Research article

User-Friendly Digital Tools: Boosting Student Engagement and Creativity in Higher Education

Herramientas Digitales Intuitivas: Impulsando la Participación y la Creatividad en la Educación Superior

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Abstract

Introduction: This research explores the impact of digital storytelling tools on enhancing student writing in the classroom. By examining these tools' effectiveness, the study aims to provide insights into their benefits and areas for improvement. **Methodology:** The study was conducted through a survey administered to higher education students. It focused on their satisfaction levels, the difficulties they encountered, and their preferences for specific digital storytelling tools. **Results**: The findings reveal a strong preference for digital storytelling over traditional writing techniques. Students praised these tools for their ability to enhance creativity, their user-friendliness, and their capacity to make learning more engaging. **Discussion:** Despite the positive feedback, the study identifies several areas for improvement. Key issues include the need for higher-quality images, improved usability, and reduced dependency on paid features. **Conclusions:** These insights underscore the effectiveness of digital storytelling in promoting creativity and engagement among students. However, they also highlight opportunities for further development to maximize the educational impact of

these tools. By addressing the identified challenges, educators and developers can enhance the overall learning experience and better support student success.

Key words: digital storytelling; EFL education; writing skills; higher education; student engagement; educational technology; creativity enhancement; user-friendliness.

Resumen

Introducción: Esta investigación explora el impacto de las herramientas de narración digital en la mejora de la escritura de los estudiantes en el aula. Al examinar la efectividad de estas herramientas, el estudio tiene como objetivo proporcionar información sobre sus beneficios y áreas de mejora. **Metodología:** El estudio se llevó a cabo a través de una encuesta administrada a estudiantes de educación superior. Se centró en sus niveles de satisfacción, las dificultades que encontraron y sus preferencias por herramientas específicas de narración digital. **Resultados:** Los hallazgos revelan una fuerte preferencia por la narración digital sobre las técnicas tradicionales de escritura. Los estudiantes elogiaron estas herramientas por su capacidad para mejorar la creatividad, su facilidad de uso y su capacidad para hacer que el aprendizaje sea más atractivo. **Discusión:** A pesar de los comentarios positivos, el estudio identifica varias áreas de mejora. Los problemas clave incluyen la necesidad de imágenes de mayor calidad, mejor usabilidad y una menor dependencia de las funciones pagadas. **Conclusiones:** Estos conocimientos subrayan la efectividad de la narración digital en la promoción de la creatividad y el compromiso entre los estudiantes. Sin embargo, también destacan oportunidades para un mayor desarrollo con el fin de maximizar el impacto educativo de estas herramientas. Al abordar los desafíos identificados, los educadores y desarrolladores de software pueden mejorar la experiencia de aprendizaje en general y apoyar mejor el éxito del alumnado.

Palabras clave: narración digital; enseñanza del inglés como lengua extranjera; producción escrita; educación superior; implicación del alumnado; tecnología educativa; creatividad; facilidad de uso.

1. Introduction

As technology advances, digital storytelling has emerged as a solid competitor to traditional storytelling. This modern approach enhances classic storytelling by embedding digital elements, allowing human narratives to be shared with immediacy and through various multimedia channels (Robin, 2008). Typically lasting only a few minutes, stories can serve various purposes, such as sharing personal narratives, retelling historical events, or providing information and instruction (Robin, 2006). By leveraging contemporary technological tools, digital storytelling continues the timeless tradition of using stories to impart wisdom and knowledge with a modern twist (Tenh et al., 2012).

Highly regarded as an educational method, digital storytelling is praised for its ability to engage students and foster active participation and immersion (Kajder & Swenson, 2004; McLellan, 2006; Ohler, 2006). Research indicates that digital storytelling enhances the learning environment, curriculum, and educational experiences (Sadik, 2008). It fosters the development of technical, presentation, research, organizational, and writing skills (Dogan & Robin, 2009). Additionally, it increases learning motivation and problem-solving abilities, improves academic performance, attitudes, motivation, and learning strategies (Hung, Hwang, & Huang, 2012), and builds self-confidence in students (Yüksel, 2011). This front-line method facilitates the incorporation of various disciplines, knowledge, and abilities throughout the curriculum. (Davis & Waggett, 2006). Instead of focusing solely on technological proficiency, digital storytelling prioritizes collaborative efforts and the

meaningful exchange of personal stories. Over time, digital storytelling encourages students' engagement by promoting autonomous learning. It offers practical relevance and personal value by creating a contextual learning environment (Kearney and Schuck, 2005; Lambert, 2006). It also gives students valuable learning experiences within a constructivist framework (Smeda et al., 2014).

By combining educational material with interactive tasks, digital storytelling makes learning more engaging and enjoyable. It not only strengthens traditional literacy skills such as reading, writing, speaking, and communication but also fosters new literacy skills vital for multimedia environments. Numerous studies have demonstrated its potential to develop essential 21st-century skills, including technical abilities, presentation, research, editing, and writing (Niemi et al., 2014). Further studies have also reported that digital storytelling enhances multimedia literacy, a sense of voice, and story organization (Kulla-Abbot, 2006). Additionally, it helps develop students' cultural identities, basic literacy, and new literacy skills by bridging the gap between extramural (outside the classroom) and intramural (inside the classroom) contexts (Skinner & Hagood, 2008). This linkage allows students to connect their personal experiences and cultural backgrounds with their academic learning, fostering a more holistic and integrated educational experience. By doing so, digital storytelling supports the development of a well-rounded skill set that is applicable in both academic and real-world settings.

In educational settings, digital storytelling has been utilized for multiple purposes, such as empowering students to become narrators, providing content delivery, and enhancing writing skills (Dogan and Robin, 2008). Several studies have demonstrated that digital storytelling motivates students to write more clearly and in greater detail, as they are aware that their stories will reach a wider audience (Vasudevan et al., 2010). This approach not only boosts student engagement but also enhances their confidence in writing (Campbell, 2012), encourages students to express their unique styles (Lee, 2014), and increases their total number of words, precise sentences, and suitable words (Xin, 2013). Furthermore, digital storytelling assist students in understanding the structure of narratives through processes of reflection, editing, and feedback (Kulla-Abott, 2006), providing them with a deeper comprehension of the revision process (Stojke, 2009). As a result, digital storytelling serves as a powerful tool to enhance writing skills and engage students more deeply in the writing process.

Considering all this, the primary objective of this study is to evaluate the effectiveness of digital storytelling in enhancing EFL students' writing skills within a higher education context. Specifically, three different digital storytelling tools –Storybird, Storyjumper, and Storyboard That- will be under examination. In short, the study aims to:

- Assess the impact of digital storytelling tools on students' creativity and engagement in writing tasks.
- Identify the factors that influence user satisfaction with these tools.
- Explore the challenges faced by students when using digital storytelling tools and suggest potential improvements.

By addressing these objectives, the research seeks to provide a comprehensive understanding of the role of digital storytelling tools in EFL education, offering insights and practical recommendations for enhancing their use and effectiveness in higher educational settings. The study is driven by the following research questions:

RQ1: How do digital storytelling tools impact EFL students' creativity and engagement in writing tasks?
RQ2: What factors influence user satisfaction with digital storytelling tools?

RQ3: What challenges do students face when using digital storytelling tools, and how can these be addressed?

2. Methodology

The participants in this study were 72 undergraduate students from a Spanish University during the 2023/2024 academic year, in ages ranging from 19 to 42 years old, being the average age of 20.46 years (Standard Deviation, SD = 3.31 years). The gender distribution of the participants was predominantly female, comprising 63.9% (n=46), and male participants made up 36.1% (n=26).

Figure 1.

Gender Distribution of Participants.
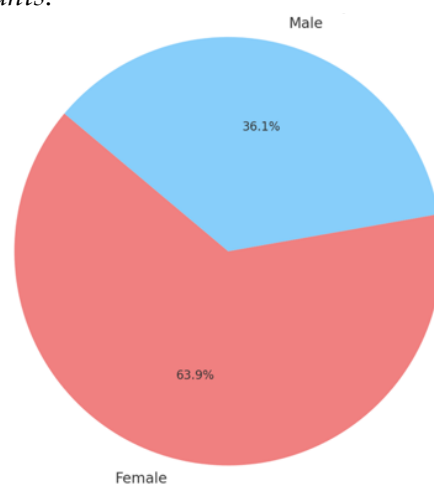
Source: Author's own creation (2024).

Students were assigned to create a digital story in groups, targeting the second cycle of Primary Education. They had to choose one of three digital storytelling tools: Storybird, Storyjumper, or Storyboard That. After completing the project, participants were surveyed to evaluate their preferences, satisfaction levels, and the perceived effectiveness of the chosen tool in educational settings.

The instrument used in this study was a semi-structured survey, specifically designed for this purpose and administered online via the Moodle platform of the University of Malaga. This instrument was validated by expert judgment. Through this survey, the students assessed their experiences with the project.

The study employed a mixed-methods approach, combining quantitative and qualitative questions to gather comprehensive data on students' experiences. The survey included questions on tool usage, satisfaction, and perceived benefits and challenges. It consisted of 10 items: one close-ended question (multiple choice), seven Likert scale questions with 4 options (1-4; from 1=strongly disagree to 4=strongly agree), and two open-ended questions. These items provided deeper insights into students' personal experiences and suggestions for improvement. This methodology allowed for a holistic understanding of the impact of digital storytelling tools on EFL students' writing skills.

Statistical analysis was conducted using the computer application SPSS. Responses to qualitative questions were analyzed with the text analysis tool NVivo. This tool facilitated the

identification of key insights and trends by generating tags and categorizing the textual data, allowing for a systematic and comprehensive analysis of the qualitative feedback.

3. Results

Table 1 below presents all the survey questions along with the types of responses collected for data analysis. While the survey included open-ended questions, we categorized the responses to facilitate quantification and analysis.

Table 1.

Distribution of responses to the survey questions (N=72 students).

N	Statement of the Question	Response type	Scale
1	Digital storytelling tool preference	Closed-ended	Multiple choice
2	Key adjectives to describe the tool	Open-ended	--------
3	Difficulty of using the digital tool	Closed-ended	Likert (1-4)
4	Enhancement of storytelling through the tool	Closed-ended	Likert (1-4)
5	Preference for learning with digital vs. traditional tools	Closed-ended	Likert (1-4)
6	Relaxation with teammates in digital vs. traditional activities	Closed-ended	Likert (1-4)
7	Perception of equal teamwork in digital activities	Closed-ended	Likert (1-4)
8	Level of involvement with the use of the digital use	Closed-ended	Likert (1-4)
9	Enhancement of teamwork	Closed-ended	Likert (1-4)
10	Advantages and disdvantages of the tool	Open-ended	---------

Source: Author's own creation (2024).

### 3.1. Perceptions of undergraduate student regarding the use of digital storytelling tools in educational settings.

3.1.1. Digital storytelling tool preference

In a survey of 72 participants regarding the use of digital storytelling tools in the classroom, the most popular choice was Storyjumper, selected by 58.3% (n=42). Storybird was chosen by 26.4% (n=19), while Storyboard That was the least selected tool, with 15.3% (n=11). These findings highlight a clear preference for Storyjumper among the participants, indicating its potential effectiveness and appeal in educational settings.

The preference for Storyjumper suggests that its features and user experience resonate well with the respondents, making it a valuable tool for enhancing storytelling and learning in the classroom. The lower selection rates for Storybird and Storyboard That, while still significant, indicate areas where these tools might improve to better meet the needs and preferences of users in educational contexts.

Figure 2.

Distribution of selected digital storytelling tools.
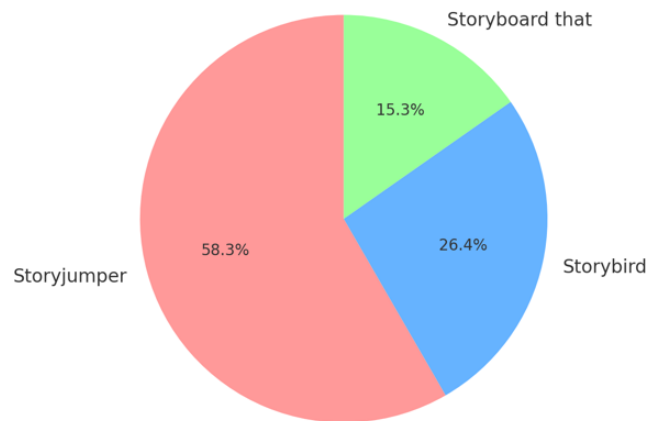
Source: Author's own creation (2024).

3.1.2. Key adjectives to describe the tool

Participants were asked to describe their perception of the digital tool selected using three adjectives. These insights provide a detailed understanding of what users appreciate most in each tool, guiding potential enhancements to better meet user needs.

The analysis of positive feature-specific sentiments for each digital storytelling tool—Storybird, Storyboard That, and Storyjumper—reveals distinct strengths and areas of appreciation among users:

- **Storybird:** Positive feedback for Storybird prominently highlighted its "efficiency", with 33.33% of users noting that the tool is "effective" and "timesaving". This indicates that Storybird helps streamline the writing process, making it easier for students to complete their tasks. Additionally, 16.67% of users appreciated its "ease of use", emphasizing its "user-friendly interface". The tool's "visual appeal" also stood out, with 16.67% of positive comments praising its "aesthetic design". Users found Storybird to be "innovative" and "fresh", as reflected in another 16.67% of feedback. The same percentage of users highlighted its "usefulness", seeing it as a practical aid in enhancing writing skills. However, despite these strengths, Storybird received no positive mentions for "intuitiveness", suggesting that improvements could be made to make the tool more intuitive and easier to navigate for first-time users.

- **Storyboard That:** Storyboard That received balanced positive feedback across various features, demonstrating its "versatility" as a digital storytelling tool. Users equally appreciated its "efficiency", "visual appeal", "innovation", and "usefulness", with each feature receiving 9.09% of the positive feedback. This balanced distribution indicates that Storyboard That performs consistently well across multiple dimensions, making it a reliable choice for digital storytelling in the classroom. Remarkably, there was no negative feedback for Storyboard That, suggesting high overall user satisfaction. However, like Storybird, there were no positive mentions for "ease of use" or "intuitiveness". This indicates potential areas for enhancement, as making the tool easier to use and more intuitive could further improve the user experience.

- **Storyjumper:** Storyjumper was particularly praised for its "ease of use", with 12.50% of positive feedback mentioning this aspect. Users valued its "straightforward" and "user-friendly" interface, which makes it accessible for all students. The tool's "innovation" and "usefulness" were also highlighted, each receiving 6.25% of positive

sentiments. This feedback suggests that Storyjumper successfully combines practical features with innovative approaches to enhance the writing process. However, the tool did not receive any positive feedback for "efficiency" or "visual appeal", indicating areas where improvements could be made. Additionally, 100% of the negative feedback for Storyjumper pointed to its "complexity", suggesting that while it is easy to use, some aspects of the tool might be too complex or challenging for certain users.

Table 2.

Summary of positive feature-specific sentiments by tool.

Feature	Storybird	Storyboard that	Storyjumper
Ease of Use	16.67%	0.00%	12.50%
Intuitiveness	0.00%	0.00%	0.00%
Efficiency	33.33%	9.09%	0.00%
Visual Appeal	16.67%	9.09%	0.00%
Innovation	16.67%	9.09%	6.25%
Usefulness	16.67%	9.09%	6.25%

Source: Author's own creation (2024).

3.1.3. Difficulty of using the digital tool

Among the digital storytelling tools analyzed, Storyboard That stood out with a significant portion of users (27.27%) finding it difficult to use. This indicates that while many users appreciate its features, there are notable challenges that need to be addressed to improve user experience. Storyboard That offers a range of functionalities that support educational objectives, but the complexities in its interface and lack of sufficient guidance seem to hinder some users. This feedback is crucial as it highlights specific areas where the tool could be improved to ensure a better user experience. Enhancing the intuitiveness of the interface, providing more detailed tutorials, and incorporating user feedback into design updates could mitigate these issues and make the tool more accessible.

Storyjumper also had a notable percentage of users (14.29%) who found it difficult, though the majority (85.71%) did not report such issues. This mixed feedback suggests that while Storyjumper is generally accessible, there are still areas that could benefit from enhanced usability and support. Storyjumper's ease of use is appreciated by the majority, indicating that its interface is relatively user-friendly. However, the significant minority who struggle with the tool highlight the need for further improvements. Simplifying complex features and providing clearer instructions could help reduce the learning curve and make Storyjumper more accessible to all users.

In contrast, Storybird was reported as the easiest to use, with only 5.26% of respondents indicating difficulty, and the vast majority (94.74%) finding it easy to handle. This high level of user-friendliness is likely due to Storybird's intuitive interface and straightforward functionality, which minimize the learning curve for new users. The ease of use is a crucial factor in the adoption of digital tools, especially in educational settings where time and user satisfaction are paramount. Storybird's low difficulty rating suggests it is highly accessible for students and educators alike. This could be due to its intuitive interface and straightforward functionality, which minimizes the learning curve for new users.

3.1.4. Enhancement of storytelling through the tool

A significant majority (82.19%) of participants agreed that the digital tool aids in the storytelling process, indicating that most users find it effective in enhancing their storytelling abilities. This high percentage suggests that the tool successfully meets its objective of facilitating storytelling, likely due to its intuitive design, interactive features, and user-friendly interface. These elements are crucial in enabling users to create and share stories more easily, thereby enhancing their overall storytelling experience.

However, a minority (17.81%) of participants disagreed, suggesting that some users do not perceive the tool as beneficial. This feedback is crucial for understanding the limitations and areas where the tool may need improvement. The reasons for this dissatisfaction could vary. Some users might find the tool's interface confusing or cluttered, which can detract from the storytelling experience. Others might feel that the tool lacks certain features that are essential for their specific storytelling needs. For instance, advanced users might require more sophisticated editing tools or customization options that the current tool does not offer.

3.1.5. Preference for learning with digital vs. traditional tools

The analysis of responses to the statement reveals a highly positive perception of digital learning tools among participants. An overwhelming majority (93.06%) agreed that they learn more effectively with digital tools, highlighting a strong preference for digital learning methods. This substantial preference for digital tools underscores the growing importance of integrating technology into educational practices to enhance learning experiences and outcomes.

On the other hand, a small minority (6.94%) of participants disagreed, suggesting that some students still find traditional tools more effective. This minority preference indicates that traditional methods hold value for certain learners, possibly due to the tactile and structured nature of physical materials, or the preference for face-to-face interactions that traditional classroom settings provide. Some students might find that they retain information better through handwritten notes or physical textbooks, or they might benefit from the discipline and routine of a traditional classroom environment.

3.1.6. Relaxation with teammates in digital vs. traditional activities

A significant majority (94.44%) of participants agreed that digital activities help them feel more relaxed with their teammates compared to traditional activities. This overwhelming preference for digital collaboration suggests that digital tools create a more comfortable and less stressful environment for teamwork. The structured, flexible, and often asynchronous nature of digital activities likely contributes to this increased relaxation, as it allows team members to communicate and collaborate without the immediate pressure of face-to-face interactions.

In contrast, only 5.56% of participants disagreed, indicating that a small minority still finds traditional activities more relaxing or equally as effective in fostering comfort among teammates. These individuals might prefer the direct and personal nature of in-person interactions, which can sometimes foster a sense of immediacy and camaraderie that digital platforms might lack.

3.1.7. Perception of equal teamwork in digital activities

The analysis of responses reveals that 94.37% of participants agreed that all teammates contributed equally during digital activities, suggesting a fair and balanced teamwork environment. This overwhelming agreement indicates that digital tools are effective in facilitating equitable participation among team members. The structured nature of digital platforms, which often include features for tracking contributions and assigning tasks, likely contributes to this perception of fairness.

Only 5.63% of participants disagreed, indicating that instances of unequal work distribution were rare. This minority suggests that while most teams experience balanced contributions, there are occasional challenges that need to be addressed. These challenges could stem from various factors, such as individual differences in digital literacy, varying levels of engagement, or communication barriers within the team.

3.1.8. Level of involvement with the use of the digital use

The analysis reveals that an overwhelming majority (98.67%) of participants agreed that their involvement in digital activities was high, suggesting that digital tools effectively engage users and encourage active participation. This high level of involvement indicates that digital tools are successful in capturing the attention and interest of students, thereby fostering a more interactive and dynamic learning environment.

Only a small minority (1.33%) of participants disagreed, indicating rare instances of low involvement. This minimal disagreement suggests that while most users are highly engaged, there are a few who might face challenges in staying involved. These challenges could be due to individual preferences, technical issues, or a lack of familiarity with the digital tools.

3.1.8. Enhancement of teamwork.

A substantial majority (88.89%) of participants agreed that digital activities encourage teamwork, suggesting that these tools effectively promote collaborative efforts among students. This strong endorsement indicates that digital tools are successful in facilitating group interactions and cooperation, essential elements for effective teamwork in educational settings.

However, a noticeable minority (11.11%) disagreed, indicating that there are instances where digital tools may not have effectively encouraged teamwork. This feedback highlights that while digital tools generally foster collaboration, there are occasional challenges that need to be addressed to ensure consistent effectiveness across all student groups.

3.1.10. Perception of Advantages and disadvantages about the use of the digital tools

The analysis of digital storytelling tools—Storybird, Storyboard That, and Storyjumper—reveals distinct advantages and disadvantages based on respondents' feedback. Storyjumper stands out with significant positive feedback, as 70.59% of participants highlighted its "user-friendly nature," "interactivity," and "ability to foster creativity and engagement." These features make it an effective tool for enhancing storytelling experiences in educational settings. The ease of use and engaging elements encourage active participation and creativity among students, making it a popular choice. However, 14.29% of users noted that Storyjumper can be "complex and laborious," indicating areas where simplification could further improve the user experience. Streamlining the interface and reducing the complexity of certain features could enhance its accessibility and overall satisfaction among users.

Storyboard That, while appreciated for being "fun," "engaging," and "useful" (9.09%), faces more pronounced challenges. The "tool's complexity," the "requirement for payment to access full features," and "difficulty in finding images" were significant drawbacks, with 27.27% of participants citing these issues. These findings suggest that while Storyboard That has engaging elements, its overall usability is hindered by these barriers. Addressing these concerns through design improvements and offering more comprehensive free features could enhance its appeal and usability. Simplifying the user interface, expanding the free image library, and providing more affordable access options could significantly improve user experience and engagement.

Storybird presents a mixed picture, with no specific advantages highlighted by participants, suggesting a lack of standout features. On the downside, 5.26% of users found it "difficult to use," "frustrating," and "not intuitive." This feedback indicates a need for substantial improvements in user interface design and functionality to make Storybird more appealing and effective. Enhancing the intuitiveness and reducing the frustration associated with its use could transform Storybird into a more competitive and user-friendly tool for digital storytelling in educational contexts. Implementing user-friendly design principles, providing clearer instructions, and ensuring smoother navigation could make Storybird a more viable option for educators and students.

Table 3.

Advantages and disadvantages by tool

Tool	Advantages	Percentage	Disadvantages	Percentage
Storybird	None	0,0%	Difficult to use, frustrating, not intuitive,	5,26%
Storyboard That	Fun, engaging, useful	9,09%	Complicated, requires payment for full features, difficulty finding images	9,09%
Storyjumper	User-friendly, interactive, fosters creativity, enhances engagement, provides numerous options	70,59%	Complexity, laborious, may need more time than traditional methods, initial difficulty in handling, some features require payment, limited free resources, potential distractions	5,26%

Source: Author's own creation (2024).

4. Discussion

The results of the study show a clear preference for Storyjumper, selected by 58.3% of participants, indicating its strong appeal and effectiveness in facilitating engaging learning experiences. This preference underscores the importance of interactive and user-friendly digital tools in educational contexts, aligning with existing literature that emphasizes the significance of user-friendly interfaces in digital tools. For instance, Pandita & Kiran (2023) found that the quality of the technology interface is crucial for enhancing student engagement. Their research highlights that intuitive and accessible technology interfaces significantly impact how users interact with and perceive digital tools. This is particularly relevant in educational settings, where the ease of use and interactive features of digital storytelling tools can make a substantial difference in user preference and satisfaction.

The preference for Storyjumper, as evidenced by the study, suggests that its design effectively meets these criteria. Its user-friendly nature likely contributes to its ability to engage students and enhance their learning experience. In contrast, the lower selection rates for Storybird and Storyboard That might reflect areas where these tools could improve to better meet the needs and preferences of their users. This aligns with the findings of Pandita and Kiran, reinforcing the critical role of well-designed interfaces in the success of educational technology. The study's findings highlight the importance of prioritizing user-friendly and interactive design in digital storytelling tools to maximize their educational impact. By focusing on these aspects, developers can create tools that not only engage students but also facilitate more effective and enjoyable learning experiences.

Participants used various adjectives to describe their experiences with the digital storytelling tools, shedding light on their perceived strengths and weaknesses. Positive adjectives such as "creative," "dynamic," "interesting," and "fun" were frequently mentioned, indicating that the tools effectively foster creativity and engagement. Additionally, terms like "useful," "easy," and "simple" highlight the practicality and user-friendliness of the tools. These descriptors suggest that the digital storytelling tools are successful in making the learning process engaging and accessible for students.

Conversely, negative adjectives such as "frustrating," "difficult," "complicated," and "not intuitive" were also noted, pointing to significant usability issues. These findings suggest that while the tools have many positive attributes, there is a need for improvement in making them more user-friendly and reducing their complexity to ensure that all students can use them effectively without frustration. Addressing these concerns is critical to maximizing the educational benefits of digital storytelling tools. These findings are echoed in studies by Novak et al. (2014), who emphasized that various factors contribute to student frustration with digital learning tools. They identify extraneous cognitive load—stemming from technical issues and poor digital interface design—as a significant predictor of frustration. Conversely, high motivation and comfort with digital tools reduce frustration, emphasizing the need for engaging, well-designed content and user-friendly interfaces.

Addressing cognitive and motivational factors is crucial for improving the digital learning experience. For educators and developers, this means focusing on creating intuitive, user-friendly interfaces and ensuring that the tools are accessible and engaging for all users. By doing so, they can enhance student satisfaction and performance, ultimately making digital storytelling tools more effective in educational settings. While digital storytelling tools are highly regarded for their ability to foster creativity and engagement, there is a clear need to improve their usability. By addressing the issues highlighted by participants and supported by research, developers can create more effective and user-friendly educational tools that reduce frustration and enhance the overall learning experience.

When asked whether the digital tool was difficult to use, 73.61% of participants disagreed, indicating they did not find the tool challenging. Conversely, 26.39% of participants agreed that the tool was difficult to follow. This suggests that while most users did not experience significant difficulties, a notable portion still encountered challenges, highlighting areas where usability improvements could be beneficial. This is particularly relevant for Storyboard That, which had the highest percentage of participants finding it difficult to follow. These results align with the findings of Pan et al. (2005), who identified a causal relationship between the perceived ease of use of digital tools and students' ability to effectively use online systems for learning. Ensuring that digital tools are easy to navigate, and use is critical for their adoption and effectiveness in educational settings. Developers should focus on simplifying interfaces

and providing comprehensive tutorials to reduce the initial learning curve, thereby enhancing the overall user experience and the educational impact of these tools.

The perception of digital tools' ability to enhance storytelling was overwhelmingly positive. A substantial majority (82.19%) of participants agreed that these tools aid in the storytelling process, underscoring their effectiveness in improving users' storytelling abilities. However, a minority (17.81%) disagreed, indicating that some users do not perceive the tools as beneficial. These insights highlight the tools' overall positive impact on storytelling while also pointing to areas for improvement to address the concerns of dissenting users. This positive perception aligns with Foelske's (2014) findings on how digital storytelling influences student learning in various educational settings. Foelske's research reveals that digital storytelling significantly enhances student engagement and motivation by making learning interactive and student-centered. This approach not only improves traditional literacy skills but also incorporates digital, visual, media, and information literacy, which are crucial for 21st-century education. Students who create digital stories are better able to organize their thoughts, improve their writing, and gain confidence. Moreover, digital storytelling helps students contextualize and understand academic content more effectively, making subjects more engaging and relevant. The study underscores the importance of integrating digital storytelling into the curriculum to foster essential skills such as critical thinking, creativity, collaboration, and communication. It also calls for professional development to help educators implement this method successfully. By addressing the areas where some users find the tools less beneficial, educators and developers can further enhance the efficacy of digital storytelling tools, ensuring they meet the diverse needs of all students and fully capitalize on their educational potential.

Participants' insights on learning effectiveness were highly favorable towards digital tools compared to traditional methods. An overwhelming majority (93.06%) of participants agreed that they learn more effectively with digital tools, highlighting a strong preference for digital learning methods. Only a small minority (6.94%) disagreed, suggesting that few participants find traditional tools more effective. These results underscore the significant impact and perceived benefits of digital tools in enhancing the learning experience. These findings are corroborated by recent research by Rafiq et al. (2024), which examined the impact of digital tools on learning outcomes, student engagement, and academic performance in higher education. The results indicated a generally positive perception of digital tools among students, highlighting their effectiveness in enhancing educational experiences. This aligns with previous studies that emphasize the benefits of interactive and feedback-oriented digital learning approaches (Smith & Ragan, 2005; Means et al., 2009). The consistency of these findings across different studies underscores the significant role that digital tools play in improving educational outcomes and student engagement.

The preference for digital tools can be attributed to several key factors. Interactive features, real-time feedback, and the ability to personalize learning experiences make digital tools highly engaging for students. These tools often incorporate multimedia elements that cater to various learning styles, thus enhancing motivation and participation. The flexibility and convenience of accessing learning materials anytime and anywhere also contribute to their effectiveness, accommodating diverse schedules and learning preferences. Furthermore, the integration of digital tools in education promotes a more student-centered learning environment. By allowing students to learn at their own pace and tailor their educational experiences to their individual needs, digital tools help foster a deeper understanding of the material. This personalized approach not only improves traditional literacy skills but also enhances digital, visual, media, and information literacy, which are crucial for 21st-century education.

Digital tools were also perceived positively in terms of fostering a relaxed and collaborative team environment. An overwhelming majority (94.44%) of participants agreed that these tools help them feel more relaxed with their teammates compared to traditional activities. Additionally, 94.37% of participants agreed that all teammates worked equally during digital activities, suggesting a fair and balanced teamwork environment. These findings underscore the effectiveness of digital storytelling tools in promoting a collaborative and equitable team dynamic. These results are consistent with the findings of Smeda et al. (2014), who noted that digital storytelling is a powerful tool for enhancing engagement, collaboration, and learning outcomes. Their research supports the idea that digital storytelling facilitates constructivist learning and can be effectively integrated into various educational contexts. The study demonstrates that digital storytelling not only enhances individual student skills but also fosters a collaborative and supportive learning environment, making it an effective pedagogical tool for modern education.

The positive impact of digital tools on team dynamics can be attributed to several factors. The structured and transparent nature of digital platforms allows for clear visibility into each member's contributions, promoting accountability and equal participation. Features such as real-time collaboration, task management systems, and communication tools enable seamless teamwork, making it easier for students to coordinate and collaborate effectively. Additionally, digital tools often provide a flexible environment that accommodates different learning styles and schedules, reducing stress and enhancing relaxation among team members. This flexibility can help mitigate some of the social pressures and anxieties associated with face-to-face interactions, allowing quieter or more introverted students to participate more confidently.

The results of this study clearly indicate a strong preference for Storyjumper due to its user-friendly interface, interactivity, and comprehensive feature set. However, significant usability issues with Storybird and Storyboard That suggest a need for interface simplification and better onboarding processes. Expanding free resources, enhancing collaboration features, and providing robust support and training can further improve these tools. Addressing these areas based on user feedback can lead to a more inclusive and effective digital storytelling experience, ultimately enhancing learning outcomes and user satisfaction.

Despite the valuable insights gained, this study has several limitations that need to be addressed. The sample size, while sufficient for initial insights, may not be large enough to generalize the findings across different educational contexts. Future research should consider a larger and more diverse sample to validate these findings. Additionally, the study relied on self-reported data, which can be subject to biases such as social desirability bias. Incorporating objective measures of tool usage and effectiveness could provide a more balanced view. Furthermore, the study did not explore long-term impacts on learning outcomes, which could be a valuable area for future investigation. Longitudinal studies examining how sustained use of digital storytelling tools affects academic performance and skill development would offer deeper insights.

5. Conclusions

This study highlights the significant impact of digital storytelling tools on enhancing EFL students' writing skills, engagement, and overall learning experience. The strong preference for Storyjumper among participants underscores the importance of user-friendly and interactive digital tools in fostering a productive learning environment. The features that make Storyjumper particularly appealing include its intuitive interface, interactive elements, and comprehensive feature set, which collectively enhance students' ability to create and share

stories effectively. While each digital storytelling tool has its unique strengths, addressing the identified challenges and implementing suggested improvements can further optimize their use and effectiveness in educational settings. For example, Storybird and Storyboard That could benefit from interface simplification and enhanced onboarding processes to make them more accessible to all users. Expanding free resources and enhancing collaboration features would also make these tools more attractive and functional.

Digital storytelling not only boosts students' motivation and confidence in writing but also promotes a collaborative and engaging classroom atmosphere. These tools facilitate the development of essential 21st-century skills, including technical, presentation, research, and organizational abilities, while also enhancing multimedia literacy and cultural identity. By addressing usability challenges and incorporating user feedback, educators and developers can create more effective and engaging learning experiences that cater to diverse student needs. The benefits of digital storytelling extend beyond individual skill enhancement. These tools support a constructivist approach to learning, where students actively construct their knowledge through engaging and meaningful activities. This approach not only improves traditional literacy skills but also fosters critical thinking, creativity, and collaboration. The interactive nature of digital storytelling allows students to experiment with different media and formats, thereby broadening their understanding and appreciation of various narrative techniques.

Future research should continue to explore the long-term effects of digital storytelling and investigate the integration of alternative digital tools to further enhance educational outcomes. Longitudinal studies could provide deeper insights into how sustained use of digital storytelling tools impacts academic performance and skill development over time. Additionally, exploring the integration of emerging technologies, such as virtual and augmented reality, could open new avenues for creating immersive and interactive learning experiences. By doing so, educators can create a more dynamic, inclusive, and effective learning environment that prepares students for the demands of the 21st century. Ensuring that digital tools are accessible and engaging for all students is crucial for maximizing their educational potential. This involves not only refining the tools themselves but also providing adequate support and training for educators to effectively integrate these technologies into their teaching practices.

In summary, the study provides valuable insights into the advantages of digital storytelling tools and the areas requiring improvement. By leveraging these insights, educators and developers can significantly enhance the educational experience, making learning more interactive, inclusive, and effective for EFL students. The ongoing development and refinement of digital storytelling tools, coupled with robust research and feedback mechanisms, will ensure that these tools continue to evolve and meet the needs of modern education.

6. References

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