacy skills of their students in foreign languages (Tanrıkulu, 2022).

As computer technologies become more influential in academic writing, college-level writing courses are now using multiple modes of composition. Computer-based multimodal composition alters the process of creating and conveying meaning. Digital multimedia provides student writers with additional modes of writing, such as imagery and audio-visual elements, that go beyond the use of language alone. Academic genres can effectively engage with these elements. Scholars suggest that in addition to the practical benefits of multimodal composition, understanding how to use non-verbal elements in texts is a crucial aspect of acquiring certain types of disciplinary knowledge. This is important for both mainstream and English Foreign Language (EFL) learners. The development of non-verbal communication skills is important for students who are learning English as a foreign language, as they also work to improve their writing skills in English.

The researchers chose project-based learning as the instructional model because it fosters student collaboration and maximizes intense communication, both of which are crucial for 21<sup>st</sup>-century education (Boss, S., & Krauss, 2022). To address the issues, this study poses the following research questions: 1) How is the digital storytelling tool Storyjumper incorporated into EFL Writing instruction through a project-based learning model?, and 2) What are the students' perceptions of using Storyjumper in EFL Writing instruction through a project-based learning model?

# **Method**

The goal of this research is to investigate the application of the digital writing tool Storyjumper in a project-based learning model for writing instruction. It also aims to explore the students' perceptions of using the digital writing tool in writing activities. The study, in line with its research purpose, employs a case study as its research method. The research involved 27 students from the English education department as participants. The researchers employed a questionnaire and observation techniques to collect the data. They designed the questionnaire to investigate the students' perceptions from three dimensions: their familiarity with digital writing, their experience using the Storyjumper tool inside the classroom, and their experience using it outside the classroom. The questionnaire consisted of fifteen questions and two questions with open answers. They measured each item on a 5-point Likert scale, which ranged from one (strongly agree) to five (strongly disagree). Meanwhile, they employed the observation technique to understand the implementation of project-based learning during the writing assignment. They designed the observation sheet by following the project-based learning stages proposed by Stoller (2006). The stages mainly consisted of three steps such as planning, implementation, and reporting. Hamidah et al., 2020 further elaborated these three main steps into more specific activities. They then analyzed the questionnaire data using descriptive statistics in the form of percentages. Each participant received a code for the open questions in the questionnaire; for

instance, ENG-01 signified participant No. 01 in the Google formula list. They collected the responses from each participant and translated them into raw data. They then recoded the raw data into different themes to better understand the students' perceptions of the Storyjumper tool's implementation in their writing assignments. Miles & Huberman (1992) developed the qualitative data analysis technique, which we followed. The analysis process involves three main steps: (1) Data collection, (2) Data reduction, and (3) Data display.

#### **Results**

# The Implementation of Storyjumper in Writing Instruction Using Project-based Learning

Stoller's (2006) stages of project-based learning guided the project activities used in this study. The lecturer further elaborates these stages into more specific activities, which consist of three main steps. The lecturer used the project-based learning model to assign the writing task. The activities lasted for half of the semester, or eight weeks. The researcher used an observation technique to collect the data and recorded the results on an observation sheet. We recorded the students' activities from the start of the project until its completion. The following section summarises the implementation of project-based learning in writing instruction, utilising the Storyjumper tool.

# The Planning Stage

The planning stage of the teaching process aimed to help students understand the learning topic and objectives. The lecturer determines the topic of the writing, which is "Cultural Event in Banten," and motivates the students by showing pictures, videos, or stories related to cultural events in Banten. Furthermore, the lecturer identified topics relevant to the students' real lives, such as "Attending the Maulid Nabi Ceremony in Students' Local Area." The lecturer initiated communicative activities at the start of the learning process.

The goal of these activities was to familiarize students with the required language structure and writing style for the project, as well as to provide support for completing it. Examples of these activities include providing and discussing the language structure required for the writing project, as well as asking students to analyse and discuss a text (narrative, report, or descriptive) in order to understand the language structure within it. During the planning stage, the lecturer clarified the key questions. These are the primary questions that the lecturer expects the students to answer through their projects. The purpose of preparing essential questions is to help students understand the project's focus, determine the type of text they need to produce, and guide their observation process. Some essential questions proposed by the lecturer were: Have you ever attended cultural or religious events in Banten? , How does your local area celebrate this event? What are the main activities during the celebration? What is the value of celebrating this event? Why do you think the younger generation should preserve this event as one of Banten's cultural heritages?

The planning stage involved selecting the project type based on essential questions and determining activities for the inquiry process. The lecturer's role in this process was to facilitate and ensure that the project plan was rational, logical, and workable for the students. The next step was creating a project timeline to develop students' skills in time management, self-management, and teamwork. The process involved students working in groups to create a timeline that included planning, project reporting, and deadlines.

One group member was appointed as the leader and responsible for the project work.

The project timeline sheet was used to monitor the project's progress.



Picture 1. The Planning Stage (Designing the Project)

# **The Implementation Stage**

The primary goal of the project implementation was to complete the project stage. Students developed a project from the beginning of the inquiry process to completion. This phase aimed to enhance students' abilities in data handling, problem-solving, independence, teamwork, and communication. Examples of activities in this stage included: a) conducting observation-based inquiry activities based on the timeline by reading relevant articles, watching relevant videos, reading relevant newspapers, conducting fieldwork-based direct observation (if available), and conducting interviews with locals (if available); b) organizing the information acquired from the research process; c) using the Storyjumper tool to make a digital book based on the findings of their inquiry process; d) providing the opportunity to check students' project work progress both online and offline; e) completing the project or revising it; and f) strengthening the activities through teamwork and collaboration.



Picture 2. The Implementation Stage (Finishing the Digital Book)

### The Reporting Stage

This stage consisted of two primary activities: assessing the project results and evaluating the project itself. Assessing the project results aimed to ensure that all group members were responsible for their project results. The lecturer conducted a formative

assessment of the students' performance and project results using a rubric. Examples of activities in this stage are: a) students described the production process and presented the project's results in part; b) the presentation was delivered in English; c) the other group members were asked to give feedback on the project's outcome; and d) the lecturer used a rubric to conduct a formative assessment to assess the project's progress and outcome.

The evaluation of the project involved the lecturer reflecting on the activity and providing feedback on the project results, while the students reflected on their learning activities. This stage aimed to encourage students to share their challenges encountered during the project and to assess their proficiency in completing the project. This stage included the following activities: a) the lecturer provided feedback on the project the students had presented; b) the lecturer provided feedback on the class's activities; c) the students discussed their project-related experiences; d) the students had the opportunity to modify or revise the project outcome based on the feedback; e) the students might use internet tools like email, Google Classroom, or Google Drive to send copies of their digital books; and f) the students might post links to their digital books on social media platforms.



Picture 3. The Reporting Stage (Presenting the Project Result)

# The Students' Perceptions of Using Storyjumper in Writing Instruction through Project-Based Learning

A questionnaire comprising fifteen closed-ended statements collected the data regarding students' perceptions. We also included two open-ended questions to learn more about the students' experiences using the Storyjumper tool for their writing assignments. The students' feedback primarily highlighted the difficulties and benefits of using the tool in writing instruction. The questionnaire's data consisted of three main parts: students' experience with digital writing before using the Storyjumper tool; project-based writing with the Storyjumper tool (inside and outside the classroom); and challenges and obstacles in using the Storyjumper tool.

# Students' Experience with Digital Writing

The questionnaire data indicated that students had a basic understanding of incorporating technology into their writing. They were comfortable writing with the help of computer devices and social media. 51.9% of the students demonstrated familiarity with digital writing, which involves writing using a computer device and an internet connection. Students were also familiar with online platforms for writing, such as various social media sites and writing blogs. Furthermore, their classification as the

"Z" generation enables them to effortlessly access information via internet media. In other words, this generation has high technology literacy compared to the previous generations. The data also revealed that the majority of the students, i.e., 48.1%, were already familiar with multimodal text, which is a text that combines letters and other characters such as colors, sounds, videos, pictures, and photographs. This type of multimodal text served as the output for the study's writing project. It could be concluded that the majority of the students had sufficient background knowledge needed to complete the writing project.

# The Use Storyjumper Inside the Classroom

To gather feedback on students' experience using the Storyjumper tool for writing assignments, a close-ended questionnaire was administered along with two open-ended questions. The data showed that story jumper was interesting to be used in writing activities (51,9%). It could improve students' writing performance (48,1%) as well as improve the writing assignment efficiency (40,7%). Besides, Storyjumper could improve collaboration and cooperation among students, so that the creativity among the students was also improved (48,1%). It could be concluded that the majority of the students had positive attitudes toward the use of Storyjumper in writing activities.

# The Use Storyjumper Outside the Classroom

The use of Storyjumper, a writing tool, is dependent on a stable internet connection. However, this implies that you can perform the writing activity using this tool from any location, provided you have a reliable internet connection. The writing exercises using this tool can be conducted either in the classroom or outside of it. The data indicates that this tool provides a variety of flexibilities, including the ability for students to select their writing topics, flexibility in terms of time and location for writing, and the ability to evaluate their writing progress. The data also revealed that since Storyjumper was considered an interesting and effective writing tool, it could improve students' motivation to write (48.1%), as well as sharpen the students' writing skills (51.9%). The previously discussed data suggests that Storyjumper serves as a versatile and efficient writing tool, making it appropriate for use both within and beyond the classroom. It can be used individually or collaboratively, provided there is access to an internet connection.

Meanwhile, to know the students' perception of challenges or technical problems and students' best experience in using Storyjumper, two questions with open-ended answers were given. Each of the students' answers will be discussed in the following section.

### Students' Challenge in Using Storyjumper

The summary of the students' answers from the aspect of challenges or technical difficulties will be presented in Table 1. From Table 1, it can be seen that the students' answers were analyzed and classified under the themes, sub-themes, and codes. Codes are the names summarizing the students' answers. The classified codes were collected under themes.

Table 1. Students' Challenges in Using Storyjumper Themes and Codes Sources Number of of Codes Codes 19 19 A. Features 3 Letter 3 4 audio 4 Icon/sticker/image 12 12 **B.** Technical Problem 2 2 2 Internet connection

Table 1 reveals that students continue to encounter certain difficulties when utilizing the Storyjumper tool. Two main aspects posed challenges: (1) the tool's features, and (2) the technical issues encountered during its use. The challenge in creating the tool involved selecting and adjusting letters, adding audio to the book, and choosing icons, images, and stickers. Measuring the size of the letters presents a significant challenge and complexity (ENG\_06). The most challenging aspect of editing sound recordings is either adding good music to the story, or not being able to add any music at all (ENG 015). There are limited icons available, making it challenging to find one that aligns with the text (ENG 017). The limited selection of icons or images in the digital book posed a significant challenge for the characters. Students often had difficulty finding appropriate icons or images that matched the writing topic, as they were not always available in the application. The characters, including additional stickers, lack variety (ENG 013). Stickers and other elements are limited, so we have to look for other elements from outside the Storyjumper tool (ENG 018). Meanwhile, a technical issue arose during the use of the Storyjumper tool for the writing assignment, which was related to an internet connection. To be able to use Storyjumper, there must be a sufficient internet network; otherwise, the connection would be unstable. As a result, the students would be unable to fully explore all the features of the application and use it without any interruptions. The challenge that I find using Storyjumper is related to the internet signal; sometimes I cannot use Storyjumper because the internet is weak (ENG 022). When using the Storyjumper, we have to use a strong internet signal so that we can explore the contents in the Storyjumper (ENG 019).

## Students' Best Experience in Using Storyjumper

Besides knowing the limitations of the tool, students were also given another question to know the best experience when using Storyjumper in writing activities. The summary of the student's answers from the aspect of students' best experience using Storyjumper in writing activities will be presented in Table 2. Based on Table. 2 it can be seen that students found that using Storyjumper in writing activities gave them some best experiences, such as: (1) as a medium to write a story, (2) adding the audio elements to the book, (3), adding the characters such as images, pictures, and photos to the book, (4) doing editing, (5) doing collaboration with other, (6) adding or inserting other features to the book from other resources, (7) designing the book, and (8) combining the text with other characters. I loved the part when I can use the voice recorder, because I am freely can record whenever I want, wherever I need. And I can repeat my record as I wanted (ENG\_017). I like the sound tool, because it is very interesting (ENG\_06). The part of the project-based writing using Storyjumper tool that I am most loved is Uploading other photos besides those available from Storyjumper. The reason is because these tools make it easier for us to adjust the theme of the book that will

be made (ENG\_015). The part I like when using the Storyjumper tool is combining pictures and other characters related to the text (ENG\_018).

Table 2. Students' Best Experience in Using Storyjumper

Themes and Codes		Number of
As a medium to write a story	1	1
Adding the audio the the book	13	13
Adding the characters	4	4
(images, pictures, photos) to the book		
Doing the editing	4	4
Collaborating with friends	2	2
Adding other resources to the book	1	1
Designing the book	3	3
Combining the text with other characters	3	3

*Using* the Storyjumper tool in writing activities yielded numerous benefits, not only providing students with new experiences but also fostering the development of skills like creativity, critical thinking, collaboration, and cooperation. The Storyjumper tool also provided students with diverse experiences in writing multimodal texts. This type of text combines text with other characters, such as pictures, colors, images, and sounds.

# **Discussion**

The current study investigated the practice of using the Storyjumper tool in project-based writing. Additionally, we gave the students a set of questions to gauge their perceptions after using Storyjumper in the writing instruction. In Hamidah et al. (2020), the practice of using Storyjumper in writing instruction followed the stages of project-based learning proposed by Stoller (2006). Based on the results, the stages in doing the writing assignment in the form of a digital book using the Storyjumper tool could be described into three main stages: (1) Planning Stage; (2) Implementation Stage; (3) Reporting Stage. Project-based learning differs from traditional English instruction in that it places a strong emphasis on the communicative and functional aspects of language acquisition, as well as the integrity of language and subject development (Du & Han, 2016). The current study utilized technology as a medium for project-based writing, employing the Storyjumper tool to produce digital essays in the form of multimodal text. Technology-based project-based learning was used to facilitate learning so that instruction could be more engaging and natural, and students were interested in and motivated to acquire languages using the technology. Listia's (2022) study demonstrated the significance of project-based language learning, as it provided students with hands-on learning experiences. Additionally, during the completion of the

phases, the study relied heavily on collaboration, drive, and technical proficiency with Storyjumper.

Sadeghi et al. (2016) conducted a study that demonstrated the benefits of integrating project-based learning (PBL) into writing instruction on students' subject understanding. The results of this study supported the notion that project-based learning enhanced the students' writing skills. These findings advised teachers to consider this learning strategy as a potential option for teaching writing. To optimise the benefits of PBL in the classrooms, it might be helpful for English Foreign Language (EFL) teachers who are either engaged in PBL practice or who want to introduce PBL into their classrooms (Sadeghi et al., 2016). Hasani et al. (2017) also supported the current study on the implementation of project-based learning in writing instruction, demonstrating that this model can enhance students' writing abilities, foster student learning, and engage faculty members in a professional development program. Overall, the implementation of project-based learning in writing instruction yielded numerous benefits to the achievement of learning outcomes. Du & Han (2016), in their study, mentioned that project-based learning significantly improved students' academic performance, particularly their language, critical thinking, and knowledge-requirement skills. PBL was also considered a significant issue for English teachers and students, who required assistance and support in the teaching and learning process.

The current study also investigated the students' perceptions about the digital story-writing activity they had prepared. The study revealed that the students held positive opinions about the tool they utilized. The study revealed that the students found the digital storytelling tool Storyjumper intriguing and efficient for their writing tasks, fostering teamwork and communication, enhancing writing motivation, offering flexibility in composition, assisting the writing task efficiently, and enhancing their writing abilities. Yang and Wu's (2012) research revealed a significant improvement in English proficiency, critical thinking, and learning motivation, particularly in English listening, reading, and writing. Liu et al. (2018) conducted a study that demonstrated the positive impact of the digital storytelling approach on students' language performance, leading to an increase in their motivation in two dimensions: extrinsic goal orientation and elaboration. Furthermore, Choo and Li (2017) mentioned in their study that the use of digital writing also increased motivation among students. The use of digital writing motivated the students to compose essays in paragraphs, thereby enhancing their coherence.

Previous studies also supported the current research's findings, demonstrating that digital storytelling is an effective strategy for increasing student engagement and improving writing skills. As a result, educators must actively participate in the classroom (Mousazadeh et al., 2018; Bee Choo & Li Li, 2017; Güvey Aktay, 2020). Additionally, a study by Listia (2022) revealed that students had a positive perception of the implementation of technology-assisted project-based language learning, and the study's findings were anticipated to be beneficial for both English teaching and English as a foreign language learning. Collaboration was also one issue that emerged from the students' perception of using Storyjumper. According to the students' perception, the process of project writing led to increased collaboration and cooperation among them. A study by Choo, Li (2017) confirmed that the digital writing strategy encouraged students to write more collaboratively, thereby fostering a learning environment that boosted their writing motivation. Thus, it was recommended as an alternative approach to teaching English language writing to the students. Students can collaborate with their

peers to find solutions, create products, or complete projects by sharing their thoughts and knowledge (Listia, 2022).

The main aspect of this study was to integrate the use of technology into the writing instruction. Moreover, technology-based instruction has become more important in writing teaching, especially in the 21st-century education era. The current research demonstrated that using the Storyjumper tool could improve students' writing skills or performances. Tanrkulu (2022) supported these findings in his study, reporting that technology-based writing instruction (digital storytelling) positively impacted both the internal and outward structure of the text. The multimedia feature and the script had positive effects on writing and facilitated collaboration between technology and writing. Meanwhile, Niemi & Multisilta (2016), in their study, found that digital storytelling could greatly increase student engagement in writing activities. Students acquired 21st-century skills when creating a writing project, and working in groups was important for their motivation and enthusiasm. Therefore, Dreon et al. (2011) identified technology-based writing education as one of the most effective teaching methods to incorporate into the curriculum.

The results also explored the students' challenges in using the Storyjumper tool. In the current study, students participated in project-based writing, crafting English essays as multimodal texts using a digital writing tool. The text that the students produced involved the use of multiple modes of communication, such as texts, images, audio, videos, pictures, and photos that worked together. Incorporating project-based learning into writing instruction provided students with a new experience. Students thought combining the text with other features such as pictures, images, and sounds would be interesting and a new experience for them. This statement follows Güvey Aktay (2020), who stated in his study that the students expressed positive opinions about the digital book's sound-adding feature and the visuals it provided, allowing them to see their stories holistically (Güvey Aktay, 2020).

The students viewed the use of Storyjumper in writing instruction positively, but they also encountered some challenges. The students encountered several challenges, including difficulties in adding and recording sound, limited feature options, unfamiliarity with technology platforms, and issues with internet connectivity. The Storyjumper tool provided only a limited number of features, such as images, animated pictures, photos, and pictures, to use and match with the writing topic. This limitation, however, required students to manually search for other resources to complement their texts. Güvey Aktay's (2020) study also addressed the challenges encountered during the digital writing activity. The study discussed several issues related to writing with digital tools. These included difficulties adding and recording sound, a shortage of available characters on the website, sound quality issues, and technological problems with computer and internet connections (Güvey Aktay, 2020).

In general, although digital storytelling can make writing instruction more engaging, it presents challenges. Despite the increasing use of digital technologies in modern society, instructors who employ technology-based teaching methods must ensure that all students have equal access, taking into account differences in socioeconomic status and educational needs. Dreon et al. (2011) pointed out that teachers must ensure equal access to digital stories for all students. Overall, the current study's digital storytelling tool, Storyjumper, effectively enhances students' writing skills and motivation to write.

# Conclusion

The project-based learning activities used in this study followed Stoller's stages for project-based learning. The Storyjumper tool divides the process of creating a digital book into three main stages: 1) Planning Stage, 2) Implementation Stage, and 3) Reporting Stage. Meanwhile, based on the results, the majority of the students had positive opinions about using the Storyjumper tool in writing activities. The Storyjumper tool proved to be an engaging tool for writing activities, effectively enhancing students' writing efficiency and performance. Additionally, the tool enhanced teamwork and cooperation, thereby boosting the students' creativity. Furthermore, the Storyjumper tool provided a flexible time and place for writing while also allowing the lecturer to easily monitor and evaluate student progress. In conclusion, the Storyjumper tool is an effective writing tool that can motivate students to improve their writing skills. It is suggested that lecturers or teachers can utilize this tool as one of the strategies for teaching writing. To maximize the tool's benefits, lecturers should develop a detailed plan that includes time, objectives, evaluation, and equipment before using the Storyjumper tool in writing instruction. Above all, students should prioritise the writing process over multimedia elements in technology-based writing instruction.

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# References

- Accurso, K. (2020). Bringing a social semiotic perspective to secondary teacher education in the United States. Journal of English for Academic Purposes, 44, 100801
- Albana, H. H., Marzuki, A. G., Alek, A., & D. N. (2020). Cohesive Devices in Student's Writing (A Discourse Analysis on Argumentative Text). Jurnal Pendidikan Humaniora, 8(1), 6-11.
- Alek, A., Marzuki, A. G., Hidayat, D. N., & Fauzji, F. (2022). The Discourse Structure and Linguistic Features of Research Articles and Thesis Abstracts in English by Indonesian Academics. JELITA: Journal of Education, Language Innovation, and Applied Linguistics, 1(1), 37-44.
- Bee Choo, Y., & Li Li, K. (2017). Digital Writing in English Language Writing Instruction. ARIEL An International Research Journal of Language and Literature, 28(December 2017), 1–16. <a href="http://sujo.usindh.edu.pk/index.php/ARIELhttp://sujo.usindh.edu.pk/index.php">http://sujo.usindh.edu.pk/index.php/ARIELhttp://sujo.usindh.edu.pk/index.php</a>
- Boss, S., & Krauss, J. (2022). Reinventing project-based learning: Your field guide to real-world projects in the digital age. International Society for Technology in Education.
- Çetin, E. (2021). Digital storytelling in teacher education and its effect on the digital literacy of pre-service teachers. Thinking Skills and Creativity, 39, 100760.

- Choo, Y. B., Abdullah, T., & Nawi, A. M. (2020). Digital storytelling vs. oral storytelling: An analysis of the art of telling stories now and then. Universal Journal of Educational Research, 8(5A), 46-50.
- Gürsoy, G. (2021). Digital Storytelling: Developing 21st Century Skills in Science Education. European Journal of Educational Research, 10(1), 97-113.
- Güvey Aktay, E. (2020). Writing a Folktale as an Activity of Written Expression: Digital Folktales with StoryJumper. Educational Policy Analysis and Strategic Research, 15(3), 159–185. <a href="https://doi.org/10.29329/epasr.2020.270.8">https://doi.org/10.29329/epasr.2020.270.8</a>
- Hamidah, H., Rabbani, T. A. S., Fauziah, S., Puspita, R. A., Gasalba, R. A., & Nirwansyah. (2020). HOTS-Oriented Module: Project-Based Learning.
- Hasani, A., Hendrayana, A., & Senjaya, A. (2017). Using Project-based Learning in Writing an Educational Article: An Experience Report. Universal Journal of Educational Research, 5(6), 960–964. https://doi.org/10.13189/ujer.2017.050608.
- Hava, K. (2021). Exploring the role of digital storytelling in student motivation and satisfaction in EFL education. Computer Assisted Language Learning, 34(7), 958-978.
- Kim, D., & Li, M. (2021). Digital storytelling: Facilitating learning and identity development. Journal of Computers in Education, 8(1), 33-61.
- Kirshner, D., & Whitson, J. A. (Eds.). (2021). Situated cognition: Social, semiotic, and psychological perspectives. Taylor & Francis.
- Lenkaitis, C. A. (2020). Technology as a mediating tool: Videoconferencing, L2 learning, and learner autonomy. Computer Assisted Language Learning, 33(5-6), 483-509.
- Listia, R. (2022). Technology-Assisted Project-Based Language Learning on Wetland Concern. LET: Linguistics, Literature and English Teaching Journal, 12(2), 327–351.
- Liu, K. P., Tai, S. J. D., & Liu, C. C. (2018). Enhancing language learning through creation: the effect of digital storytelling on student learning motivation and performance in a school English course. Educational Technology Research and Development, 66(4), 913–935. <a href="https://doi.org/10.1007/s11423-018-9592-z">https://doi.org/10.1007/s11423-018-9592-z</a>.
- Marzuki, A. G., & Santiana, S. (2022). Bringing YouTube into the Classroom, is it Possible or not?. In Proceeding of International Conference on Islamic and Interdisciplinary Studies (Vol. 1, pp. 29-33).
- Milies, B. M., & Huberman, M. (1992). Analisis Data Kualitatif Buku Sumber Tentang Metode-metode Baru. UIP.
- Molin, L., & Godhe, A. L. (2020). Students' critical analyses of prominent perspectives in a digital multimodal text. Nordic Journal of Digital Literacy, 15(3), 153-164.
- Mousazadeh, Z., Hassaskhah, J., & Zafarghandi, A. M. (2018). The Effects of Computer Assisted Mediating Prompts on EFL Learners' Writing Ability. International Journal of Education and Literacy Studies, 6(1), 64. https://doi.org/10.7575/aiac.ijels.v.6n.1p.64
- Nguyen, C. T. K. (2019). Overview of second and foreign language writing: Characteristics, perspectives and pedagogical approaches. Journal of Asia TEFL, 16(3), 1059–1068. https://doi.org/10.18823/asiatefl.2019.16.3.23.1059
- Nicoli, N., Henriksen, K., Komodromos, M., & Tsagalas, D. (2022). Investigating digital storytelling for the creation of positively engaging digital content. EuroMed Journal of Business, 17(2), 157-173.

- Niemi, H., & Multisilta, J. (2016). Digital storytelling promoting twenty-first century skills and student engagement. Technology, Pedagogy and Education, 25(4), 451–468. <a href="https://doi.org/10.1080/1475939X.2015.1074610">https://doi.org/10.1080/1475939X.2015.1074610</a>.
- Partnership for 21st Century Learning. (2015). P21 Framework Definitions. 1–9. <a href="http://www.p21.org/our-work/p21-framework">http://www.p21.org/our-work/p21-framework</a>.
- Sadeghi, H., Biniaz, M., & Soleimani, H. (2016). The Impact of Project-Based Language Learning on Iranian EFL Learners Comparison/Contrast Paragraph Writing Skills. International Journal of Asian Social Science, 6(9), 510–524. <a href="https://doi.org/10.18488/journal.1/2016.6.9/1.9.510.524">https://doi.org/10.18488/journal.1/2016.6.9/1.9.510.524</a>
- Sanjinés, J. (2020). From Translation to Intersemiosis. A Journey Across Expressive Modalities. In Moving between Modes. Papers in Intersemiotic Translation in Memoriam Professor Alina Kwiatkowska (pp. 43-59). Wydawnictwo Uniwersytetu Łódzkiego.
- Tanrıkulu, F. (2022). Students' perceptions about the effects of collaborative digital storytelling on writing skills. Computer Assisted Language Learning, 35(5–6), 1090–1105. <a href="https://doi.org/10.1080/09588221.2020.1774611">https://doi.org/10.1080/09588221.2020.1774611</a>
- Towndrow, P. A., & Pereira, A. J. (2018). Reconsidering Literacy in the 21st Century: Exploring the Role of Digital Stories in Teaching English to Speakers of Other Languages. RELC Journal, 49(2), 179–194. https://doi.org/10.1177/0033688218754943
- Wardani, Y., & Kurniasih, E. (2023). Multimodal Texts: Are They Truly Helpful for Narrative Text Comprehension?. Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics, 10(2), 138-156.
- Tandiana, S. T., Abdullah, F., & Saputra, Y. (2020). Learning multimodality through genre-based multimodal texts analysis: Listening to students' voices. Vision: Journal for Language and Foreign Language Learning, 9(2), 101-113.
- Wu, J., & Chen, D. T. V. (2020). A systematic review of educational digital storytelling. Computers & Education, 147, 103786.
- Yang, Y. T. C., Chen, Y. C., & Hung, H. T. (2022). Digital storytelling as an interdisciplinary project to improve students' English speaking and creative thinking. Computer Assisted Language Learning, 35(4), 840-862.