Digital Storytelling in ESL Reading Classrooms: Tasks that Go Beyond Language Learning
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Abstract
Digital storytelling (DST), a technology that enables one to present stories or narratives in a video format, has been increasingly adopted in various educational settings ever since the late 1990s. However, DST as an instructional technology has not been extensively implemented and studied in second language (L2) classrooms. The purpose of this paper is to demonstrate how DST can be applied to L2 classrooms to promote higher-order thinking and digital literacy skills in L2, in addition to the conventional objective of L2 literacy development. The paper begins with an introduction to DST, then proposes a theoretical model examining learning opportunities provided by DST in L2 classrooms based on relevant literature, followed by delineating a practical case of systematic DST implementation in an eight-week intensive L2 reading course for adult learners. Results and pedagogical insights gained from such implementation are shared and discussed. The findings suggest that DST can provide opportunities for L2 learners to develop higher-order thinking (e.g., summarizing and synthesizing, problem-solving, critical thinking) and digital literacy skills, while engaging them in L2 reading and writing practices.

Keywords: digital storytelling, adult English learners, second language classroom, literacy development, higher-order thinking, digital literacy
Digital Storytelling in ESL Reading Classrooms: Tasks that Go Beyond Language Learning

For many of us, “once upon a time” is a magic phrase that brings to mind childhood stories and reading. Through history, storytelling has been a means of sharing knowledge, wisdom, and values. Adding to the storytelling tradition, digital storytelling (DST) is “a modern expression of the ancient art of storytelling… Stories have been adapted to each successive medium that has emerged, from the circle of the campfire to the silver screen, and now the computer screen” (Digital Storytelling Association website, 2002, as cited in Sadik, 2008, p. 490). Over the years, researchers and practitioners from various disciplines and fields (e.g, community engagement, violence prevention and public health, and education) have been attracted to DST and apply it for their respective purposes (Lambert, 2013).

The concept of DST is not difficult to understand. Davis (2004) described DST as “a form of short narrative, usually a personal narrative told in the first person, presented as short movies displayed on a television or computer monitor or projected onto a screen” (p. 1). Joe Lambert (2013), one of the pioneers in DST and co-founder of StoryCenter (the successor to the Digital Storytelling Association), further refined it as a “self-revelatory” and “self-expression” process in which someone uses a “personal or first-person voice” to tell “a lived experience” or describe “moments” in a short video format by using narration, photos, and music (pp. 37-38).

DST typically entails a stepwise approach and follows the following process: sharing the story idea with peers (gathering suggestions), storyboarding (dividing the story into small scenarios and locating pictures, music and audio for the scenes), script writing and recording, finalizing the production (using video-editing software such as Windows Media Maker, iMovie, and WeVideo), and finally sharing/publishing the final product to an audience (Godwin-Jones, 2012). Lambert (2013) also emphasized seven essential elements in DST, which are (1) owning your insights, (2) owning your emotion, (3) finding the moment, (4) seeing your story, (5) hearing your story, (6) assembling your story, and (7) sharing your story.

As such, DST can be an effective learning and instructional tool for students and teachers (Gunter, 2012). The process of creating digital stories requires students to be able to locate relevant information, organize time and resources, utilize technological tools, make decisions, solve problems, and evaluate the stories produced (Robin, 2008). It is also an interdisciplinary practice that involves reading, writing, drama, and technology (Castañeda, 2013). Therefore, DST lends itself well to learning opportunities beyond content.

This paper explores how DST could be implemented in the specific context of second language (L2) classrooms to promote learning beyond content. Specifically, the authors were interested in the role of DST in promoting higher-order thinking and digital literacy skills, while providing opportunities for L2 literacy development. In doing so, the authors proposed a theoretical model examining learning opportunities provided by DST in L2 classrooms based on relevant literature, followed by delineating a practical case of systematically implementing DST in an eight-week intensive English as a Second Language reading course for adult learners.
DST in Second Language Classrooms: Proposing a Theoretical Model

Digital storytelling is still a novel practice in the field of Second Language Acquisition (SLA). It is only in recent years that SLA-related DST literature started to emerge. SLA researchers (e.g. Castaneda, 2013; Hafner & Miller, 2011; Yang & Wu, 2012) have found DST to be a powerful tool in the foreign and second language educational contexts because it presents learners with student-centered learning, enhances motivation and autonomy, provides for collaboration, and promotes multiliteracy skills. Table 1 summarizes the contexts and participants of these studies.

Table 1
Recent DST literature in the field of SLA

<table>
<thead>
<tr>
<th>Authors &amp; Years</th>
<th>Context</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sadik, 2008</td>
<td>EFL</td>
<td>two middle school classes in Egypt</td>
</tr>
<tr>
<td>Hafner &amp; Miller, 2011</td>
<td>EFL</td>
<td>59 college students at English for Science and Technology course in Hong Kong</td>
</tr>
<tr>
<td>Yang &amp; Wu, 2012</td>
<td>EFL</td>
<td>110 10th graders in Taiwan</td>
</tr>
<tr>
<td>Gunter, 2012</td>
<td>Reading and ESL</td>
<td>middle and high school students in America.</td>
</tr>
<tr>
<td>Castaneda, 2013</td>
<td>Spanish learning</td>
<td>12 12th grade students in America</td>
</tr>
<tr>
<td>Green &amp; Maushak, 2014</td>
<td>ESL</td>
<td>16 middle school students in America</td>
</tr>
</tbody>
</table>

Note: EFL: English as a Foreign Language, ESL: English as a Second Language.

It is evident from the table that DST has not yet been extensively studied in the field of SLA. Most of the existing studies are concerned with students at the secondary level. More applications and investigations of DST in L2 learning settings are needed to examine how it impacts various aspects of language skill development and the beyond-content learning opportunities in general.

To conceptualize the educational opportunities provided by DST in L2 classrooms, the authors therefore proposed a theoretical model (See Figure 1) drawing on theoretical insights from both DST research in the field of SLA, as well as DST literature at large.

Figure 1 Educational Opportunities Provided by DST in L2 Classrooms

DST and L2 Literacy Development

Developing literacy skills in an L2 can be a challenging task. L2 readers and writers face a number of barriers posed by vocabulary, grammar, stylistic and cultural differences (Nassaji,
In addition, L2 literacy skills need to be developed in an integrated manner. Reading input itself does not necessarily translate into language acquisition; to internalize the language input, learners need to be pushed to produce output to improve their language fluency and confidence in L2 use (Swain, 2005). These L2-specific difficulties, adding to the general decline of interest in reading physical texts among the younger generation (Gunter, 2012), project bigger challenges for L2 literacy instruction.

DST as an instructional technology can address these difficulties in promoting L2 literacy for the following reasons. DST motivates L2 readers to read and write by setting a specific goal to achieve: producing a digital story. In addition, DST could serve as an alternative assessment tool to encourage students to articulate their understanding. Finally, DST could potentially bridge the divide between paper-based instruction and digital device usage.

**DST and Higher-Order Thinking Skills**

Bloom’s taxonomy (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) has been a useful guideline for generations of educators. Drawing from Bloom’s taxonomy, the activities a learner participates in can be categorized as involving lower order thinking (memorization and recall of information) and higher order thinking (hereafter referred to as HOT, skills that go beyond memorization and recall).

Building on Bloom and his colleagues’ work, Anderson, Krathwohl and colleagues (2001) proposed a revised taxonomy and accounted for both the knowledge dimension and the cognitive dimension. The revised taxonomy consists of six levels of cognitive processes, namely, “remember, understand, apply, analyze, evaluate, and create” (p. 215), among which the latter four cognitive processes are recognized as HOT. Brookhart (2010) further interpreted HOT as having three dimensions: HOT as transfer, HOT as critical thinking, and HOT as problem solving. Transfer means students are engaged in “meaningful learning” and “making sense of what they have learned” (Anderson & Krathwohl, 2001, p. 63). Critical thinking means “reflexive and reasonable thinking that is focused on what to believe or do” (Ennis, 1985, p. 45). Problem-solving can be broadly defined as actively employing strategies to reach a goal (Brookhart, 2010). By adopting DST projects, L2 reading classrooms could potentially promote HOT by guiding students to transfer what they learn from an L2 text, exercise their critical thinking, and solve technical and procedural problems to create digital artifacts.

**DST and Digital Literacy**

The European Information Society defined digital literacy as “the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process” (Martin, 2006, p. 135). Similarly, the International Society for Technology in Education (ISTE, 2016) released its standards for students and calls on educators to empower learners to actively utilize technology and become knowledge constructors and creative communicators. DST projects could answer these calls by providing authentic tasks for students to use digital tools in classroom settings and express their knowledge in a digital format.

In summary, theoretically, DST is an instructional tool that provides L2 learners with promising learning opportunities by engaging them in a series of activities that require them to practice L2 literacy skills, exercise higher-order thinking, and use digital media tools. However,
there is a lack of empirical knowledge in how DST can be properly implemented in L2 classrooms to maximize the learning opportunities it can provide. In the next section, this paper endeavored to offer a concrete example of how a DST project was designed and implemented in an adult ESL reading classroom to address the above-mentioned goals.

**Implementing DST: The Case of an ESL Reading Class**

**Project Description**
In the current DST project, adult ESL students were asked to create and present a 2 to 3-minute digital story based on an English book they read in an eight-week ESL reading class during spring 2018. To create their DST videos, the students were required to choose an English book appropriate to their English proficiency level, read it following a recommended reading schedule, and submit checkpoint assignments, while receiving DST training sessions and workshops.

**Instructional Context**

*The course.* The course in which the DST project was implemented was a reading course titled “English through Stories” at a university-based English Language Institute (ELI) in the Southeastern United States. This particular ELI offers an English curriculum catering to eight levels of English learners based on their English proficiency. In correspondence with the Common European Framework of Reference for Languages, these levels are specified as beginner (Levels 1 and 2), intermediate (Levels 3 and 4), upper intermediate (Levels 5 and 6), and advanced (Levels 7 and 8). Each level of curriculum lasts 8 weeks (7 weeks of instruction and 1 week for the final exam), during which students take four core courses (i.e., communication skills, grammar, reading, and writing) and one elective class. “English through Stories” is one of the elective language courses offered to students who are at the upper intermediate to advanced English proficiency and was chosen as a good fit for implementing a DST project.

*The Instructor.* Because the DST project needed to be integrated into the existing curriculum and become a significant part of the course, the authors invited the course instructor to participate actively in the instructional design stage of DST. For instance, the authors and instructor collaborated closely in terms of making necessary adjustments to the course syllabus and lesson plans, as well as developing DST project materials (See Procedures of Implementation).

During the eight-week implementation period, the authors served as guest lecturers, volunteers, and observers in the classroom. Outside the classroom, the authors and the instructor held frequent meetings reflecting and discussing students’ progress in completing the DST project.

*The Students.* Seventeen students self-selected to be in this elective course, yet among them only nine students attended classes regularly. The authors and instructor speculated that the low level of attendance was due to the course’s nature as an elective course. Some students may have perceived it as less important when compared with the core courses and therefore had poor attendance.

As a result, the student data the authors were able to collect were from these nine students. Table 2 presents the demographic information of the nine students including their age, first language, gender and English proficiency. As can be seen, most students are young adults
(ages range from 18 to 25). They speak different first languages, and Arabic speakers accounted for the majority.

Table 2
Demographics of the participants

<table>
<thead>
<tr>
<th>Age</th>
<th>First Language (N)</th>
<th>Gender (N)</th>
<th>English Level (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>Arabic (6)</td>
<td>Male (6)</td>
<td>Upper intermediate (3)</td>
</tr>
<tr>
<td></td>
<td>Chinese (1)</td>
<td>Female (3)</td>
<td>Advanced (6)</td>
</tr>
<tr>
<td></td>
<td>Japanese (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turkish (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition, the authors and the instructor made several key assumptions about the students when designing the instructional procedures of the DST project. These included: (a) students may have a mixed level of motivation to attend class, read the assigned book, and complete the necessary steps of the DST project; (b) students may have a mixed level of familiarity with digital technology; (c) students may have varied L2 reading abilities.

Implementation Procedures

The authors and the course instructor co-designed the procedures and elements of the DST project, taking into consideration (a) best practices suggested by prior DST research (Lambert, 2013), as well as (b) the instructional context that the project was to be implemented in, as well as (c) the goal of exploring the role of DST in promoting higher-order thinking and digital literacy development. Table 3 presents the timeline of the DTS implementation.

Table 3
Timeline of the DTS Implementation

<table>
<thead>
<tr>
<th>Week</th>
<th>Class Time Allotted</th>
<th>DTS Activities</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1 class (50 minutes)</td>
<td><strong>Introducing Digital Storytelling Project</strong> (Following information was provided to students: project description; checkpoint assignments project timeline reading schedule book project rubric)</td>
<td>Checkpoint Assignment #1: Audio Reading Journal</td>
</tr>
<tr>
<td>4</td>
<td>1 class (50 minutes)</td>
<td><strong>Workshop #1</strong>: Scriptwriting, Storyboarding, and Video Editing Software WeVideo</td>
<td>Checkpoint Assignment #2: Audio Reading Journal</td>
</tr>
<tr>
<td>5</td>
<td>1 class (50 minutes)</td>
<td><strong>Workshop #2</strong>: Scriptwriting and Storyboarding Editing</td>
<td>Checkpoint Assignment #3: Storyboarding Worksheet</td>
</tr>
<tr>
<td>6</td>
<td>1 class (50 minutes)</td>
<td><strong>Workshop #3</strong>: Video Editing</td>
<td>Book Projects Due</td>
</tr>
</tbody>
</table>
There were several worth-noting aspects in the DST project design. To start with, the design mirrors Lambert’s (2013) recommended steps of DST and led students to 1) reading English stories, 2) recalling reading experiences, 3) retrieving memorable moments, 4) choosing appropriate images and sounds, 5) recording narrations, 6) storyboarding, and 7) assembling, sharing, and critiquing digital stories. Secondly, students were provided with the DST procedure and information from early on, so that they could have a clear vision of a pathway to produce the DST video. Thirdly, the design supported the students with in-class training and workshops once a week during their reading and DST process, while allowing them to read, reflect, and create throughout the rest of the week. Fourthly, the checkpoint assignments were designed to monitor students’ progress and provide them with formative assessments and feedback.

**Results of Implementation**

Throughout the DST implementation, the authors obtained student assignments and video submissions, observed students’ in-class participation, and collected student feedback through informal focus group interviews. The key results are as follows.

**Student completion rate.** Out of the seventeen students who registered for the class, nine students (52.9 %) attended classes regularly and completed the training and workshop sessions. However, only five students (29.4 %) successfully completed the DST project on time and presented their DST videos in class. The other four students indicated that they did not finish the DST project because they did not finish reading the books.

**Evidence of higher-order thinking skills.** In terms of HOT skills, there was evidence from the focus group interview (see Appendix A for key statements) that participants used all three types of HOT (as transfer, as critical thinking, and as problem-solving). Firstly, one student realized that he could use WeVideo to “produce some dramatic scene, maybe an action movie or something” (See appendix A: student B), which shows evidence for HOT as transfer. Secondly, students also exhibit HOT as problem-solving. For example, one student realized she had difficulty in recording and improved the recording quality by repeated attempts. Besides, she also shared technical experiences with her peers to help address the recording issue. Another student figured out he could locate better sound effects by changing search terms. Lastly, students were practicing HOT as critical thinking by suggesting how to improve the project implementation and realizing that they can learn from their own mistakes.

**Evidence of digital literacy development.** In terms of digital literacy, there was evidence from the focus group interview (See Appendix A) and DST video analysis (See Table 4) that participants had opportunities to develop digital literacy. Participants used power point software to do storyboarding, used search engines and websites to locate royalty-free images, video and audio materials for their DST project, used their smart phones or computer to record their narration, and finally combine the materials on the WeVideo platform. In addition, there was evidence that DST tasks and video align with ISTE Standards for Students (1a, 1d, 2c, 3b, 3c, 4a, 6d).
Table 4
Evidence of Digital Literacy in Student-created DST Videos (n=5)

<table>
<thead>
<tr>
<th>Student</th>
<th>Recording narration</th>
<th>Using pictures</th>
<th>Using Sound effects</th>
<th>Using visual effects</th>
<th>Integrating readily-available video clips</th>
<th>Shooting original video clips</th>
<th>Giving credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>B</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>C</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>D</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>E</td>
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</tbody>
</table>

**Conclusion**

The purpose of this paper was to demonstrate how DST can be applied to L2 classrooms to promote higher-order thinking and digital literacy skills in L2, in addition to the conventional objective of L2 literacy development.

The paper offers theoretical insights by proposing a theoretical model (See Figure 1) conceptualizing the educational opportunities provided by DST in L2 classrooms. The paper also provided pedagogical insights by delineating a practical case of systematic DST implementation in an eight-week intensive L2 reading course for adult learners. The findings suggest that there was evidence that DST in an L2 reading course could provide opportunities to practice higher-order thinking skills and foster digital literacy. Our results corroborated with Ng (2012)’s findings that we could teach digital natives how to use new technologies to create meaningful artifacts.

This study is not without limitations. Due to the nature of the course and the research setting, we were not able to select the most representative participants among the ESL students. Furthermore, the eight-week course setup placed a limited time frame for DST project implementation. Even though the design of the DST project provided ongoing support and necessary training and monitoring to encourage students to finish their DST video, only 5 out of 17 students were able to complete on time, and therefore further limited our data analysis. Further research could examine if students will perform better in a twelve-week or sixteen-week time frame.

Finally, just as the Griot historian in West Africa pointed out, “stories are more than entertainment; they are vehicles for learning” (Thornburg, 2013, VII). The digital age requires more practices and research that harness the potential digital storytelling can provide. The authors believe in the potential of learning associated with conducting DST in L2 classrooms, so L2 learners can process information and build skills in a second language for future challenges.
References


Appendix A
Key Statements from the Focus Group Interview

- HOT as Transfer
  Student B: “I would like to use it (WeVideo) to produce some dramatic scene, maybe an action movie or something”

- HOT as Problem-solving
  Student A: “Recording is the most difficult part. I tried to put my feelings into it, but when I listened to it, I was like... what... I spent three hours on recording, one part for ten times. When I was done the music and sound effect, I found I pronounced “Dr. Jackel” (as) “Dr. Jeckle”... delete all of that and repeat.”
  Student B: “For me, the difficult part was sound effects, finding the suitable sound effects. Later, I thought maybe I could change the keywords when I searched and I did find better ones.”
  Student A suggest to Student B: “Maybe you should use your phone to record so the sound won’t be like that. I used my phone to record, then sent it to gmail, then download it on my computer.”

- HOT as Critical Thinking
  Student A: “Maybe in the future you could show us how to edit a video first, we would be more interested in the technology.”
  “When I was reading the book, I was thinking what image I need to use and what music to use”. 
  “I think the most important part of the video is music. I have a piece music in my computer and I could use it in the video.”
  Student B: “I can learn from my own mistakes.”

- Digital Literacy
  Student A: “I learned to use WeVideo since you taught us how to use it. The workshops were helpful.”
  Student B: “In the beginning, I thought I might not be able to do it. But after the final workshop in the lab, my confidence was stronger.”
  Student C: “At the beginning, I was afraid of it. But when I started working on the project, everything seemed like easy.”

- DST as a Motivating Factor
  Student A: “I think this project make reading more interesting. Because when I was reading, it was boring. But when I was doing about the project, wow, it is happening.”
  Student D: “Wow! Her video is great. I wish I could finish my project.”

Note: Student students’ responses are presented here in their original forms here and there might be grammatical mistakes or non-native like expressions.