

Exploring the Utility of Digital Storytelling Tasks in Promoting English Learning

A. Background

Digital storytelling represents “the modern expression of the ancient arts of storytelling” (Barret, 2011, para. 1) that employs “a mixture of digital media, including text, pictures, recorded audio narration, music and video” (Robin, 2016, p.18) to narrate a story that surrounds a particular topic and presents a specific viewpoint. And digital stories constitute “short personal multimedia tales told from the heart” (Meadows, 2003, cited in McLellan, 2006) that typically last for two to five minutes (Oksoz & Elola, 2016) and fall into three major types: personal narratives, historical documentaries, and instructional presentations (Robin, 2006).

However, despite the scholarly endorsement for the pedagogical utility of digital storytelling, only fragmented efforts have hitherto been made to examine the effects of completing digital storytelling tasks on L2 learning performance and the extant studies have all been limited to an extent due to their research design. This project, in response, investigated the effect of completing digital storytelling tasks on L2 speaking skills, three individual difference variables (i.e., English public speaking anxiety, willingness to communicate in English, self-efficacy in English speaking), and one social dimension of L2 learning (i.e., group cohesion). The resultant findings would shed light on the usefulness of integrating digital storytelling tasks into L2 classrooms via providing additional language practice opportunities inside and outside of the classroom, reducing public speaking anxiety, elevating willingness to communicate and self-efficacy, and strengthening group cohesion.

B. Literature Review

Digital storytelling has been claimed to offer many benefits for learning: (1) contributing to the development of *the 21st Century Literacy* (Brown, Bryan, & Brown, 2005), (2) fostering literacy skills (Robin, 2006), (3) allowing learners to exercise their creativity (Gregori Signes, 2008a), (4) cultivating a heightened level of learning autonomy (Grigsby, Theard-Griggs, & Lily, 2015), (5) enhancing the skills of employing technological tools to attain learning goals (Gregori Signes, 2008b), (6) eliciting empathy, (7) enriching self-understanding, and (8) facilitating community-building (Garcia & Rossiter, 2010). Drawing on these pedagogical advantages of digital storytelling, myriad research projects have examined the utility of digital storytelling tasks in promoting language learning performance, most of which reported favorable outcomes (e.g., Hwang, Shadiev, Hu, Huang, Hsu, & Lin, 2016; Kim, 2014; Lee, 2014).

However, a closer examination reveals that the extant studies have been limited in one or more aspects, such as (1) only requiring the participants to create (and play) a digital story without inviting them to orally tell the story again with the muted digital story in public, (2) paying scarce attention to the influence of digital storytelling on individual difference variables or social dimensions, (3) evaluating the digital storytelling performance rather than general English oral skills, and (4) including no comparison group. In light of the scholarly support and the design limitations of extant research, the principal investigator thus undertook this project to scrutinize the influence of digital storytelling tasks on L2 speaking skills, selected individual difference variables (i.e., English public speaking anxiety, willingness to communicate in English, and self-efficacy in English speaking), and group cohesion. The questions guiding this project go as follows.

1. How does the completion of digital storytelling tasks influence English speaking skills?
2. How does the completion of digital storytelling tasks influence (1) English public speaking anxiety, (2) willingness to communicate in English, (3) self-efficacy in English speaking, and (4) group cohesion?

C. Method

1. Context and participants

The principal investigator implemented this project in two sections of a General English course. Assigned as either the experimental group (i.e., the digital storytelling group) or the comparison group, these two sections comprised a total of 73 EFL college students in Taiwan, consisting of 32 males and 41 females.

2. The digital storytelling task

The principal investigator adapted the digital story development process summarized by Oskoz and Elola (2016) to construct the digital storytelling (DST) task for this project. Namely, to complete a DST task, the students need to go through six consecutive stages: *content development*, *written text development*, *visual and aural support search*, *oral text rehearsal*, *technology training and application*, and *presentation*. Put differently, for each DST task, students, in groups of three members, would need to (1) locate information, (2) generate the story script and revise it based on instructor feedback, (3) obtain visual and aural support, (4) rehearse and record their oral reading of the story, (5) combine the visual and aural support with the audio recording to create the digital story, and (6) play the digital story and then tell the story again with the muted digital story in class. In this project, the students finished a total of two DST tasks.

3. Research instruments

The principal investigator employed five sets of research instruments to collect the relevant data for this project. First, the English public speaking anxiety (EPSA) scale explores the degree of fear confronting an individual when s/he delivers an English speech in public. Second, the willingness to communicate in English (WTCE) scale unveils the probability of an individual initiating communication in English when s/he has the choice to do so. Third, the self-efficacy in English speaking (SEES) scale assesses the extent or strength of an individual's belief regarding his/her ability to carry out speaking tasks in English. Fourth, the group cohesion (GC) scale reveals learners' feelings toward the group and group members and their perceived positivity of the interactions with one another. Fifth, the GEPT Intermediate Level – Speaking (GEPTI-S) evaluates test-takers' English speaking ability to “make inquiries and conduct conversations on daily life topics... [and] discuss or describe personal experiences in general” (LTTC, n.d) and comprises three task types that together consist of 12 tasks.

4. Implementation Procedure

This project adopted an experimental design that involved a DST group and a comparison group and spanned a period of an academic semester (four months) for its implementation. To begin, both groups took the pre-test by responding to the four self-report scales (i.e., the EPSA scale, the WTCE scale, the SEES scale, and the GC scale) and sitting for the first set of GEPTI-S. Secondly, for the DST group, the instructor/researcher explained the guidelines of the DST task, provided a step-by-step written tutorial for video editing, and held a practice session for the participants to practice reading aloud a provided story. Thirdly, the DST group finished two DST tasks; during the weeks the DST group presented their digital stories and live storytelling, the comparison group watched English-spoken movies and discussed the topics related to their contents. Finally, as the semester drew to a close, both groups completed the post-test which similarly comprised the four self-report scales and a second set of GEPTI-S.

5. Data analysis

To address the two research questions set forth for this project, the principal investigator compared the DST group and the comparison group in terms of their English speaking skills, EPSA, WTC, SEES, and GC, evaluated both at the beginning of the semester and at the end of the semester, by virtue of conducting multiple analyses of covariance (ANCOVAs). Specifically, he began by coding the answers to the four self-report scales and rating the responses to the GEPTI-S. He then checked

and ensured that the assumptions underlying ANCOVA have been met, such as normality, linearity, homoscedasticity, independence of the covariate and treatment effect, and homogeneity of regression slopes (Field, 2009). Finally, he computed a total of five ANCOVAs, one for the first research question and four for the second research question.

D. Results

To address the first research question, the principal investigator conducted a one-way ANCOVA to evaluate the impact of completing DST tasks on English speaking skills. As shown in Table 1, completing DST tasks has induced a statistically significant impact on overall speaking proficiency [$F(1, 60) = 9.71, p < .01$]. In other words, the digital storytelling experience has enabled the DST group to achieve substantial gains in English speaking skills.

Table 1

ANCOVA Results and Descriptive Statistics for Post-study Overall Proficiency by Pre-study Overall Proficiency and DST

Group	N	M	SD		
Comparison group	30	3.47	.82		
DST group	33	3.94	.56		
Source of Variation	SS	df	MS	F	Sig.
Pre-study value	16.60	1	16.60	59.48	<.01**
Grouping	2.71	1	2.71	9.71	<.01**
Error	16.75	60	.28		
Total	906	63			

* $p < .05$; ** $p < .01$

To address the second research question, the principal investigator computed four one-way ANCOVAs to examine the impact of completing DST tasks on EPSA, WTCE, SEES, and GC. The results showed that the DST group and the comparison group endured a statistically comparable amount of EPSA at the end of the project [$F(1, 60) = .02, p = .88$](Table 2). However, as compared to the comparison group, at the end of the project, the DST group demonstrated a significantly higher level of WTCE [$F(1, 60) = 4.45, p = .04$], SEES [$F(1, 60) = 4.33, p = .04$], and GC [$F(1, 60) = 12.89, p < .01$], as shown in Tables 3-5. To put it another way, while DST seems to apply no impact on EPSA, it does lead to increases in WTCE, SEES, and GC.

Table 2

ANCOVA Results and Descriptive Statistics for Post-study EPSA by Pre-study EPSA and DST

Group	N	M	SD		
Comparison group	30	116.17	15.77		
DST group	33	115.06	20.94		
Source of Variation	SS	df	MS	F	Sig.
Pre-study value	11092.30	1	11092.30	65.52	<.01**
Grouping	3.63	1	3.63	.02	.88
Error	10157.75	60	10157.75		
Total	862976	63			

*p<.05; **p<.01

Table 3

ANCOVA Results and Descriptive Statistics for Post-study WTCE by Pre-study WTCE and DST

Group	N	M	SD		
Comparison group	30	69.27	17.69		
DST group	33	84.94	23.20		
Source of Variation	SS	df	MS	F	Sig.
Pre-study value	11019.01	1	11019.01	43.30	<.01**
Grouping	1131.54	1	1131.54	4.45	.04*
Error	15270.74	60	254.51		
Total	408311	63			

*p<.05; **p<.01

Table 4

ANCOVA Results and Descriptive Statistics for Post-study SEES by Pre-study SEES and DST

Group	N	M	SD	Skewness	Kurtosis
Comparison group	30	111.20	25.90		
DST group	33	119.91	32.67		
Source of Variation	SS	df	MS	F	Sig.
Pre-study value	27662.18	1	17662.18	63.99	<.01**
Grouping	1871.33	1	1871.33	4.33	.04*
Error	25935.35	60	432.26		
Total	899041	63			

*p<.05; **p<.01

Table 5

ANCOVA Results and Descriptive Statistics for Post-study GC by Pre-study GC and DST

Group	N	M	SD		
Comparison group	30	38.13	3.53		
DST group	33	41.36	4.20		
Source of Variation	SS	df	MS	F	Sig.
Pre-study value	308.58	1	308.58	29.93	<.01**
Grouping	132.87	1	132.87	12.89	<.01**
Error	618.52	60	10.31		
Total	101013	63			

*p<.05; **p<.01

E. Results and Implications

This project investigated the impact of completing DST tasks on L2 speaking skills, three individual difference variables (i.e., English public speaking anxiety, willingness to communicate in English, self-efficacy in English speaking), and one social aspect of L2 learning (i.e., group cohesion). Toward this end, five ANCOVAs were performed on the collected data, giving rise to three major findings. First, DST tasks contributed favorably to the development of L2 speaking skills. Second, finishing DST tasks led to negligible changes in English public speaking anxiety. Third, willingness to communicate in English, self-efficacy in English speaking, and group cohesion increased as a result of completing DST tasks.

In light of these findings, the principal investigator proposes implications for L2 instruction and learning. In terms of L2 instruction, L2 practitioners may consider assigning DST tasks to increase students' speaking skills, willingness to communicate, and self-efficacy, as well as to induce a higher level of group cohesion. However, in addition to the DST tasks, they may also need to assign additional public speaking tasks to help ameliorate their public speaking anxiety. In terms of L2 learning, L2 students may take advantage of DST in their self-learning endeavor to better speaking performance.

F. References

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