



The impact of creating digital stories on attitudes to read English stories and retention levels among 4th grade students

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Abstract:

The aim of this study is to identify the impact of creating digital stories (DS) on fourth grade students' attitudes towards reading English stories and to study its impact on the retention of a story events and the vocabulary of the story. To achieve this purpose, the researcher used a questionnaire composed of 20 items distributed to 20-female fourth grade students to measure their attitudes. The questionnaire was used twice, before and after the implementation of the study; for both the experimental and control groups. The researcher also used an exam composed of 7 different questions to measure the retention degree of the events and the vocabulary of the story. This study was conducted during the first semester of the scholastic year 2024-2025. The researcher used different statistical procedures which fit the collected data. The results of the study revealed that there were significant differences in attitudes and retention towards reading English stories in favor of the experimental group students due to creating digital stories. Based on the results, the researcher recommends the following: First, teachers are requested to use digital stories and encourage students create their own digital story to give students a chance to understand and better retrieve story events and vocabulary, so as to make reading English stories favorable for them and let them have positive attitudes towards it. Second, teachers are required to attend educational courses to learn programs that would help them create a digital story with attractive and influencing factors. They might also cooperate with technology teachers to learn the needed technology that might help them create a digital story. Third, teachers are required to encourage students use the technology they know or that a teacher trains them so to create their own

digital story; no matter how simple or complex the product could be.

Keywords: Digital storytelling (DST), Digital Stories (DS), Audio-Visual storytelling, Motivation, Retention, Multimedia tools, English as a Foreign Language (EFL), Storytelling Narrated Videos (SNV).

1. Introduction

Using stories in teaching is an old method that was there since the beginning of creation. People have used storytelling to teach skills and provide values, relying on the oral method of transferring and exchanging knowledge, which is a fun and influential method. Over the last few years, and with the introduction of technology in education, the popularity of digital storytelling (DST) rather than just reading normal print stories has increased dramatically; stories have evolved from oral or even paper stories into digital stories. Furthermore, and during the last years, there had been a huge leap in the educational system, where many terms were introduced and became a basic concept within this system. One of those terms that became strongly present was the term “*Digital Storytelling*”. So, what does this term mean? How could it be integrated within the educational system? And does it really have effective and positive results on students’ retention and attitudes towards learning or not?

It is claimed that Ken Burns was the first to introduce the idea of digital storytelling (DST), and this was used while telling the stories of the Civil Wars in America, where he used narrative, archival photographs, and audiovisual effects to embody that tragic event in the history of that country, (Ghnaim, 2019). To better understand DST many institutions and researchers defined the term of a digital story. For instance,

Monash University (2024) defined it as being a “multimodal digital presentation, which combines a variety of elements within a narrative structure – a story”. They added that Modes of storytelling may include a combination of linguistic, visual, auditory and gestural elements. In conclusion, digital stories are tales that contain sounds, music, and still or moving images. Which is more engaging for students in general and young learners in particular; this is what gave digital stories an effective role in the educational process; by employing media rich in audiovisual stimuli. That’s why some educators call it *Audio-Visual* storytelling, (Monash University, 2024).

Studies proved that Digital storytelling could be beneficial and have a significant effect on the learners, especially those who are taught to create their own digital stories. As they have the opportunity to look for pictures by their own, record their voice and act out the story, (Alismail, 2015). This is in accordance with what Sadik stated in his research, as he claimed that “the greatest benefit in the classroom may be found when students are asked to create their own digital stories, either individually, or as members of a small group”, (2008).

Moreover, Robin (2008) asserted that educators should use digital storytelling if they really want to support their students’ learning, where he thinks that this is a good way in which they can organize and express their ideas and knowledge individually and in a meaningful way. In addition, DST gives teachers a fabulous way while using with students, where students become active learners in the educational process, and using digital storytelling gives students the opportunity to collaborate, use problem solving, critical thinking skills, analyze and even evaluate their own work while being engaged in the classroom activities; which in turn increases motivation and retention amongst students, (Foelske, 2014).

2. Why digital storytelling?

Considering the main aim of this study, it is important to highlight two significant terms; motivation and retention. According to the researcher, and as teachers may conclude, students at the fourth grade level are difficult to motivate when it comes to reading print stories in English. It is also noted that students have low retention levels regarding what they read, and this is shown when they are asked to summarize or retell a story they have already read. That is why this study aimed to increase students' motivation level in reading English print stories through technology and the use of DST, and to make it even more motivating; creating their own digital story. Assuming that this motivation would result in increasing retention by default. In particular, the researcher aimed to study the degree of the increase in students' motivation level, desire and enjoyment while reading English stories, and study the degree of retention when creating digital stories by themselves.

The choice of digital stories was, as the researcher anticipated, that it would motivate students as they become the creators of the story rather than just normal readers, drawing and coloring images, adding music, re-writing the text, using their own voices, communicating with each other and their teacher, collaborating and working in groups and by themselves and addressing audience.

In conclusion, videos, audio and images are now one of the primary ways of communication, moving people from the traditional ways of communication into the digital world. Therefore, it was decided to motivate students and increase retention by using this technological development; *digital storytelling*.

3. Literature Review

3.1. What is digital storytelling?

As a start, to define digital storytelling, we should first consider traditional storytelling. When storytelling appeared it was due to the need to share information, such as information about the environment, wildlife, sources of food, survival information, etc. Later on, this expanded to include history, tradition, and cultural mythology. The resulting narratives were shared by storytellers who helped to preserve them, (Barber, 2016). Later on, stories became digitalized; technologies were integrated to tell short stories, using text, pictures and sounds that are combined to create attractive presentations. Hence, the term “*digital storytelling*” appeared. This term was first used in the mid-1990s, and since then it started to be used widely as a participatory approach enabling people from different backgrounds create and share short *audio-visual* narratives, (Davis, Waycott & Schleser, 2019).

To conclude, we can define storytelling to be one of the essential aspects of human communication that has been used for centuries to pass on knowledge and experiences from one generation to another, where stories proved to pull people’s attention and raise their emotional feelings, making storytelling a powerful tool for conveying information and thoughts, (Ginting et al, 2024). While a digital story has many definitions “but they all coincide in pointing out that digital stories combine traditional means of telling a story with different types of digital multimedia: images, audio, and video (graphics, text, recorded audio narration, video and music) to present information on a specific topic”, (Signes, 2008).

3.2. Motivation

Why do we need to use digital stories? And why not using traditional oral or even print stories? Robin (2006) argued that

using and creating digital stories can generate interest, increase attention and motivation for students who he named a "*digital generation*"; as this is a technology-connected generation. If one wants to reach their minds, we need to address their interests. This claim is in accordance with what Lazar et al (2020) reported in their study, as they stated that both teachers and students nowadays belong to a new generation different than teachers and students before, this generation prefers using different and modern resources and tools that are mostly technology oriented. Furthermore, a study conducted at a Korean school using DST to teach English revealed that DST made students more engaged, motivated and even more confident in the content of the story and the use of English language. In this study, students strongly agreed that DST made them more engaged in the content of a story; DST offered them a more fun and pleasant educational experience, and made them feel less worried with a more comfortable and enjoyable classroom atmosphere, (Yoon, 2013). In addition, Adara and Haqiyyah (2020), who conducted a study on some Indonesian EFL learners, stated that incorporating technology has a positive effect on improving students' motivation on learning English as a Foreign Language (EFL). They added that DST proved to be beneficial for improving students English skills and creativity and thus, it can be said that digital storytelling seems to have a tangible impact and positive effects on students' performance.

3.3 Retention

As defined by the dictionary retention is the "ability to retain things in mind", or the "preservation of the after-effects of experience and learning that makes recall or recognition possible", (merriam-webster,2019). In education, retention refers to students' ability to transfer the information they learned into their long-term memory so that they can recall the information

and knowledge they learned and use it in the future context when needed, (Ginting, 2024).

But does DST affect retention? The findings of a study that had been conducted at a university in Indonesia showed that students exposed to Storytelling Narrated Videos (SNV) had higher retention memory scores, as the storytelling videos with audio-visual effects enhanced understanding, and it also resulted into a more dynamic and memorable learning practices, (Ginting et al, 2024). Moreover, Ginting et al found out that students who watched digital stories could retain more information than those who had just read print stories, (2024).

This is in accordance with what Alismail (2015) has observed, he stated that researchers found out that the use of DST within the teaching process aids in the comprehension of difficult concepts and helps students retain most of the new information they learned. Adding that DST is as a bridge between the current knowledge students have and new material they are learning.

3.4 The impacts of watching digital stories

Alismail (2015) in his study concluded that DST motivates and engages students, due to the use of audio, video, sound effects and music, as these elements address the learners' senses; which as a result addresses the long-term memory and makes learning more entertaining; this means that it is motivating to use digital stories and that it also has an effect on future retention.

Additionally, Sadik (2008) stated that despite the difficulties teachers might face in using DST; the positive effects they find would outweigh the negative ones. Data suggested that DST enriched the learning environment and the curriculum. In addition, students' learning experiences were creative and showed high motivating. They related this excitement and

motivation to use the web, computers and cameras. Teachers also believed that DST has an effect on increasing students' understanding of the curriculum and improve their collaboration together. Students started helping each other more than before, communication skills have expanded within learners as students engaged in long term DST projects. His study revealed that there were almost no noted weaknesses when DST and a technology-oriented approaches were used.

3.5 The impact of creating digital stories

When the educator gives the learners the control enabling them to create, discover, practice and apply the obtained information; learners would become the designers, listeners, interpreters, readers, writers, and experts. (Kaya& Akpunar, 2018).

In their research, Choo et al (2020) found out that when creating a digital story, this addresses students higher order thinking; i.e. critical, creative, and reflective thinking. They linked that to the fact that when students become the authors, creators and producers of their own educational content; the product will be a result of deep understanding, synthesis of the story they are digitalizing, and evaluation of their own work. They added that this creation of a digital story enhanced students written, visual, and digital literacy. To sum up, this would motivate them in creating more digital stories, increase communication skills as a result of working together and with the teacher, help students become more organized in their thinking and giving them the chance to criticize their own work. Finally, DST creation can help in the acquisition of many skills, such as reading, writing and technology and communication skills.

In conclusion, learners are considered dynamic when they create their own work, as organizing and constructing own

educational content helps in retention of information and facilitates high control in remembering, storing and retrieving information, (Smeda et al, 2014).

4. Problem Significance

As no one can deny, world is changing rapidly and therefore technology is also evolving rapidly. That's why educators should keep up with these rapid technological developments in order to be able to produce high academic achievements with the learners, keeping in mind that integrating 21st century skills; is almost a must.

On the other hand, reading is also an important skill that students need while learning a language, where it helps them in the learning process, improves their fluency, increases their vocabulary and it is also considered as a means of gaining information or even just for entertainment. So, reading is one of the basic tools of learning a language, but unfortunately, understanding the text cannot be acquired by learners of a second or a foreign language without any interference, whether it was from the learners themselves or any outer interference. So, this understanding should be gradually developed using reading strategies, (Lalicic & Dubravac, 2021).

In addition, teachers should be aware of the fact that young learners at this grade level *-fourth graders-* have low motivation towards reading in a foreign language as they still don't have much vocabulary, this leads them to face many difficult words and new vocabulary which would result into losing the will to read as they would not enjoy what they read. Unfortunately, some teachers are unaware of the "effect that digital literacy and technology has on motivating students and improving literacy performance", (LoBello, 2024).

In this paper, the researcher would suggest a way to increase students' retention levels of a story, and to motivate students to

read English stories by themselves, and to help educators find a way to motivate those young learners and engage them in reading stories in a language rather than their mother tongue, reach learners' minds, and achieve their goals.

5. Purpose of the study

English as a foreign language (EFL) at public schools is mostly considered to be one of the areas that are difficult and low engaging, this builds a barrier towards students' motivation in reading English stories, where they find it difficult to understand, which in conclusion makes it boring and much less engaging than reading stories in Arabic (*mother tongue language*). This leads to low retention levels if students were asked to read a story. Maybe as teachers we are not completely aware of this, and we are not aware of the way we can motivate young learners to read, enjoy, retain and understand English stories. Yet, teachers should put into consideration the impact of motivation on children's overall performance.

6. Research questions

The following questions were asked:

Main Question

- To what extent does creating digital stories affect young learners' motivation and retention levels while reading English stories?

Sub-Questions

- How does creating digital stories impact students' interest in reading English stories?
- How does creating digital stories impact students' retention levels when reading English stories?

7. Study scope and sample description

This study was limited to 20-female fourth grade students at an elementary governmental school in Jerusalem city, to find out the impact of creating digital stories on their attitudes to read

English stories and on the degree of retention of the events and vocabulary of the story. A census sample method was used to select participants. The sample was equally divided between the experimental and the control group. Participants ranged in age from 9 to 10 years. These students were learning in the scholastic year 2024/2025. Data were collected from November to December 2024.

8. Hypotheses of the Study

Hypothesis 1: There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) in the mean scores of young learners' motivation in reading English stories due to creating digital stories.

Hypothesis 2: There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) in the mean scores of young learners' retention levels while reading English stories due to creating digital stories.

9. Methodology

The story selected for this study was chosen from a project for reading stories designed for fifth grade students and above by the British Council, (Bilbrough, 2016). However, the researcher decided to implement it with fourth grade students so that to see the results of digitalizing it on students' attitudes and retention levels.

9.1 population of the study

The population of the study consisted of fourth grade students at a governmental school in the city of Jerusalem, 20 girls who are studying at the first semester of the scholastic year 2024-2025.

9.2 Sample of the Study

The study sample consisted of a complete enumeration of the fourth grade students (20 female students); with 10 participants

assigned to the experimental group and 10 participants assigned to the control group.

9.3 Instrument

Data to measure students' attitudes were collected through a questionnaire, retention was measured using an exam. The questionnaire asked students about their attitudes towards reading English stories on the basis of three-point Likert scale. The questionnaire was presented to students at Al-Fataa School in Jerusalem before and after the creation of the DST for both the control and experimental groups.

To measure retention a post-test was given to both groups at the end of the study, the test consisted of 7 different questions measuring students' retention of the events and the vocabulary of the story.

9.4 Validity and Reliability of the Instrument

To validate the questionnaire, the researcher gave it to a PHD professor, some of the suggestions and modifications were incorporated into the questionnaire. The reliability (internal consistency) was explored using Cronbach's alpha (α). The Cronbach's α was (0.76) for the pre-questionnaire which gives it a good reliability. It was (0.90) for the post questionnaire which gives it an excellent reliability. This reliability makes the questionnaire instrument suitable for this study.

To validate the test, the researcher gave it to other English teachers and to an English supervisor who holds a master degree in teaching EFL, and they agreed that the instrument was suitable for this study.

9.5 Digital storytelling videos

In this study, digital storytelling was utilized to enhance students' engagement and retention. To facilitate this, two videos

were produced by students, and an additional video was created by the researcher (teacher) to guide students in their projects. Students in the experimental category worked in two groups. The first group decided to narrate the story themselves, they recorded their voices and added pictures that express the events of the story as a background for their voices, ([watch video 1](#)). The second video that students created was completely created using technological tools. Students chose the characters, the voices, and added the narrative dialogue, ([watch video 2](#)). Both videos were produced with the guidance of the teacher. The third video was a teacher-produced video that aimed to be a sample for students and to encourage them create their own videos, ([watch video 3](#)).

10. Statistical analysis and results

10.1. Results related to the main question:

“To what extent does creating digital stories affect young learners’ motivation and retention levels while reading English stories?”, To answer this question; the researcher studied the results of the sub-questions and those results answered the main question. The results revealed that DST had a positive effect on students’ attitudes and retention levels while reading English stories. These results are shown in more details within the following sections.

10.2. Motivation results

To answer the first sub-question of the study: “How does creating digital stories impact students’ interest in reading English stories?”, The researcher used t-test to analyze the data from both the pre and post questionnaires.

Table 1. T-test of the Differences among the Means of students' interest towards reading stories (Pre-Questionnaire)

	groups	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
means	Control Group	10	1.8100	.33066	.181	18	.858
	Experimental Group	10	1.7850	.28387	.181	17.597	.858

Table 1 shows that the means of students' interest towards reading stories depending on the Pre-questionnaire and before implementing the creation of DSs were (1.81) for the control group and (1.79) for the experimental group; ($t = 0.18$, $p = 0.86$). The results show that both the experimental and control groups are equivalent as alpha was ($\alpha \geq 0.05$). Thus, t-test was conducted for the post-questionnaire.

Table 2. T-test of the Differences among the Means of students' interest towards reading stories (post-Questionnaire)

	groups	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
means	Control Group	10	1.6200	.30930	-6.856	18	.000
	Experimental Group	10	2.4450	.22167	-6.856	16.316	.000

Table 2 shows that the means of students' interest towards reading stories depending on the post-questionnaire and after implementing the creation of DSs were (1.62) for the control group and (2.45) for the experimental group; ($t = 6.86$, $p = 0.00$). The table shows that the null hypothesis was rejected and that there are significant statistical differences in attitudes towards reading stories when creating a digital story due to the target group as ($\alpha \leq 0.05$) and in favor of the group with higher mean; that is the experimental group.

10.3. Retention results

To answer the second sub-question of the study: “How does creating digital stories impact students’ retention levels when reading English stories?”, The researcher used t-test to analyze the data from the post-test.

Table 3. T-test of the Differences among the Means of students’ retention of a story (Post-Test)

	groups	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Post test	Control Group	10	2.0200	.69570	-4.680	18	.000
	Experimental Group	10	3.4600	.68020	-4.680	17.991	.000

Table 3 shows that the means of students’ retention levels after reading a story depending on the post-test and after implementing the creation of DST were (2.02) for the control group and (3.46) for the experimental group; ($t = 4.68$, $p = 0.00$). The table shows that the null hypothesis was rejected and that there are significant statistical differences in retention levels of a read story when creating a digital story due to the target group as ($\alpha \leq 0.05$) and in favor of the group with higher mean; that is the experimental group.

11. Results Discussion

The main purpose of the study was to investigate the attitudes and retention of the fourth grade students while reading English stories by asking them about their opinions to measure their attitudes, and giving them a post exam to measure retention. The results revealed that students who created a digital story had more positive attitudes towards reading English stories, they also had higher retention degrees.

11.1 Attitudes

The results of this study showed that students who used DST (experimental group) had higher motivation levels than

those who just read a print story (control group); (*See table 2*). These results are in agreement with Robin (2006) who found that DST increases students interest, attention and motivation towards reading stories. It is also in agreement with the study conducted by Lazar et al (2020) who reported that students preferred digital stories and were more motivated than those reading print stories. To add, this is also what was found by Yoon (2013) where his study revealed that DST made students more engaged, motivated and confident. Finally, it was also found by Adara and Haqiyyah (2020) that using DST had a positive effect on improving students' motivation.

This phenomenon can be attributed to more than one factor. First, when creating a digital story students are engaged in imagining and preparing the characters of the story, adding sounds or even recording their own sound, using music and cameras, etc. This all motivates them see their final product as they created their own project. Second, students work in groups with their classmates which is also motivating for them rather than reading by themselves. Third, while preparing their final product, the groups of the students need the teacher's guidance, working together with their teacher is also motivating for young learners as they feel more confident. Finally, it is motivating when students become responsible for their learning and are active learners in the educational process, where they analyze and evaluate their own work.

11.2 Retention

The results of this study showed that students who used DST (experimental group) had higher retention levels than those who just read a print story (control group); (*see table 3*). These results are in agreement with the findings of the study conducted by Ginting et al (2024) which showed that students exposed to DST had higher retention memory scores and could retain more

information than those who had just read print stories. The results are also in accordance with what Alismail (2015) who observed that the use of DST within the teaching process helps students retain most of the new information they learned.

This phenomenon can be attributed to more than one factor. First, as the final product of the reading process is a videos with audio-visual effects, this enhances understanding on the one hand and addresses more senses on the other hand. Second, when students are given the responsibility of the final project, they do their best to produce an outstanding video. To achieve that they read the story carefully and focus on all details of the story, this helps them keep and retain information they read. Finally, when students are involved in the learning process, and due to being a part of a long term project, in which they collaborate, use pictures, audios, videos and sound effects; this addresses many senses and addresses the long term memory which results into increasing retention levels.

11.3 Implications and future work

In the light of the positive outcomes observed from the initial implementation of digital storytelling with the fourth grade experimental group students, the activity was extended to include the control group and the third grade students upon their request. This extension was powered by the significant engagement reported by the participants of the study.

12. Limitations of the study

Acknowledging the limitations of this study is crucial as it helps to clarify the extent to which the results might be generalized. One of the main limitations of this study was the small sample size, with only 20 participants included, which may affect the generalization of the results. The small sample size may reduce the statistical power of the results, and as a consequence, the findings should be interpreted with caution.

Future research should consider increasing the sample size to enhance the generalization and accuracy of the results. Additionally, the study was limited to a single school in a specific geographical area (a city), which might not reflect the diversity of student population in other regions. Third, students limited experience with technological tools and software used for the story creation might impact their engagement and outcomes. Fourth, the duration of the inventions was relatively short, which might not be sufficient to observe the long-term effects of storytelling on future learning outcomes. Finally, during the implementation of the survey, many students reported difficulty in understanding negatively phrased items. So, it is recommended to choose clear and straightforward wording in a survey when addressing young participants.

13. Conclusions and Recommendations

13.1 Conclusions

The study found positive attitudes and higher retention levels towards reading English stories when using DST. Moreover; the following brief conclusions were also reached: 1. Students that created digital stories had positive attitudes towards reading English stories. 2. Students that created digital stories had higher retention levels of the events of the story they read. From these conclusions, this could be a call for other researchers to prove or refute the above mentioned conclusions.

13.2 Recommendations

Based on the conclusions made, the following recommendations are forwarded:

1. The Ministry of Education is recommended to conduct training for teachers on how to create digital stories.
2. Schools are recommended to provide professional development opportunities for teachers to learn how to effectively implement DST in their classroom.
3. Teachers are recommended to

encourage students create digital stories. 4. Researchers are recommended to conduct further research on students' attitude and retention levels towards reading English stories when creating digital stories across different age groups and educational contexts.

In conclusion, DST has shown promising results in enhancing students' attitudes towards reading English stories and improving retention levels. By implementing the recommendations outlined above, educators can create a more engaging and effective learning environment for learners.

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