

Digital Storytelling as a Catalyst for Vocabulary Growth: Evidence from Iranian EFL Beginners

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ARTICLE INFO	ABSTRACT
<p>Article History: Received: November Accepted: February</p>	<p>Vocabulary is a foundation of language learning, yet traditional instruction mostly relies on old-fashioned rote memorization, which tend to inspire disengagement and low retention, especially among beginners. Integrating technology into teaching provides opportunities for more interactive and meaningful learning experiences. It enables learners to participate in more engaging and purposeful educational activities. Therefore, this study aims to investigate the effect of digital storytelling on Iranian beginner-level EFL learners' vocabulary scores. The research used a quantitative quasi-experimental design with 60 beginner learners in Mashhad. First Friends 2 sourcebook, PowerPoint slides, and Aparat-based story videos were used as instructional materials. Data were collected through a standardized test and analyzed using SPSS running Mann–Whitney U test. Findings showed that learners in the experimental group generally outperformed those in the control group, with no significant difference regarding their gender. The findings offer insight into the incorporation of technology-assisted storytelling in the EFL context to foster interactive ways for beginner learners' multimodal learning.</p>
<p>KEYWORDS Digital storytelling EFL learners Vocabulary learning Technology</p>	

1. Introduction

Language facilitates humans to communicate with each other, sharing opinions, feelings and experiences. There are thousands of languages spoken around the world, and every country has a national language as well as regional or minority dialects. Today, in our increasingly globalized world, it is a fact that English has become the lingua franca among international speakers. It was once used only for communication among countries, but it has now become the language of international business, science, academia, and even the Internet (Ilyosovna, 2020): "English is the world's lingua franca. With the growing importance of effective communication across national and cultural borders, given increasing globalization, knowing how to speak, listen, read and write in English is not only a prerequisite but also an important determinant for academic, professional and societal success. Therefore, proficiency in English grants learners' access to a wide range of online resources, global news, and cultural products, as well as the ability to engage in cross-cultural dialogue.

Among the components of language learning, vocabulary is widely recognized as a basis of language proficiency, supporting the development of reading, writing, speaking, and listening skills (Ali Mansoor et al., 2023; Ghahreman et al., 2021; Golabi, 2022; Siminto, 2023; Teng, 2023; Zarei & Ghabanchi, 2022). Vocabulary knowledge enables learners to comprehend messages and express their

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own ideas effectively, making it a central focus of language instruction. However, vocabulary instruction remains a persistent challenge for many EFL teachers. Educators often face difficulties in identifying appropriate instructional strategies, and many rely on outdated, rote-learning methods that fail to promote deep retention and contextual usage (Alqahtani, 2015).

Besides, teaching vocabulary to children requires further considerations compared to teaching adults. Young learners learn language best when they are engaged and using all their senses not with the rules of grammar or long boring word lists. explicit grammar rules result in disconnection between the individual and context, which could cause learners to become less engaged and recall fewer vocabularies. Therefore, novel learner-centered strategies incorporating visual and auditory inputs like technology enhanced learning are being promoted to overcome such hurdles in education (Alqahtani, 2015). Thus, technology use in education has revolutionized language teaching methods. From the early use of audiovisual devices including film and radio to current computer-assisted language teaching (CALT), educational technology has developed in a way that assist both teachers and students to use authentic materials, empower learner autonomy, and generate interactive learning contexts (Mansourzadeh, 2014; Schacter, 1999 as cited in Hermagustiana & Rusmawaty, 2018). Thus, digital storytelling (DST) has become one of the most promising strategies in this technological evolution. It incorporates traditional narrative techniques with multimedia, including images, video, animation, and audio narration, to introduce language in meaningful, contextualized forms (Hull & Nelson, 2005; Tsalgini, 2019).

It has been reported that video storytelling promotes learner engagement, vocabulary learning, and creates emotionally engaging contexts for memory retention (Belda-Medina & Goddard, 2024; Tajeri et al., 2017). It also provides multimodal learning to suit a range of learning styles, which does not just improve vocabulary but also listening, speaking, and digital skills (Wu & Chen, 2020, as cited in Belda-Medina & Goddard, 2024). Yet, though these reported writings are effective to some extent, there is still a lack of empirical study that targets novice EFL learners who might need more supportive and targeted assistance.

Therefore, the following research intends to examine the effect of DST on the vocabulary learning of novice EFL learners in Iran. By examining its effectiveness compared to traditional methods, the study aims to provide evidence-based recommendations for integrating DST into language teaching practice, potentially informing curriculum design, teacher training, and the development of engaging instructional materials for young learners. Accordingly, the study aims to answer the following research questions:

RQ1: Does the use of digital storytelling impact the vocabulary learning of Iranian beginner-level EFL learners?

RQ2: Is there a significant difference in vocabulary learning between male and female Iranian beginner-level EFL learners?

2. Review of Literature

Vocabulary is a cornerstone of language learning, forming the basis for reading, writing, speaking, and listening skills. Without sufficient vocabulary, learners cannot effectively comprehend input or produce meaningful output, which makes vocabulary mastery essential for successful communication (Alqahtani, 2015). Vocabulary learning can occur incidentally through exposure to language in meaningful contexts or explicitly through structured instruction (Hulstijn, 2005). For young EFL learners, incidental learning that mirrors first language acquisition—through interactive, engaging, and sensory-rich experiences—often results in deeper retention. In this way, teachers employ a range of techniques to teach vocabulary, including realia, drilling, elicitation, flashcards, and mime or gestures. These strategies help link new words to concrete images or actions, making them easier to remember. Context clues, visual supports, and multimedia resources can further aid understanding, especially when learners are encouraged to deduce meanings themselves (Dubin, 1993, as cited in Susanto, 2017). In recent years, the integration of technology into these techniques has become increasingly important. Research shows that storytelling, one of the oldest forms of teaching, offers a natural and engaging way to present vocabulary within meaningful contexts. It provides comprehensible input that is slightly beyond the learner's current level, in line with Krashen's Input Hypothesis (1987, as cited in Özdemir,

2015). Stories stimulate imagination, evoke emotional connections, and allow learners to encounter new vocabulary in authentic situations, enhancing both motivation and retention (Soleimani & Akbari, 2013; Gonzalez, 2010, as cited in Moon & Maeng, 2012).

Another study by Behforouz and Al Ghaithi (2025) investigated the effect of digital storytelling on improving the vocabulary breadth and depth of undergraduate students. A total of 40 Omani intermediate-level English as a Foreign Language (EFL) learners from a higher education institution were randomly assigned to either a control or an experimental group, each comprising 20 participants. Both groups completed the Updated Vocabulary Level Test (adapted from Webb et al., 2017) and the Word Associate Test (adapted from Read, 1998) before and after the intervention. During the study, the experimental group engaged in creating digital stories using various multimedia tools. Results indicated that the experimental group showed significant improvement in vocabulary acquisition, reflecting a substantial increase in their vocabulary range. Additionally, these students exhibited enhanced understanding and usage of the new words, indicating strengthened lexical skills. The findings highlight the effectiveness of digital storytelling as a valuable digital method for vocabulary learning in EFL contexts. These outcomes offer useful insights for both educators and learners.

Building on these benefits, a substantial body of research affirms the effectiveness of DST in supporting vocabulary acquisition across different age groups, proficiency levels, and learning contexts. In primary and elementary settings, DST has consistently been shown to boost vocabulary learning and engagement. For example, Belda-Medina and Goddard (2024) demonstrated that collaboratively produced, inclusive digital stories improved children's vocabulary while enhancing digital literacy and critical thinking. Similarly, Hamdani et al. (2022) reported that integrating DST in 5th-grade classes provided learners with opportunities to use new vocabulary across multiple skills, leading to measurable improvement. Studies focusing on even younger learners, such as Prongkitsanuluck et al. (2022) and Tridinanti (2018), confirmed significant vocabulary gains in kindergarten-aged children, with the former noting a preference for song-animation formats over story animations.

Research in middle and secondary education has also produced positive results. Sembiring and Simajuntak (2023) found that DST significantly outperformed traditional instruction in vocabulary development among seventh graders, while Wibowo et al. (2024) and Anggara (2023) reported gains in junior high school learners' vocabulary mastery through storytelling-based methods. Even when improvements were modest, as in Malek (2023) and Çelik Kızılkaya (2023), learners expressed positive attitudes toward DST, citing its engaging and enjoyable nature. These findings highlight the motivational impact of DST, which is often as important as its direct linguistic benefits.

Several studies have examined DST in higher education and adult learning contexts. Nami and Asadnia (2024) found that collaborative learner-generated digital stories among undergraduate EFL students promoted retention, personalization, and cognitive-affective engagement with vocabulary. Akdoğan (2023) similarly reported significant vocabulary and reading skill gains among adult EFL learners, with participants valuing DST as an innovative alternative to traditional assessments. Broader multimedia-based interventions, such as the one conducted by Qizi (2025), confirmed that technology-enhanced learning environments significantly improve language outcomes compared to conventional methods.

DST has also shown notable benefits for specific learner groups and special contexts. Barakat and Hamed (2023) demonstrated substantial vocabulary improvement in primary school pupils with learning disabilities through DST, while Har et al. (2019) identified multiple advantages and limitations of tablet-based DST for young ESL learners, offering practical implementation guidance. During the COVID-19 pandemic, DST proved to be a flexible and motivating tool for remote learning, as evidenced in Rajendran and Yunus's (2021) review of recent studies.

To summarize, these studies indicate that DST is not only an effective medium for vocabulary acquisition but also a catalyst for learner engagement, creativity, and confidence. By embedding vocabulary within meaningful, multimodal narratives, DST supports both linguistic and affective aspects of language learning, making it a promising strategy for diverse EFL contexts—including beginner-level learners in Iran, where empirical research remains limited.

3. Method

3.1. Participants and Setting

This study investigated the effectiveness of digital storytelling in teaching English vocabulary to third-grade students at a private school in Mashhad during the 2025 summer semester. The research involved four intact classes: two control groups (male and female groups) were taught with traditional methods, and two experimental groups (male and female groups) were taught using digital storytelling techniques. The participants were 60 beginner English language learners from an institute in Mashhad selected as convenient sampling. They were native Persian speakers aged 9 and 10.

3.2. Instrumentation

To evaluate the treatment's effectiveness, this study utilized a standardized tests designed and validated by the Language Institute as the final exam. The test measured four key skill areas: vocabulary development, spelling (letters and words), reading, and listening. It includes six matching items, six fill-in-the-blank items, two parts for reading, and one question to write the initial sound of words. The allocated time for students to answer the test is 50 minutes. However, the focus of this study is on the vocabulary and spelling parts. The reliability and validity of the test were verified by the Language Institute's English department head.

3.3. Procedures

Explain the procedure in detail.

To study the effectiveness of digital storytelling in teaching English vocabulary, the researchers divided the participants into four groups: two control and two experimental groups. All classes consisted of 29 sessions over 10 weeks, with 3 sessions per week. Each session was 75 minutes long and followed the same curriculum. Given that the students progressed to this level after successfully completing the previous one—including passing a final examination—it was assumed that they possessed a relatively uniform level of proficiency. In the control groups, the teacher began the class by writing the alphabet on the board to prepare the students' minds, and the students repeated the letters with the teacher. Then, the words taught in the previous lesson and examples of the alphabet letters covered in the last session were reviewed through an activity or game. For example, to teach the letter "H," the teacher used the following examples: hat, horse, hole, help, hammer, hair, head, hand, happy. After that, the teacher used flashcards on the board. Next, she told a creative story to teach this letter using the mentioned words, incorporating the sounds of the letter within the story. Afterward, the students repeated the words, and the teacher wrote different words on the board to familiarize the students with the sound of the letter in various words. The teacher then drew four lines and taught how to write the letter, and the students practiced writing the letter and related words in the exercise book designed by the school's supervisors. The teacher monitored the writing and asked each student about the words to ensure their understanding of the letter "H" (Hh) and its examples. Finally, she checked the students' homework and explained the assignments for the next session.

Besides, the experimental groups experienced a digital storytelling approach. Students watched letter-specific video stories and animated writing guides, saw PowerPoint slides with multiple image examples for each letter, and learned through story songs. At the beginning of each session, a video of the alphabet is played, and the students practice it. Then, the words and letters of the alphabet taught in the previous session are practiced through an activity or game. To introduce the new letter, for example, the letter "H," a story video downloaded from the Aparat platform is played, which includes various examples of this letter and features a story. The teacher then plays it again for better understanding. After that, to familiarize the students with the writing of the letter, another video is shown, and the students watch carefully, memorizing the movements with the help of the teacher and repetition. After repeating and practicing them, the students practice writing the letters and related words in the exercise book designed by the school's supervisors, and the process continues as planned with the control group. The study compared these two teaching approaches in male and female control and experimental groups to determine which better helped students' vocabulary development. Finally, the post-test was administered to measure and compare the students' progress.

3.4 Design and Data Analysis

Since the research involved four intact groups of 15 students, the study followed a quantitative quasi-experimental research method. The researchers formed four groups so that both male and female students were represented in the control and experimental conditions. The independent variable is the method of vocabulary teaching, while the dependent variable is the students' vocabulary scores.

Data was analyzed using SPSS software (version 24). Various quantitative analyses were conducted, including preliminary assessments of test reliability and data normality. Independent-samples t-tests were performed to examine the effectiveness of the treatment and also gender-based differences in students' vocabulary scores.

4. Results

Preliminary analyses were conducted to examine the characteristics of the data prior to testing the research hypotheses. As shown in Table 1, descriptive statistics indicated that participants' vocabulary scores ranged from 55 to 100, with a mean of 91.90 (SD = 9.92). The sample included 60 learners, evenly divided into experimental and control groups, as well as male and female participants. Tests of normality using both Kolmogorov–Smirnov and Shapiro–Wilk revealed significant results ($p < .001$), suggesting that the data were not normally distributed. Consequently, non-parametric analyses were used. The reliability of the vocabulary test, assessed through Cronbach's alpha, was .74, indicating satisfactory internal consistency.

Table 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Scores	60	55	100	91.90	9.920
Groups	60	1	2	1.50	.504
Gender	60	1	2	1.50	.504

For Research Question 1, which examined the effect of digital storytelling on vocabulary learning, the Mann–Whitney U test (Table 2) was applied to compare the experimental and control groups. The results showed a statistically significant difference between the two groups ($U = 299.000$, $Z = -2.23$, $p = .02$). The experimental group that received digital storytelling instruction obtained a higher mean rank ($M = 35.53$) compared to the control group ($M = 25.47$), indicating superior vocabulary performance among learners exposed to digital storytelling.

Table 2
Mann-Whitney U Test

	Scores
Mann-Whitney U	299.000
Wilcoxon W	764.000
Z	-2.237
Asymp. Sig. (2-tailed)	.025

Besides, to answer the second Research Question 2, which explored possible gender differences in vocabulary learning outcomes, another Mann–Whitney U test was performed. The results showed no statistically significant difference between male and female learners ($U = 424.000$, $Z = -0.38$, $p = .70$). Although females had a slightly higher mean rank ($M = 31.37$) than males ($M = 29.63$), this difference was not significant, suggesting similar performance across genders.

5. Discussion

The findings of the present study showed that digital storytelling significantly improved vocabulary learning among Iranian beginner-level EFL learners. Participants who received instruction through digital storytelling outperformed those in the traditional teaching group, as evidenced by the

significant Mann–Whitney U result. These findings support the notion that digital storytelling provides a more engaging, contextualized, and meaningful learning experience that enhances vocabulary retention and comprehension. The results are consistent with prior studies, such as those by Sembiring and Simajuntak (2023) and Barakat and Hamed (2023), which demonstrated that integrating digital storytelling in language instruction effectively promotes vocabulary development and learner motivation. According to Banoth and Muthyala (2025), DST helps students' vocabulary learning in an effective way. Also, it supports long-term retention of newly learned lexical items. In addition to academic benefits, this approach enhances learner engagement and interest in order to language study.

In line with previous findings, Maya et al. (2022) reported that young EFL learners agreed that DST not only enhanced vocabulary growth, but also boosted their motivation and enabled them to engage more deeply with meaning. Furthermore, Pratiwi et al. (2025) found that digital storytelling is an engaging, motivating, and effective strategy for teaching vocabulary in early childhood, even when only basic technological tools that are used.

The findings of Farooq and Hussain (2025) indicated that digital storytelling facilitates implicit vocabulary learning by providing language in meaningful contexts, which helps learners with retention and engagement. Their results also support its benefits for curriculum design, language teaching, and teacher education within a learner-centered approach. Moreover, studies by Behforouz and Al Ghaithi (2025) and Rahayu and Ramdan (2023) showed that most students viewed digital storytelling as beneficial for vocabulary improvement and that it promoted active participation and engagement during class activities and tasks.

The findings also showed the lack of a significant gender difference among participants, which suggests that both male and female learners benefited similarly from digital storytelling and traditional instruction. This finding indicates that the pedagogical effectiveness of digital storytelling is not influenced by gender at the beginner level of English proficiency. The outcome aligns with Tsalgini (2019), who also found minimal impact of gender on vocabulary learning when using digital storytelling.

Overall, the study's findings highlight digital storytelling as an effective and inclusive instructional approach for enhancing vocabulary acquisition among EFL learners, providing empirical support for its implementation in language classrooms.

6. Conclusion

This study set out to explore the impact of digital storytelling on vocabulary acquisition among beginner-level Iranian EFL learners, as well as to investigate potential differences in learning outcomes based on gender. The findings can provide empirical support for the effectiveness of digital storytelling as a valuable pedagogical tool in language learning contexts, particularly in vocabulary instruction. By integrating visual, auditory, and textual elements, digital storytelling offers a multimodal learning experience that caters to diverse learning styles and promotes deeper cognitive engagement with language materials.

Therefore, from a theoretical perspective, the study reinforces the principles of multimodal learning and Computer-Assisted Language Learning (CALL) by demonstrating how technology-enhanced storytelling can facilitate meaningful vocabulary acquisition among novice learners. The combination of multimedia elements within digital stories enables learners to contextualize new vocabulary within narrative frameworks, thereby improving retention and application beyond rote memorization. This supports the idea that language learning is most effective when embedded in meaningful, authentic contexts—a notion aligned with Mansourzadeh's (2014) emphasis on fostering deep rather than superficial engagement through technology. Besides, from a practical perspective, the study highlights that for teachers working with young or beginner-level EFL learners, digital storytelling offers an innovative and motivating approach to vocabulary instruction. The use of digital storytelling transforms the traditional classroom environment by shifting from passive memorization toward active, creative language use. It encourages learners to engage with vocabulary dynamically through story creation, multimedia interaction, and peer collaboration. Moreover, the study's findings emphasize the need for professional development programs that enhance teachers' digital literacy, enabling them to effectively implement digital storytelling tools and design narrative-based learning activities, which may also lead to teachers' confidence, too.

In terms of gender-related differences, the study's results shed light on whether male and female learners benefit equally from digital storytelling as a vocabulary learning tool. While no significant gender differences were observed in vocabulary outcomes, this finding suggests that digital storytelling can serve as an inclusive instructional strategy, accessible and beneficial to all learners regardless of gender, thus supporting equitable language learning opportunities.

In conclusion, the present study demonstrates that digital storytelling is a powerful, flexible, and inclusive instructional strategy for vocabulary development among beginner-level Iranian EFL learners. It offers practical insights for educators, curriculum planners, and policymakers aiming to enhance language instruction through technology. By moving beyond traditional rote memorization methods, digital storytelling creates engaging and meaningful learning experiences that align with contemporary educational goals.

Despite the valuable findings, the present study is not without limitations. First, the sample size was small and limited to beginner-level Iranian EFL learners, which may restrict the generalizability of the results to learners at other proficiency levels or educational contexts. Second, the duration of the intervention was relatively short. Additionally, the study focused solely on vocabulary acquisition, while other language skills, such as speaking, writing, or reading comprehension, were not addressed. Future research could address these limitations by employing larger and more diverse samples, extending the intervention period, and exploring the impact of digital storytelling on additional language skills to provide a more comprehensive understanding of its pedagogical potential.

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