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The Role of Digital Storytelling in EFL Students' Writing Skill and Motivation

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Abstract

Digital storytelling (DST) is one of the areas which has entered the field of foreign language education and has proved to be beneficial in learning different language skills. However, it remains underexplored whether and how DST can affect learners' writing skill and motivation to write. The present study sought to investigate the impact of DST on young EFL learners' writing skill and motivation to write through mixing quantitative and qualitative research methods. The data were collected through pre- and post-tests of writing and interviews from 22 EFL learners. The learners were asked to create digital stories based on the pre-taught topics, vocabulary, and structures in their course book within a 10-week implementation process. In addition, structured interviews were carried out to investigate the impact of DST on the learners' motivation. The result was a proof to the efficiency of DST in improving the learners' writing skill. Also, the thematic analysis of the interview data indicated that employing DST had a positive impact on young EFL learners' attitude toward writing and increased their motivation. The primary takeaway from this study is that DST can provide a more favourable and enjoyable teaching context to instruct writing to EFL learners.

Keywords: *Digital Storytelling (DST), Young EFL Learners, Writing Skill, Motivation*

Introduction

Telling stories seems to be one of the most intrinsic and significant characteristics of human beings (Dehghan, 2020; Mallawaarachchi, 2020) which has assisted them in learning new skills and

understanding the universe. One of the important areas in which storytelling has proved to be very vital and beneficial is second language learning domain (Wu & Chen, 2020). Storytelling has captured a great deal of attention among the academia in this field as it is supposed to stimulate creativity, develop critical thinking, promote imagination, and encourage moral reasoning (Abdel-Hack & Helwa, 2014; Mallawaarachchi, 2020; Psomos & Kordaki, 2012). Of course, with the advent of diverse robust multimedia technologies and cutting-edge devices, like internet and personal computers, this trend has changed drastically “from merely oral to digitally enhanced ones with new patterns, styles, and formats” (Mallawaarachchi, 2020, p. 223). This was how the concept of digital storytelling (DST) emerged and turned into one of the practical instruments in the education domain (Churchill, 2020; Yang et al., 2020). Of note, technology-enhanced education is rapidly infiltrating into second language pedagogy and every day more and more teachers around the world are increasingly being convinced of the pivotal and distinctive role of welding technology to language education (Shen et al., 2014; Wilson et al., 2020).

One of the language skills in which DST has been gaining ground and making a drastic change is writing, which as experience shows is one of the difficult skills for second language learners. Moreover, as the 21st century students are born and raised with technology, they are most inclined to use it to enhance their knowledge, being reluctant to the traditional forms of education. Writing is the most struggling skill due to its complexity, particularly for young EFL learners, and it has been proposed that the conventional approaches of teaching and practicing writing skill in the books must be changed in order to increase learners’ creativity (Deligianni-Georgaka & Pouroutidi, 2016). In this regard, DST enables the students to make novel and meaningful stories through using advanced technologies and benefit from deepened knowledge achieved through combining traditional storytelling and digital media (Tanrikulu, 2020). According to Tetik and Ozer (2022), learners’ knowledge of writing, including types of texts and spelling rules improved through the use of DST. Furthermore, DST has been considered as a productive tool to aid language teachers. The use of pictures, audio, and colours in DST arouses learners’ curiosity and aids them to have a better understanding of the texts. In addition, DST helps the teachers to create a more engaging environment (Syam, 2022). Against this backdrop, the current study aims at focusing on the role of collaborative DST on young Iranian English language learners’ writing skill. In addition, with an eye to the importance of affective factors in foreign language learning, the current study was conducted to provide a better understanding of the impact of DST on young EFL learners’ motivation and interest to write in English.

Review of the Literature

Writing Skill and Technology

Teaching writing skill to young EFL learners is a demanding job and is mostly accompanied with some complications (Damavandi et al., 2018). Young learners mostly encounter difficulties when they want to express their opinions and thinking through the medium of writing. Therefore, developing EFL learners’ basic knowledge of writing, including correct spelling, grammar, and proper punctuation is stressed. According to Moses and Mohamad (2019) language instructors face considerable difficulties with teaching the writing skill and motivating learners to write more

and better mainly as a result of inadequate vocabulary knowledge and poor spelling and grammar. In order to boost the writing skill of young learners, different supplementary tools were used, the most important of which seems to be attributed to the role of technology-enhanced approach. Various benefits were enumerated for the integration of technology into language classrooms and its use to improve learners' writing skill. According to Gerde et al. (2012) using different technology devices such as computers, tablets, or smartphones gives the opportunity to save writings as documents and this lets the young learners' instructors, peers, and parents to consider the writings and evaluate their progress over time. With reference to a survey in a study by Purcell et al. (2013), majority of teachers confirmed the usability of digital technologies as beneficial devices for teaching writing skills, highlighting that these tools affect learners' creative thinking and motivates them to try different types of writing.

Digital Storytelling and Writing

One of the technologies that has proved to be very beneficial in enhancing the efficiency of education is DST (Yilmaz & Sigirtmaç, 2020). Hartley and McWilliam (2009) define DST as “a workshop-based practice in which people are taught to use digital media to create short audio-video stories, usually about their own lives” (p. 3). According to Kazazoglu and Bilir (2021), DST is a promising tool that encourages the learners to write in a foreign language. The efficiency of DST in improving second language learners' writing skill has already been approved by many studies. To be more specific, it is shown that DST can encourage the students to write more and better through aiding struggling students to minimize their weaknesses regarding spelling, capitalization and handwriting (Sylvester & Greenidge, 2009). The use of DST enables learners to complete their assignments more creatively and actively (Castillo-Cuesta et al., 2021). According to Xu et al. (2011), DST is an effective technique for encouraging students who are not confident or motivated enough to write in second language. In fact, DST is mainly rooted in the active collaboration among the students. Furthermore, designing DST games enhances learners' critical thinking, communicative skills, and media literacy (Chen & Chuang, 2020).

DST can modernize the conventional writing methods on accounts of turning learners' attention to learning processes. It serves learners with a number of advantages. Increasing learners' technological experiences while creating digital stories is a case in point. Furthermore, it helps learners grow their recognition in grammatical structures. DST is an efficient technology-based method that brings about constructivist learning and leads to positive opinions about the process of learning (Erdogan, 2021). DST allows instructors to assess learners during the process as well (Laina & Marlina, 2018). Moradi and Chen (2019) emphasize that the use of DST in language classrooms provides plenty of benefits, including innovative teaching techniques in comparison with traditional methods, individualized learning, and definitely learners' engagement in the process of learning. Employing DST into language programs can lead to enhancing learners' capabilities in all four language skills as well as enhancing their gained digital literacy (Maureen et al., 2018). This way of narrating also involves learners in knowing their deficiencies and motivates them to get better at writing coherently and organizing their final outcomes and boosts their confidence.

According to Lim and Noor (2019), through the use of Storybird as a digital storytelling platform, which allows learners to tell *stories* using words and images, learners could develop a better understanding of their weaknesses in regard to writing tasks and tended to improve them and accordingly made progress with their English writing productions. Additionally, it enlightened the usefulness of implementing technology as a new technique for teaching writing in English classrooms in Malaysia. As noted by Orozco (2019), young learners in traditional classrooms were not interested in writing because of the difficulties with spelling, choice of words and structures of the sentences. However, after the employment of DST in these classes, they could dramatically develop their writing, reading, speaking, and listening, practiced reading more actively and learned new words, and were also more engaged in modifying their writing outcomes and enhancing their proficiency. In the same lines, Lantz et al. (2020) also proposed that eBook authoring encourages young learners to create their own multimedia and fictitious stories through the use of different storytelling apps such as Book Creator. The final outputs of this classroom project are learners' stories, which were sharable and storable in the digital library of the classroom.

In addition, DST can be used to build collaborative relationships among learners, and provides the opportunity of working as a group (Fokides, 2016; Pardo, 2014; Dupain & Maguire, 2005; LaFrance & Blizzard, 2013). It is also agreed upon that DST improves the learners' motivation in learning. According to a study conducted in Taiwan, DST can be a useful problem-solving method that decreases learners' negative attitudes and improves learners' motivation, co-operation, and enthusiasm towards learning English (Parsazadeh et al., 2021). The study by Yang and Wu (2012) indicated that DST could dramatically improve the achievement and motivation level of 110 English students. Moreover, Hung et al. (2012) did a study on the impact of DST on the students' motivation to learn and class engagement. Their results also indicated that DST could concurrently improve their motivation and problem-solving skills. This was in fact achieved through the collaborative works among the students.

The existing literature indicates that there is an abundance of research data that confirms DST can be a very beneficial and effective method for teaching and learning a second language in today's world. However, there are scant studies focusing on its impact on EFL learners' writing skill (Chen Hsieh & Seong Lee, 2021; Liang, 2018; Oskoz & Elola, 2016). Also, very few studies have investigated the impact of DST on the learners' motivation and interest when learning a new language skill (Hava, 2019). This is especially more critical in the case of young learners who can practice new vocabularies, some levels of personalization, as well as creativity. Moreover, although a number of studies were conducted on individual practice of DST (Abdel-Hack & Helwa, 2014; Balaman, 2018; Hava, 2019), collaborative DST studies deserve more attention (Tanrikulu, 2020). In order to remedy this gap, the current study sought to explore the impact of collaborative DST on Iranian young EFL learners' writing skill and motivation.

Research Questions

Hence, the following research questions were posited:

RQ₁: Is digital storytelling an effective tool for improving young EFL learners' English writing skill?

RQ₂: Can digital storytelling encourage young EFL learners in English language writing?

Method

Participants

In this study, the participants were 22 young EFL learners (13 females and 9 males) and their ages ranged from 11 to 15 years old. They were at the elementary level according to Cambridge Assessment English Test and were selected based on convenience sampling method. The aim of adopting this method is that all participants are learners of the same language institute where is accessible and convenient source of data for the researcher. All the participants were studying *Big English 1* and the topics used in their digital stories were chosen from among the topics of the above-mentioned course book. This study was conducted in a language institute in Qom, Iran.

Instruments

Writing Test

In this study, a pre-test before employing the digital storytelling tool and a posttest right after the intervention were used. The contents of both tests were based on topics, vocabulary, and grammar taught in learners' course book (*Big English 1*). The topic of the pre-test (See Appendix A) was *classroom activities* and the topic of the post-test (See Appendix B) was *going to the beach*. The only tenses used by learners were present simple and present progressive. All participants were required to develop a short story on the basis of the topic and the picture given on the paper. Both tests took about twenty minutes to be completed. For the purpose of careful comparison and analysis, both tests were scored based on the rubric developed by Al-Buainain (2009). The aforementioned rubric was a ten-point-scale and included seven components, namely (1) Structure (2 points); (2) Spelling (1 point); (3) Punctuation (1 point); (4) Coherence (2 points); (5) Cohesion (1 point); (6) Strength of argument (2 points); and (7) Aesthetic dimension (1 point).

Interview

A structured interview was carried out in order to gather reliable information and find out the extent of young EFL learners' interest in using CSM as a digital storytelling tool. It was used to assure how successful we were in getting young EFL learners engaged in writing activities. All participants answered a similar set of questions with a similar language and wording. The interview included five questions and were audio-recorded. The interviews were carried out in the learners' first language (Persian). Then their responses were transcribed and translated into English. All the participants were individually interviewed by their instructor who was also one of the researchers.

Cartoon Story Maker

Cartoon Story Maker (Figure 1) is a digital storytelling tool that enables learners to create stories. This application provides learners with a number of pictures representing characters, different facial expressions, and background pictures (e.g., a classroom, a street, a shopping center, and parts of the house). Learners also can download and insert pictures in their stories. In addition, different boxes for adding dialogues and other texts are available. Therefore, by adding the text and the relevant pictures, you can create a frame (page) of your digital story and proceed with the process. The final outcome of this program is a digital story that is similar to electronic storybooks in appearance and is also printable.

Figure 1*A Sample of CSM Production Research Procedure*

In this study, young EFL learners' abilities to learn writing components was investigated. We compared the scores of the students on pre- and post-tests. The rationale for not comprising a control group was to make sure all learners were focused on the program and favoured with the digital tool. We also wanted to ensure that all learners enjoy the same experimental procedure. Each participant used the digital storytelling tool for ten sessions of the teaching course. The participants were required to practice and develop short digital stories for twenty minutes each session and in pairs. Furthermore, the qualitative data was collected from the structured interviews in order to consider their motivation influenced by DST.

Data Collection

The data for the current study was collected in the following six stages:

Stage 1: Placement test

In the first phase and to determine the current language knowledge level of the participants, the 22 young EFL learners selected for this study underwent the Cambridge Assessment English Test. The results indicated that all the participants were at the elementary level.

Stage 2: Pre-test

Subsequently, the participants took a pre-test before the use of the digital storytelling tool. They were given a piece of paper with a picture on it that was relevant to one of the pre-taught topics in their course book. Then, they were asked to write a short story and make some sentences according to the picture. The course book was *Big English 1*, an international existing course book provided for young EFL learners in Iran.

Stage 3: Instruction on DST through CSM

Next, the young learners were taught on how to use the digital software on their first session. The digital software used in this study was CSM and none of the students had previously worked with it. It was necessary to instruct the learners on how to use this software. Fortunately, all learners were smart with technology and could learn working with it in no time.

Stage 4: The 10-session educational intervention

During the treatment period and in every session, the participants were required to compose digital stories based on the given instruction, topics, vocabulary and grammar in their course book. This part took about 20 minutes from each class session. In order to increase a sense of collaboration and inclusion, learners were expected to work in pairs and develop stories together. Meanwhile, the instructor assisted the participants with some tips on structures, vocabulary, and punctuation. The major focus was on the effectiveness of this digital tool on increasing learners' creativity and due to the fact that digital storytelling is process-oriented, its impact on learners' improvement and motivation was also investigated.

Stage 5: Post-test

In the last session of the intervention the learners took the post-test. It was in fact similar to the pre-test taken at the beginning of the research. Focusing on a different topic, the learners were required to look at a presented picture and write a short story about it. This was done to investigate the impact of DST on the writing skill of the young EFL learners.

Stage 6: Interviews

Right after the completion of the treatment and in the final stage, all the participants were interviewed individually by the instructor. The focus was on the learners' attitudes toward DST and impact on their writing skill and motivation to write better. Each interview took about ten minutes and was conducted in the learners' first language (Persian). The interviews were also recorded and transcribed to facilitate the process of data analysis.

Data Analysis

To answer the first research question, two similar writing tests were given to the same group of young EFL learners before and after the intervention with the digital storytelling tool. Both tests were scored based on the rubric developed by Al-Buainain (2009). The quantitative data was gathered through scoring their outcomes. Quantitative analyses were conducted and descriptive statistics including frequencies and percentages were reported. In addition, to analyse the mean scores, a paired-samples t-test was conducted in order to examine the existence of any significant difference.

Moreover, the interview texts were analysed through a thematic content analysis procedure. In the first stage we wanted to get more familiar with the data; so, the transcribed interviews were re-read and reviewed several times. In the next stage, we highlighted similar phrases and ideas in each interview and grouped them into codes. In the next phase, patterns among the observed codes were located and themes were extracted. To make sure of the efficacy of the discovered themes, we compared and contrasted the themes against the data set for several times. Finally, some comprehensible names were assigned to the themes. It was tried to choose names which could define the underlying drive in the best way. Moreover, to ensure the inter-coder reliability and validity of data analysis, findings were read and commented on by a second coder.

Results

Research Question 1: DST and Writing Skill

In order to address the first research question, on the effectiveness of the DST tool on young EFL learners' writing abilities, the data gathered from the pre-test and post-test was analysed adopting a quantitative approach. The mean scores of both tests were analysed through a paired-samples t-test. Table 1 shows the descriptive statistics of young EFL learners' writing scores in pre-test and post-test. Also, a paired-samples t-test results was run. The results showed that there was a statistically significant difference in scores from pretest ($M= 5.60$, $SD= 1.14$) to posttest ($M= 7.53$, $SD= 0.76$), $t(21) = -10.89$, $p < 0.05$. This result suggests that the use of digital storytelling tool in English classrooms has a significant effect on young EFL learners' writing outcomes.

Table 1

Descriptive Statistics of Young EFL Learners' Writing Scores in Pretest and Posttest

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	5.6	22	1.1	.24
	Post-test	7.5	22	.7	.16

Research Question 2: DST and Learners' Motivation

In order to address the second research question with regard to the efficacy of DST in enhancing the learners' interest and motivation in writing the data obtained from the structured interview were investigated. The in-depth analysis of the participants' comments resulted in the emergence of four major themes which are described below in details.

Theme 1: Pre-DST Attitudes to Writing

The first theme emerging from the learners' responses to the interview questions was related to their attitude toward writing skill prior to being acquainted with DST. Overall, responses from the 22 young EFL learners revealed their disinterest in doing writing activities in the traditional form. A summary of the findings and the learners' views is displayed in Table 2.

Table 2

Codes Extracted regarding Pre-DST Attitudes to Writing

Items	Frequency	Percentage
They were hard.	10	45%
I couldn't make many sentences.	3	14%
They were boring.	3	14%
I didn't like them.	2	9%
I didn't have many ideas.	2	9%
I was poor at spelling.	2	9%

As depicted, majority of the learners ($N = 10$, $P = 45\%$) thought that writing in its older form, i.e. paper and pencil, was hard and laborious due to a number of reasons like lack of knowledge of

the correct words and grammar. This seems to have been more serious particularly when they had to do the writing activities individually. Some of the participants' responses were as follows:

- *They were hard. I had to write alone and making mistakes happened a lot.* [S1]
- *I didn't know how to develop my writings. It was hard. Digital storytelling helped me improve it.* [S13]

Moreover, 14% (N = 3) of the participants stated that they couldn't make many sentences and their compositions were limited to some few sentences. Similarly, 14% (N = 3) of the learners also thought that writing was previously a boring activity and they didn't enjoy it. Some of the participants' responses, including these two points are as follows:

- *When I had writing homework, I couldn't make many sentences. Because I'm not good at writing.* [S18]
- *Sometimes I didn't know the right words or sentences and it made writing essays difficult. Therefore, they were boring and hard.* [S19]

The last three points extracted from participants' responses were mentioned equally by 9% (N = 2) of the learners. They mainly denoted that the learners didn't like old writing forms, suffered from lack of enough ideas to write well, and were poor at spelling. The following excerpts depict these attitudes:

- *I didn't like them. They were boring and took a lot of time.* [S10]
- *It was hard. I didn't have many ideas when I wrote by myself. When I wanted to write essays, I didn't have anything special in my mind.* [S2]
- *I was poor at spelling. I sometimes asked my friends questions in class.* [S12]

Theme 2: Inclination Toward DST

During the interview the participants were also asked about their attitude toward DST. We specifically asked them if they preferred to write stories using a pen and paper in class or create digital stories in an effort to investigate their views regarding DST compared to the traditional writing style. Table 3 displays the participants' responses and their frequencies.

Table 3
The Participants' Preferences in Writing

	Frequency	Percentage
DSM	16	73%
Traditional writing	6	27%

As depicted, a great majority of the participants (N = 16, P = 73%) preferred practicing writing through creating digital stories. By contrast, only 27% of the learners (N = 6) favoured traditional writing styles. Those who favoured DST thought that their digital stories were more interesting, well-organized, and neater. They also claimed that creating digital stories was a novel experience they have never experienced before in second language learning. Some also pointed to the impact

of availability of different pictures in CSM that made generating ideas easier. The following excerpts are some examples:

- *Digital stories. Because they are more beautiful and neater.* [S8]
- *Digital stories. It increases our interest.* [S9]
- *Digital stories. I can select the characters and make a better and more beautiful story.* [S11]

In spite of the fact that the rest of the participants favoured using traditional writing over creating digital stories, they considered digital storytelling a better way of creating stories. The point is that they couldn't type fast or use a computer properly. Therefore, they favoured using a pen and paper. Here are some of their comments:

- *If I learned to type fast, I would use the digital tool for writing stories.* [S5]
- *A pen and paper. Typing is hard for me. But if I learn to type fast, this way will be better and cleaner.* [S6]

Theme 3: Efficiency of DST

The students' overall opinions in these themes reflect generally DST is an effective procedure in improving writing skill. All the 22 participants concurred the positive effects of DST on their writing outcomes and the improvement of their knowledge about writing components. The extracted codes are depicted in Table 4.

Table 4
Codes Extracted Regarding Efficiency of DST

Codes	Frequency	Percentage
Assisting with making sentences	6	27%
Learning new words	4	18%
Providing help with learning grammar	4	18%
Taking care of punctuation rules	2	9%
Use of different characters and pictures	8	36%
Facilitating collaborative writing	6	27%

As presented, 27% (N = 6) of the participants stated that DST can assist them with making better sentences. They believed that during creating digital stories, they could not only make more sentences, but also created better and more accurate ones. The following excerpts show the learners' responses:

- *Yes. It helps me with making sentences. If I make any grammatical mistakes, I'm able to review and correct it.* [S2]
- *Yes. It improves my ability for making sentences.* [S12]

The learners' views in the code "Learning new words" and "Providing help with learning grammar" reflect that the students believed that DST is a very fruitful tool in improving their general language knowledge. They clearly stated:

- *Yes, exactly. I do believe that we learn more new words and also more importantly review those that we already learned. [S1]*
- *Yes. My partner and I put our heads together and we had more ideas. If I do not know something, my partner explains it. It helps with learning grammar, too. [S11]*

The students' views in the next code "Taking care of punctuation rules" revealed that DST could minimize the learners' errors with punctuation rules and made them more alert to the correct use of different punctuation markers. In fact, it was observed that through the use of DST the students paid more attention to the structure of writing. Here are some comments by the learners:

- *Yes. Because I reviewed and learned the grammar and we learned how to use period and comma while creating digital stories. [S9]*
- *Yes. Our teacher taught us newer words and the use of comma and period while writing stories. [S20]*

The next code pertains to the "Use of different characters and pictures" in DST and its impact on the learners writing. The learners' view with regard to this code reflected that the participants were inspired and fascinated by the default pictures in the DST tool and believed the presented characters with different facial expressions helped them develop their stories much better. They mentioned that the availability of a number of pictures in the program and also the ability to download their favourite pictures and put them in their stories made them more motivated and helped them with the process of creating better digital stories. Here are some excerpts from the learners' views:

- *I could choose the pictures of the characters and the background pictures helped me with writing the story. [S17]*
- *I could choose my favourite characters. They had different facial expressions. It was fascinating in general; so much fun indeed! [S13]*
- *I could choose the topic and according to the topic, I could download pictures. I mean I could use any picture that suited my story, anything I liked. This was fun and made the writing activity more interesting to me. I liked to have more writing sessions! [S14]*

Finally, the students' opinions in the code "Facilitating collaborative writing" showed that the collaboration among the learners was a factor they all thought of. They believed that DST is an effective tool to promote collaboration and teamwork among the learners and this could lead to improved writings. Here are some of the learners' comments:

- *You know, the best thing about this tool is the collaboration that I had with the other friends in my team. We wrote the story together and chose the topic. I mean I wasn't alone and anytime I needed help I asked my friends. I was more comfortable with it. [S1]*
- *What I most liked about DSM was collaborative writing; because you cannot gather a lot of information on your own. My partner and I could think and gather data together and this was very good. [S4]*

Theme 4: Attitude Toward Collaborative Writing Via DST

The students' responses reflecting this theme revealed that all 22 participants in this study had a positive and favourable attitude toward collaborative writing through DST. Table 5 summarizes the detailed results concerning the extracted codes regarding collaborative writing.

Table 5*Codes Extracted Regarding Attitude Toward Collaborative Writing via DST*

Themes	Frequency	Percentage
Thinking together	10	45%
Helping each other	5	23%
Coming up with new ideas	3	14%
Supporting effective writing	8	36%

Majority of the participants (N = 10, P = 45%) appreciated “Thinking together” and thought consulting with their partners while writing is a major advantage of collaborative writing which helped them outperform. The following excerpts manifest this belief:

- *Yes, my partner and I thought together and exchanged ideas and experiences. It was a great experience in general. [S17]*
- *Well, we thought together and I consulted with my partner about the good and bad ideas and we wrote a correct story. You know, two heads are better than one! [S15]*

The students' opinions regarding the codes “Helping each other” and “Coming up with new ideas” showed that the students believed that through collaborative writing via DST they could help each other and come up with a newer idea. This is whereas in the traditional form of writing they were desperate in search of new ideas to develop their writing texts.

- *Well, our minds were occupied and we came up with new ideas. We worked together, and when I didn't know something, I asked my friends, this was so good. I never felt alone during writing. But previously I had to write at home and sometimes I felt so board and didn't know what to write about. [S3]*
- *Yes. We came up with more ideas and made a better story together. This is the magic of DST, it inspires more and more new ideas, we really could write better. [S9]*

Finally, the students' views with regard to the code “Supporting effective writing” clearly indicated that the students believed in having more effective, focused, elaborate, and inspiring writings in the presence of DST. They specifically thought their writings had a spirit now and was more impressive than the past. One student stated:

- *You know what, before this class and DST, I always just wanted to finish my writing as soon as possible. I looked at it just like an assignment to be finished to get my mark. But during this class and with this tool we used, I never thought like that. I enjoyed writing and I really wanted to write something that can really show my feelings and opinions. I wanted others enjoy what I wrote. [S6]*

Discussion

This study aimed to consider the effectiveness of digital storytelling as a process-oriented and technology-centred method for developing young EFL learners' abilities to learn and practice writing components, including how to form correct structures, use more words, use punctuation marks correctly, and finally develop coherent and cohesive stories. Additionally, considering the impact of digital storytelling on young EFL learners' motivation in regard to learning these writing components was taken into account. The first research question was oriented towards digital storytelling and its effect on young EFL learners' writing skill. To be more specific, this study investigated the impact of Cartoon Story Maker as a fascinating and effective digital storytelling tool on young EFL learners' abilities to learn writing components through creating short digital stories. On the basis of the data obtained from the results of the pre-test and post-test, a significant overall improvement was observed after the intervention of the DST program. Therefore, this study reiterates the positive impact of DST found in other researches. For instance, Zakaria and Abdul Aziz (2019) indicated that DST enhanced students' narrative writing skills in all aspects, including vocabulary, grammar, and content. They also noted that on account of creating digital stories in groups, students collaborated and acquired knowledge through discussions and this was the most rudimentary effect of DST on students' narrative writing. In the current study, the first component examined was structure. Young EFL learners collaboratively developed their stories and peers helped one another out with forming structures and also benefited from their teacher's tips on grammar and correct word orders. However, their major focus was on learning the ropes of creating digital stories and moving their stories forward meaningfully; they also improved grammar and made better sentences compared to the pretest results. Castañeda (2013) also stated that through a focus on DST, students were primarily involved in grammar and technology but they also paid attention to creating impressive and deep stories. In addition, Pardo (2014) reported that DST effectively developed students' speaking and writing skills. Furthermore, students made fewer grammatical mistakes after their teacher got feedback from them.

Coherence and cohesion were the other significant factors analysed and compared in the current study and among young EFL learners' writing products before and after the employment of DST. During the process of digital storytelling in this study, young EFL learners had the chance to review and reform the sentences and frames of their digital stories and shaped their stories coherently. This process-based feature of DST was what Sarıca and Usluel (2016) also considered as the positive effect of DST on students' writing skills. Moreover, they claimed that students paid attention to views different from theirs and developed an understanding of the world around them and related them to their stories. According to Tsigani and Nikolakopoulou (2018), students acquired the knowledge of narration and creating digital stories and they were significantly assisted during the process in order to write better narrative stories, comprising structural components, coherence, and cohesion.

This advantageous feature of being able to review and correct the sentences while creating digital stories also had a positive impact on young EFL learners' spelling as it was another component considered in this study. With respect to the interviews, some young EFL learners also mentioned this as a helpful way in noticing their misspellings. According to Sylvester and

Greenidge (2009), parts of DST aided struggling students to minimize their weaknesses regarding spelling, capitalization, and handwriting. Finally, the strength of the arguments was taken into consideration in the current research. According to the age and proficiency level of the participants, this component was considered as the strength of the idea and understanding of the topic. The participants in this study were asked to develop a short story based on one of the topics in their course book *Big English 1*. Therefore, they made efforts to broaden their knowledge of the topic and consulted with their peers and their teacher in order to create better sentences and use more related words. As was stated by Sadik (2008), students were motivated to think intensely about the topics, individualized their experience, and developed their understanding about the topic before and throughout the process of creating digital stories.

In comparison with the pre-test results that most participants described the given picture and made quite inefficient sentences as they did conventionally in order to make a story, they considerably outperformed in the post-test. They selected characters, assigned them some names, and tried to develop stories based on those characters with the offered picture in mind. Consequently, they created more coherent and purposeful stories. Considering all above, the results were satisfying, but one should bear in mind that developing writing skills, in general, is a longitudinal process and needs patience.

The second research question in this study addressed the effectiveness of digital storytelling on improving young EFL learners' motivation to learn and practice writing components through creating short digital stories. In the process of developing second-language skills, motivation has always been the keystone. In the current study, a structured interview was carried out to measure the extent to which DST encouraged young EFL learners. In line with other findings, it was observed that digital storytelling a compelling method that brings young EFL learners together, builds empathy, provides motivation, and increases fruitful collaboration between pairs along with its numerous educational benefits. The efficiency of DST and its influence on improving learners' interest, motivation, willingness to communicate, and learning language skills has already been approved by different studies (e.g., Morgan, 2012; Yang et al., 2020). Our findings are specifically in tandem with Yang and Wu (2012) who also reported of increased achievement and motivation levels among senior high school English students after 20 weeks of DST instruction.

One important factor that strengthened motivation among these young EFL learners in order to create digital stories was collaboration. This was what Yoon (2013) also appreciated and noted that digital storytelling opens up possibilities to increase motivation and offers EFL learners' opportunities to stimulate their creativity by adding sounds, pictures, and animations to their stories. DST gives learners the chance to work collaboratively and this consequently broadens their social and cognitive experiences. In his study, DST made students involve themselves in the content of their stories through increasing their motivation and developing their confidence. It also assisted students with comprehending the lesson and participating actively in class. Needless to say that, creating encouraging learning environments and instructions can improve motivation. According to Widodo (2016), DST encourages young learners to do a number of activities, including making conversations about photos as a source of creating stories. The learners would be also involved in other activities, such as making decisions, discussing, thinking creatively and

reflectively, solving issues, supporting one another, and collaborating with each other. Besides, learners in his study found photos as a valuable source of data that helped learners with expressing their opinions and an effective tool for productive learning and recording experiences. This was definitely in accordance with our findings. Young EFL learners in the current study were truly fascinated by the use of a variety of pictures and believed that the visuals of CSM such as the background pictures and the default characters in the tool helped them with shaping their ideas and developing their stories.

On the basis of post-test results and interviewees' perceptions in the current study, DST assisted vocabulary learning and reviewing, forming coherent and comprehensive structures, creative thinking, and also has the potential to be used as a mediating tool in practicing different types of writing in English classes. This is in line with the results of a study conducted in Malaysia. Young EFL learners in the study by Har et al. (2019) believed that the content of DST was fascinating and amusing. Furthermore, they could learn and remember more new vocabulary. They also perceived DST as a practical after-school learning tool that can motivate young learners to acquire vocabulary. However, one should take this into consideration that process-oriented methods of teaching writing such as digital storytelling takes a lot of time and effort. Needless to say, DST has been considered as a compelling and efficient tool that not only encourages learners to enhance language literacy but also endows them with digital literacy. Those struggling participants who found writing difficult or boring, were enthusiastic about DST project and changed their attitudes towards writing in English. Despite the aforementioned fact, Hava (2019) claimed that DST increased learners' self-confidence and the amount of individual use of English. However, they didn't change their opinions regarding English.

Conclusion

The present study examined the role of digital storytelling (DST) as a technology-oriented method of teaching writing components and developing young EFL learners' abilities to write more effectively. Needless to say, all participants found writing activities boring and challenging before the use of DST. According to the results and participants' viewpoints obtained from the quantitative and qualitative data, the intervention of digital storytelling tool showed considerable changes in the process of learning writing components. Overall, the results indicated that collaborative writing was a very practical approach in improving young learners' writing skill.

Our findings hold valuable implications for the academia. Regarding teaching writing to young EFL learners, challenges are complex and environmental. On the one hand, young EFL learners do not show interest in doing writing activities and have the least exposure to authentic written texts. On the other hand, lack of novelty and inspirational tasks offering by the EFL teachers do not encourage them to develop these needed abilities effectively. As a result, the importance of providing opportunities and assistance in order to enhance this fundamental skill is undeniable. To do so, adopting newer and more engaging approaches is a must. It is of the utmost importance to be specifically aware of young EFL learners' problems in writing and accordingly solve them. The findings of the present study also have considerable implications regarding the use of CSM as a digital storytelling tool and can be a useful aid for both teaching and learning writing skills. We

would like to strongly recommend teachers to integrate DST into their teaching classrooms and leverage the benefits that will come with the collaboration among the students. The prospect of being able to do digital storytelling, serves as a continuous incentive for improving language skills and should be taken into account by EFL instructors, materials developers, researchers, and stakeholders as an efficient and possible method.

Just like any research study, the current study suffers some limitations. Firstly, the number of participants was limited. We believe that our results are promising and may be replicated by a larger sample size. Secondly, the intervention phase was done during ten sessions. Although, the successfulness of this process was convincing, we believe that the process of creating digital stories may require some more sessions of practice. Future studies may target the effectiveness of DST on other age groups and at different levels of proficiency and within a larger span of intervention.

Also, this study did not include control groups as discussed previously. Future studies may consider this and include a control group. More importantly, we would like to highlight the significance of digital literacy among EFL teachers as well as learners, and suggest interested researchers to focus on this issue and its impact of the adoption of technology in academic contexts. Finally, interested researchers may work on interdisciplinary DST projects and investigate its impacts.

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Appendix A: Pre-Test Paper

1. Look at the picture and write a short story.



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Appendix B: Post-Test Paper

Look at the picture and write a short story.



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Appendix C: A Sample of CSM Production



Interview Questions:

- (1) How did you feel about writing activities before you used digital storytelling?
- (2) Do you prefer to write stories using a pen and paper in class or create digital stories? Please explain.
- (3) How do you like digital stories (Using CSM) in general?
- (4) Do you think digital storytelling is a good way to improve writing? Why or why not?
- (5) Did you like collaborative writing? Why or why not?

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Competing Interests

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