

## Digital storytelling: a systematic review

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### Abstract

Digital storytelling (DST) is one of the helpful educational tools in the teaching and learning process. Nonetheless, there is a scarcity of systematic reviews to enlighten how it was applied and what was done in this area. This paper performed a systematic review of five articles on using DST to foster English speaking skills among learners. This research established continuous interest in the background of South-East Asian countries, including learners at the pre-school till tertiary education levels. DST has been used in the humanities and social sciences as either a stand-alone teaching or in conjunction with other teaching techniques. The review classified two directions (ideal and reflective) as well as six outcomes: affective, intellectual, educational, technical, linguistics, and communal. Hence, this study synthesizes and discusses further two issues: affective motivating passion and a creative, imaginative, and resourceful platform. It is hoped this study able to discuss potential explanations for these issues and offer insights for future studies.

**Keywords:** digital storytelling (DST); speaking skills; low proficiency learners; systematic literature review; education

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Digital storytelling has been widely used and can play an important role in addressing the issue of improving students' skills in language learning. According to Robin (2008), digital stories can be categorized into three categories: personal narratives, stories that examine historical events, and stories that are primarily used to inform or instruct. He further elaborated that digital storytelling (DST) combines the art of telling stories with a mixture of digital media, including texts, pictures, recorded audios narration, music, and videos. Ultimately, digital storytelling is the art of conveying stories with the help of several digital medias that helps to make stories become reassuring and appealing for students. Digital storytelling is often offered as a prevailing, technology-derived learning approach. This is in line with Robin (2008) and Bakar (2019), who stated that digital storytelling can enable students to develop 21st-century skills. Their propositions can be seen as follows:

- i) Language literacy – the learners' capability to communicate with a large public in order to gather information and discuss issues;
- ii) ICT literacy – the learners' capability to use computers and technology to improve learning and proficiency;
- iii) Visual literacy – the learners' capability to understand, to respond and communicate via visual images;
- iv) Information literacy – the learners' capability to quest for, gauge, and synthesize information; and
- v) Media literacy – the learners' capability to read, comprehend, and react to information available

Therefore, it is important to equip students with 21st-century literacy skills as there is an immediate need for English language skills as well as ICT literacy skills that have been identified as one of the important 21st-century skills for students (Siew Ming Thang & Najihah Mahmud, 2017).

Despite the interest and there were several studies in education specifically on the use of digital storytelling in improving learners' skills, but there were limited in number for reviews on digital storytelling and its impact on improving learners' speaking skills. Hence, the present paper attempt to contribute to the existing body of knowledge by developing a systematic literature review on digital storytelling and gauge its effectiveness in improving students speaking skills.

## METHODOLOGY

The research questions and the evaluation process of the study were reported in this section. In order to prepare for the review process, we decided to refer to Kitchenham (2004) and Xiao & Watson (2017). In the selection process, we began by formulating the research questions and followed the formulation of inclusion or exclusion criteria for studies, literature search, and lastly the evaluation process. The data were collected after deciding on the relevant studies that produced some appropriate details. Such data were then processed for the purposes of analysis and reporting.

For the purpose of this study, digital storytelling in an educational setting is understood to promote the development of short digital stories. Typically, the stories prepared by learners are integrated with some mixture of digital images, texts, recorded narrations, and/or music. Facilitation in the production process clarified the preparation process for DST which is normally directed by qualified educators or researchers.

### Research Questions

This study was led by two research questions;

- i) What are the latest trends in DST in South-East Asian countries?

This question aims to recognise the patterns in DST in South-East Asian countries by identifying some important outcomes in the impact of digital storytelling may have to promote learners' study skills.

- ii) What are the outcomes in DST?

Findings on this subject may contribute to the future direction of research and curriculum advancement.

### Databases

Only Google Scholar database was used in this study. The selection of Google Scholar is based on several gainful reasons. First, it could produce massive results as it was reported that there were 389 million documents available on this database (Gusenbaur, 2019 as cited in Muhammad Shaffril et al, 2020). Secondly, this database is excellent at retrieving educational and/or related to educational study and was in line with Loan and Sheikh (2018) as cited in Muhammad Shaffril et al, 2020).

### Selection process

There are three main processes in the systematic selection process namely identification, screening, and eligibility.

### **Identification**

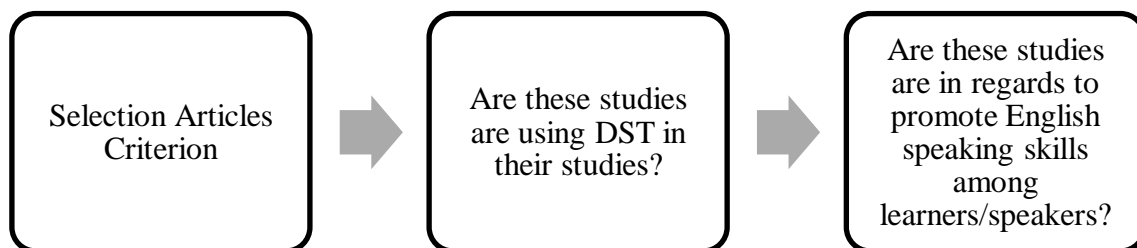
Study selection was divided into a three-stage process, which in the first stage is the article identification which to include only those articles written in the English language published from 2015 to 2020. Articles were identified through several keywords and search terms to easily locate the articles. "Digital storytelling" was the key search word used for the search. A total of 16 900 studies were found out of 43 500. To narrow down the search and to keep identify only related articles regarding speaking activity among students, the search term "speaking skills" was added. The studies then reduced to 740 results. The search term "low proficiency students" was introduced to discover the papers and pick the intended studies for the study. A total of 9 studies were found that matched the specific criteria used to search for the terms. This is significant because the term has helped to include the most applicable papers proved handy for the analysis.

### **Screening**

The second stage in this study selection is screening, which was used to screen and eliminate unrelated articles towards digital storytelling, duplicate, inaccessible, and not related articles towards DST. In doing so, a limit to the scholarly journal was set up, and a manual data cleaning was performed to delete duplicate copies such as book reviews or inaccessible journals from the Google Scholar website. This process then reduced the number of studies to five studies. The five articles were reviewed and only studies related to learners and/or learning were included, therefore studies that have different focus were excluded, such as Sutthinaraphan (2020); Wang & Rajprasit (2015); Zhang & Zou (2020), and Stockton (2015).

### **Eligibility**

The last stage is called eligibility; checking for the relevant articles were taken into consideration before final paper selection for full text-review. All articles were screened accordingly based on the requirement listed in Figure 1.



*Figure 1: Assessment criterion in choosing the article*

A reading on abstracts and complete texts was performed to ensure fulfilment of the criterion set before the selection process. This process excluded four articles due to the absence of using DST in the methodology section. Overall, there were only five selected articles.

### ***Quality Appraisal***

According to Xiao & Watson (2017), quality standards can be varied across various types of reviews and it is not crucial for some types of descriptive reviews such as scoping reviews that mostly concerned on discovering the extensiveness of the studies. To ensure the quality of the articles' content, the authors decided to have a mutual agreement between authors to carefully review all the remaining articles. This is a possible way to do as there is no consensus on how reviewers should deal with quality assessment in their review (Dixon-Woods et al, 2005, as cited from Xiao & Watson, 2017).

### ***Data abstraction and analysis***

It is significant for researchers to review the entire paper, and not simply depends on results or the main analysis (Xiao & Watson, 2017). The researcher read all five studies thoroughly particularly in few sections such as abstract, methodology, and discussions. The data abstraction was conducted based on the two review questions, in which any data from the relevant studies that met with the research questions were abstracted and were put in a table.

## **FINDINGS**

We report the results in this section and make assessments for further study.

### **RQ1: What are the latest trends in DST in South-East Asian countries?**

As discussed above, we included a set of outcomes and an analysis of trends in DST studies.

### **Year of Publication**

For this analysis, the papers collected are from 2015 to 2020 and were related to the usage of DST in English classrooms as one of the activities conducted in teaching and learning process.

### **Countries**

The largest number of studies were in Thailand (Table 1), they had three studies, followed by Taiwan who had two studies on the usage of digital storytelling in improving learners' speaking skills, and Malaysia has one study

on digital storytelling and its contributions to the development of workplace skills in a Southeast-Asian context.

### *Educational levels*

Participants were from pre-school (1), secondary students (1), and university graduates (3).

Table 1: Year of publication, country, educational level and number of studies

<b>Year of publication</b>	<b>Number of studies</b>
2017	1
2018	1
2019	1
2020	2
<b>Country</b>	<b>Number of studies</b>
Thailand	3
Taiwan	1
Malaysia	1
<b>Educational Level</b>	<b>Number of studies</b>
Pre-school	1
Secondary	1
Higher Education	3

### *Subjects*

DST has mainly performed on several subjects such as language or language and literacy in art and social science's fields. For this review, the main class in which DST is exercised can be seen in language or language and literacy classrooms. However, it is undeniable that these classes are integrated with other subjects such as creative thinking skills (1), computer course (1), and literature (1).

### *Pedagogy*

DST was described or suggested in two studies as the overall stand-alone pedagogy (Table 2). For example, DST might develop 21st-century skills or language skills as the basis for the use of DST as pedagogy was certainly suggested. It was found out that DST was also combined with other pedagogies and techniques through the remainder of the studies. DST, for example, was introduced with a self-directed learning approach (Ponhan & Teeranon, 2020). In some studies, it was integrated with creative thinking (Yang et al, 2020).

## Research methodology

One study adopted a qualitative study, the second study established for a mixed approach, and the rest of the studies were longitudinal study and case study respectively. The number of participants ranges from 1-255 students. These studies use school or class as a context, in which some students can collaborate for their digital stories' task.

Table 2: Subjects, pedagogy, research methodology and number of studies

Subjects	Number of studies
Creative thinking skills	1
Computer course	1
Literature	1
Pedagogy	Number of studies
Stand alone	2
Included in other pedagogies / technique	3
Research Methodology	Number of studies
Qualitative	2
Mixed methods	3

## DST Measures

Two measures of DST have been identified from these five studies. They are ideal and reflective. For this paper, measures refer to different experiences that learners had experienced while implementing DST in their learning process.

The ideal DST is usually designed to accommodate a given definition for storytellers. It is defined by students borrowing a specific idea through the development of digital storeys. The measures are geared to understanding through output. In other words, when students able to understand the process of creating DST and able to apply the stages of DST when producing their digital stories. This can be seen in all four studies such as Thang and Mahmud (2017) and Nampaktai & Suksiripakonchai (2018), in which all the students can produce their digital stories through some collaborative works with their peers.

The reflective DST is intended to provide students with the opportunity to focus on what they have learned or encountered recently. Typically, involving students in a reflective process serves as a key task. The measures are characterised by experiences gained by the students. Its focus is on making meaning through story production, discussion, and reflection of the experience. In other words, when students can reflect on their performances and how the



implementation of DST helped them in improving their academic performances. This can be seen in one of the studies by Ponhan & Teeranon who investigate EFL students' perspectives on using digital storytelling to enhance self-directed learning.

## **RQ 2: What is the impact of using digital storytelling to foster speaking skills among learners?**

Six types of outcomes can be identified, and they are affective, intellectual, educational, technical, linguistic, and communal findings. The first one is affective outcomes that refer to learners' perceptions and attitudes. This includes an interest in learning the English language, motivation, and English-speaking confidence. For example, Yang et al. (2020) reported that DST has effectively helped to foster the students' development of becoming proficient English speakers and creative thinkers. Similarly, a study by Nampaktai & Suksiripakonchai (2018) found a majority of students stated that digital storytelling fostered their English-speaking ability and English-speaking confidence.

The second outcomes or findings apply to the consequences of the intellectual, such as critical thinking and creative thinking. DST, for instance, was found to have a positive effect on creative thinking skills by Yang et al., (2020) and critical thinking skills by Thang & Mahmud, (2017).

Thirdly, educational outcomes refer to the production of research abilities or academic achievements. For instance, Thang & Mahmud (2017), has shown that the participants developed inventive thinking; a high order of study skill in which the participants learned adaptability and self-direction while trying to find and putting pictures, music, and narration for their digital stories.

Next, technical outcomes apply to compute media and transmedia skills. This can be seen in studies performed by Thang & Mahmud (2017) and Liu et al. (2019) allowed students to fully utilise their ICT knowledge on different social media platforms and tools.

The fifth outcome is the linguistic outcomes. In this study, the development of language skills will be focused on speaking skills. All studies in this review had positively contributed to the development of learners' speaking skills, such as Yang et al. (2020), Nampaktai & Suksiripakonchai (2018), Thang & Mahmud (2017), Liu et al. (2019), and Ponhan, & Teeranon (2019).

Finally, communal findings or outcomes refer to collaborative skills, coordination, and the ability to communicate. Students were also motivated by DST to work together; pair work or group work to create their digital stories therefore could foster engagement skills. This method was found useful to boost



the sense of participation among students (Liu et al., 2019) and students' collaborative skills (Thang & Mahmud, 2019).

## **DISCUSSION**

There are two observations that are worthy of further discussion.

### **Affective motivating passion**

English subject usually has been perceived as one of the tough subjects in schools (Musa, Lie & Azman, 2012). This perception sometimes permitted students to be demotivated in learning English. This creates a limited opportunity to practice English speaking activity whereas the classroom is the only possible platform that students have to practise using the language. Consequently, according to Krashen, the affective filter is described as learners' attitudes that may affect their success in acquiring a second language.

With the advancement of technology, numerous methods emerge to facilitate in teaching and learning process, for example, digital storytelling. Preparing digital stories seem to be interesting in which can help to promote learning English in an exciting way especially for low proficiency students. This may reduce their affective filter therefore can spark a passion for them to learn and practice the English language. With a fiery passion, learners will be able to hook in opportunities and platforms to practice English communicative activity. This will improve learners' English language skills, especially in their speaking skills. With this, students can develop a wide range of vocabulary, grammar structure, as well as pronunciation correction hence, cultivate English speaking confidence, and over time, they can be proficient English speakers. With deeper understanding, massive practice, great passion, and the aid of remarkable media, learners can be mould and prepare themselves for 21st-century skills that are deemed important for students.

### **Creative, Imaginative, and Resourceful Platform**

The usage of digital storytelling also promotes creative and imaginative learning platforms, especially with the resourceful usage of media. Learners are allowed to explore the boundless ways to create and prepare for their digital stories. For example, the usage of pictures, videos, recordings, and music will add up to a better understanding of certain subjects. Besides, these processes will also allow them to be more imaginative and creative thinkers in becoming the storytellers to share their stories (Bakar, 2019).

Moreover, most of the studies in the current reviews portrayed positive outcomes, especially in digital literacy skills and ICT literacy skills among learners. In addition, learners are able to engage and collaborate more with their peers in preparing their digital stories as DST activities usually will need students

to work in groups. This will improve their engagement and promotes motivation in learning that can equip students to fully utilise their collaborative skills and literacy skills to become technologically ready and proficient.

## **LIMITATION AND RECOMMENDATION**

The analysis has at least two limitations. We only concentrated on the five most important quality studies due to time and resource constraints. In the beginning, we decided to provide an overview of the positions of teachers or the views of teachers as well. This detail is sometimes overlooked, however, and is therefore insufficient for critical research.

Future studies can analyse DST from the perspective of teachers or skilled trainers in classroom settings. This is important to identify and rectify the gaps in using digital storytelling to teach the English language in classroom settings. Besides, studies on the effectiveness of DST in fostering the development of speaking skills have been undertaken in some Asian contexts but rarely in the South-East Asian context especially in Malaysia which makes the findings of this study relevant and crucial.

## **CONCLUSION**

The main purpose of this study is to systematically review the usage of DST in fostering speaking skills among low proficiency learners and its impact in facilitating learners in promoting English speaking skills and English-speaking confidence. The study offers several significant contributions for practical purposes and the body of knowledge. From the review, interested parties such as the policymakers, educators such as lecturers and teachers, as well as learners can generate some possible methods and strategies to cater to the classrooms' needs. The results also showed that, in our study, Thailand has the most studies on the subject, which raises a need for more studies to be conducted in South-East Asian countries in the future. The participants, meanwhile, are found to be from pre-school, secondary, and higher education and are also from subjects of social sciences. Many studies that have implemented qualitative studies or/and mixed methods are still used for research methodology purposes. DST is similarly often embraced as stand-alone pedagogy and may integrate with some other subjects and/or pedagogies used to teach speaking skills among students. Overall, this analysis is hoped to recognise gaps in the existing studies and provides possible future research that could fill the gaps. It is vital for this study to be a window for a better understanding and inform the future scholars to fully apply the usage of digital storytelling in the teaching and learning process.

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