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Usage of Digital Storytelling for Media Creation on Tablet

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ABSTRACT

Storytelling is a method of conveying information to the audience in a variety of ways, whether oral, scripting stories, cartoons and movies. The transition from the art of storytelling in digital form with infused multimedia elements will ease the presentation of information. However, educators are unable to distinguish between Digital Storytelling (DST) and non-DST clearly. Thus, the usage of digital media is poorly delivered because of inappropriate content of presentation. Therefore, this study is intended to determine the views and usage of DST in education with the interaction of the tablet. Data was collected through using informal interviews and questionnaires from 33 respondents from educators at the Institute of Teacher Education (ITE). Findings show that even though most of the respondents have never heard about the concept of DST, the process of narration have attracted their attention in the media creation. Tablet as user's preference for mobile device is recommended for better interaction in the usage of DST in the classroom.

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INTRODUCTION

Traditionally, narrative stories are presented with natural resources such as leaves in Europe, calf skin in Greek, cloth in India, rope in Africa and Australia, also sketches on the wall stone in Egypt. Whereas in Malaysia, the storytelling technique is delivered via shadow play and musical instruments such as percussion, flute or drums. Storytelling is a method of conveying information to the audience in a variety of ways, whether oral, scripting stories, cartoons and movies. It is popular among educators due to its simple and fast method and promotes the students' involvement (Norly, Nadia Akma, Norasikin, & Nor Zuhaidah, 2013).

The transition from the traditional storytelling to DST is introduced by the late Dana Atchley (pioneer of digital story) in collaboration with Joe Lambert in augmenting multimedia technology into the traditional story (Lambert, 2006). Based on the combination of text, graphics (sketches) and audio (musical instruments) the narrative is delivered with easy and memorable way to foster communication, collaboration and creativity skills (Emory's Center for Interactive Teaching, 2014). Furthermore, other skills involved are reviewing, writing, language, photography and multimedia to produce an effective digital story (Barrett, 2009; Robin, 2008; Schrum & Levin, 2009). In order to be an effective educator, the integration of technology in the education area is crucial (Sadik, 2008). Next section introduces a little background of digital storytelling and followed by its usage in education area. It will feature on the explanation regarding the usage of digital storytelling on touch screen tablet. The next section explains the methods and findings of the data retrieved regarding the concept, processes and applications of DST on touch screen tablet. This article ends with the discussion and future works of the study conducted.

Digital Storytelling:

Numerous studies have articulated definitions of digital stories from various experts. Robin (2008) defined DST as an art of combining storytelling and multimedia elements, such as graphics, text, audio, video, narration and music to present interesting information for specific topics. While Ohler (2008) claimed, that the digital narrative should be assisted with the use of multimedia technology for narrative satisfaction. Miller (2008) also added that DST as a narrative associated with entertainment to audience through technology and media. Due to this various and wider context of DST, there are three types of digital narratives: (i) personal narratives, (ii) stories

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that examine historical events, and (iii) stories that are primarily used to inform or instruct (Abdel-hack, Sabry, & Helwa, 2014; Yuksel, Robin, & McNeil, 2010). This study will focus on the narrative to inform or instruct stories for the educational purposes in the media creation.

With the media creation in teaching aid, problems dealing on self -learning are solved because it is usable at different levels of knowledge (Muhammad Adri, 2007). The concept of DST will aid students on comprehending the lesson in the classroom. In implementing DST in education, many experts have proposed elements as a reference. However, past studies showed that DST experts-proposed elements vary and repetitive. Therefore, a conceptual model proposed by Tenh, Norshuhada, & Harryizman (2011) summarized the core elements which are intention, user contribution, dramatical question, perspective, articulation, soundtrack, story map, significant content, personal, engagement, expression, collaboration and tempo . These elements could be a guidance for the implementation of DST in the educational field (see Figure 1).

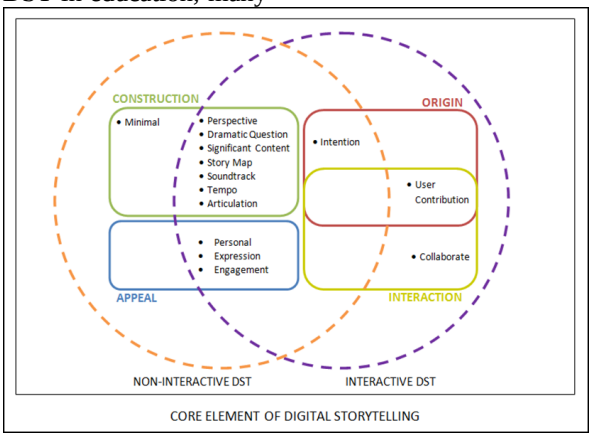

Fig. I: Conceptual Model of DST (Tenh, 2013).

Usage DST in Education:

Digital storytelling, in particular, has become popular as a method for students and teachers to learn and teach educational content. It is about using communication skills that translate raw information into valuable knowledge .Meaningful digital stories inspire audiences to think and reflect upon the story being told. In addition, with a variety of resources for digital media in the classroom, students have gained positive impact on the quality and performance of learning (Yahya & Dayang Raini, 2011).

Effective digital stories move students to understand and learn more about the story and its meaning. However, the usage of digital media is poorly delivered because of inappropriate content of presentation (Ariffin, 2009). Hence, digital media will be more usable with appropriate teaching methods employing the concept of DST in the classroom. However, the concept of DST should be clearly comprehended before the construction of DST because some educators cannot distinguish DST or non-DST clearly (Robin & McNeil, 2012). Thus, they started noticing the significance of DST and applied it in wider context outside personal stories with mobile devices.

The stunning growth of technologies has given users ability to access technology, most free or low cost, which will increase with the rate of growth and integration of DST for education purpose. Thus, it will become the convergence points of modern classroom activities. The availability of the support functions of mobile devices is required to draw attention and entertain students, especially in the creation of multimedia materials (Yu, Wang, Liu, & Niu, 2009). Therefore, a proper device is required as a technology enabler to aid educators or novice designers in the media creation.

Mobile Devices:

With the increased in the number of mobile devices has spurred the development of low cost applications in the creation of DST. Mobile devices are undeniably useful for mobile learning due to its features such as portability, small electronic application and capable of processing with network facilities such as smart phones, tablets and laptops (Inostroza, Rusu, Roncagliolo, Jimenez, & Rusu, 2012). It also help users to reduce errors and complete any given tasks with features such as touch screen, lightweight, fast start-up, efficient high-performance graphics and memory.(Jennings, Ryser, & Drews, 2013; Milne et al., 2010).

The association of multimedia technology in DST have inspired the preferences of tablet in this study. Elements of multimedia such as image, video and audio required better interaction in implementing tasks. Past research showed that the idea of using tablet in the class room has resolved certain problems dealing with interaction on natural user interface (NUI). The interaction which serves flick/fling and pinch/spread function could add realistic details to the media by making changes in size of image and

editing characters (Jennings et al., 2013; Sutherland & Maiden, 2010). Tablet is also a popular choice to transform learning by diverging usage of the printed media to digital media for learning (Stickel, 2009).

The usage of tablet have increased students' performance such as increasing students' focus and full attention in class, immediate feedback from students and educators and high level of satisfaction from students (Koile & Singer, 2006). Owing to the minimum price of a tablet compared to a desktop computer, it is preferable device in schools and higher education institutions. This is because the communication and presentation among students and lecturers can be improved (Stickel, 2009), as well as in teaching pedagogy (Cromack, 2008). Students are free to use the device outside the classroom so that they can develop knowledge in the real world with its portable features (Syed Ardi & Zaidatun, 2008).

Methods and Findings:

The aim of this study is to find out the views and opinions concerning on the usage of DST on a tablet, therefore, the appropriate instrument is through interview and questionnaires. A total of 33 respondents involved are trainee teachers, lecturer, in-service teachers at the Institute of Teacher Education (ITE). Interviewed data are analysed manually while data from the questionnaires are analysed descriptively using percentages, standard deviation and mean. This section presents the analysis and findings of the study. About 54.5% (n = 33) of respondents are female and the remainder (45.5%) are male. As for the race composition, the majority of respondents are Malay (63.6%), Chinese (18.2%) and the rest is 18.2%. The various roles of educators include trainee teachers (48.5%) and in service teachers (21.2%) and lecturers (30.3%). They are from different subject backgrounds: English Language/TESL (15.1%), Mathematics (54.5%), Education (6.0%), Library Science (3.0%), Information Technology (21.3%), as shown in Table I.

Table I: Respondent demographic information.

Demography	Gender		Total	%
	Male	Female		
Race:				
Malay	10	11	21	63.6%
Chinese	1	5	6	18.2%
Others	4	2	6	18.2%
Total	15	18	33	
Educator:				
Lecturer	7	3	10	30.3%
Trainee teachers	7	9	16	48.5%
In service teacher	1	6	7	21.2%
Total	15	18	33	
Subject Background				
English Language/ TESL	3	2	5	15.1%
Mathematics	5	13	18	54.5%
Education	1	1	2	6.0%
Library Science	1	0	1	3.0%
Information Technology	5	2	7	21.3%
Total	15	18	33	

In the process of understanding deeply the user opinions on the concept of DST, an interview was conducted among the respondents. The questions are listed as below:

- Have you heard about digital storytelling?
- What is your view on digital storytelling?
- Did you implement storytelling method in the classroom?

Respondent 1 pointed out he was attracted to the storytelling techniques, but he has never heard about the DST. Respondent 2 responded that he decided to use storytelling method after watching television series and comics which looks very fascinating. He applied the method during the creation of digital media to attract students' learning, though he had never heard of the concept of DST. Respondent 3 also never knew about the concept of DST and only applied basic concept of Computer Aided Instruction (CAI) in the creation of digital media. However, respondent 4 responded that even though he also never heard about the concept of DST but adhere to the concept in the teaching and learning process unintentionally.

Next instrument deployed was a set of questionnaires which was distributed to the respondents from various backgrounds of education. The questionnaires comprised of three sections (i) personal information and background of the respondents, (ii) the concept of DST and (iii) the process of the media creation. They were asked whether they have heard about the concept of DST in the second section. Figure II illustrates that 57.6% of respondents have never heard about the concept while the rest 42.42% answered yes.

Then, the respondents were asked whether they have understood the core elements of DST. Most of them (84%) did not understand the elements and only a few (16 %) of them understood (Figure III). Most

of them are not familiar with the terminology of DST. This concludes that most respondents are unaware of the concept of DST. Further details on DST is about question on the activities in the process of media creation as shown in Table II.

The third section from the questionnaires includes items whether the respondents have been performing the activities in the process of media creation (using 5 Likert scale). Most of respondents agreed that the process was initiated with an idea (mean = 4.36), write a narration (mean = 4.09), share views (mean = 4.21), create a storyboard (mean = 4.36). In addition, majority of the respondents also agreed that the next process was to create a plan (mean = 4.36), organize planned activities (mean = 4.24), write a textual plan (mean = 3.97), describe planning visually (mean = 4.06), are a good sketch artist (mean = 3.00), sketch image manually (mean = 3.48), sketch image digitally (mean = 3.33), select and download material (mean = 4.24), ensure the creation of the storyboard (mean = 4.24), write the script narration (mean = 4.18), make a list of selected media (mean = 4.15), collect media materials (mean = 4.12), edit media component (mean = 4.06), record sound recordings (mean = 4.24), edit all components (mean = 4.21), compile for end product publication (mean = 4.18), add titles, transitions and credits (mean = 4.24), review and final editing (mean = 4.30), export to a format that readable (mean = 4.18), distribute the narration digitally (CD/web) (mean = 3.82).

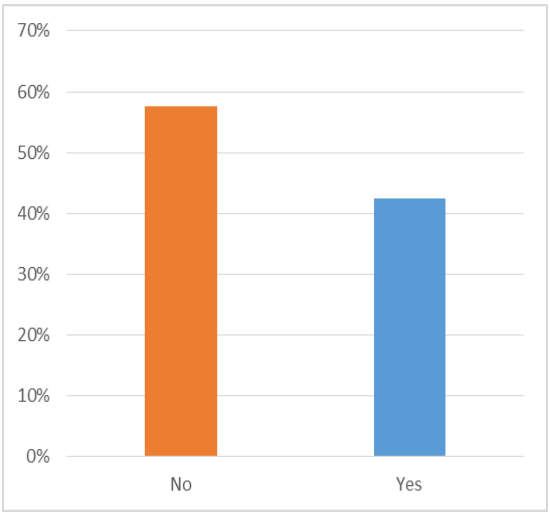

Fig. II: Concept of Digital Storytelling.

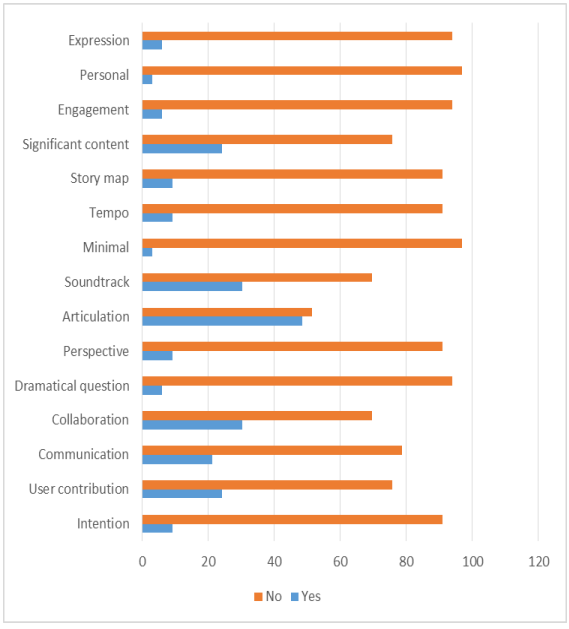

Fig. III: Elements of Digital Storytelling.

Generally, the majority of respondents agreed with the process of the creation media with average mean = 4.06 which is closer to the maximum Likert Scale =5 (Strongly Agree). The standard deviation =0.58 is low, indicates that the data are clustered closely around the mean with high reliability of the activities frequently performed by them. Basically, the process of digital storytelling activities is derived from the media creation from the past research (Porter, 2004). However, the respondent are unaware that they have been performing the concept of DST during the creation of media because that could not distinguish between DST and non DST clearly.

Table II: Process of Media Creation.

Activity	Standard Deviation	Mean
Initiate with an idea	0.49	4.36
Write narration	0.68	4.09
Share views	0.42	4.21
Create a storyboard	0.53	4.18
Create a plan before designing storyboard	0.49	4.36
Organize all planned activities	0.44	4.24
Write a textual planning	0.73	3.97
Describe the planning visually	0.56	4.06
Are a good sketch artist	0.83	3.00
Can sketch image manually	0.81	3.48
Can sketch image digitally	0.89	3.33
Select and download materials	0.51	4.24
Ensure for creation of storyboard	0.51	4.24
Write a script	0.47	4.18
Make a list of selected media materials	0.51	4.15
Collect all media material	0.55	4.12
Edit all media components	0.75	4.06
Make voice recordings	0.44	4.24
Edit all components	0.70	4.21
Compile for end product publication	0.58	4.18
Add titles, transitions and credits	0.44	4.24
Review and final editing	0.47	4.30
Export to readable format	0.53	4.18
Distribute the narration digitally(CD/web)	0.68	3.82
Average	0.58	4.06

The next findings is to show respondents' preferences towards the usage of DST on a tablet in the teaching learning process as shown in Figure IV. Most respondents prefer tablet (58%) as mobile device for educational purposes rather than smart phone (18%), laptop (12%), desktop (9%) and other devices (3%). They were also asked to select the features which eased them in completing their tasks. Figure V illustrates the preferences of the tablet's feature : portable (54.5%), small sized (45.5%), pinching image to reduce/increase size (27.3%), touch screen (48.5%), Wi-Fi (45.5%), easy to navigate (30.3%), fast start-up (36.4%), easy to learn and use (63.6%) and only a few respondents did not require keyboard as its importance feature(12.1%). This indicates that most educators preferred tablet as a mobile device due to its easy to learn and use especially for educational purposes.

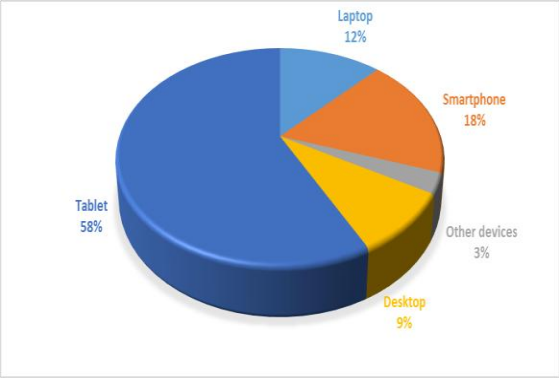

Fig. IV: Preferences Mobile Device.

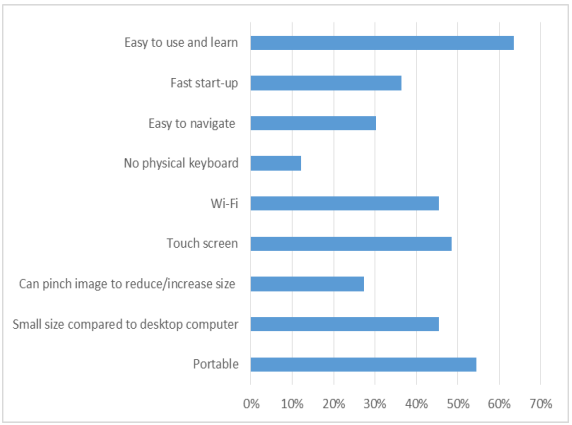

Fig. V: Features of Tablet.

Discussion and Future Works:

Generally, the result of the study indicates that most respondents are unaware of the concept of DST. Although, they were selected from basic background on digital media creation, but the concept is not considered important to them. Thus, findings from interviews indicated that the usage of DST has fascinated students' attention during delivering information with digital media. It appears that a contradiction of the analysis between the concept of DST and the process of media creation because they did not comprehend the concept and unaware of terminology of DST. Although they have been performing the storytelling method as their teaching method but technology is not being infused in their teachings. Therefore, the concept of DST should be instilled in the media creation in order to motivate students' attention in the classroom.

With a variety of types in DST that are presented as a tool in the classroom: Personal Stories, Historical Stories and Instructional Media. The instructional media is the best way to present information with teaching aids. The quality of these teaching aids will be improved using the concept of DST in the teaching and learning process. It can be applied at the beginning of the lesson, an access to facilitate discussion of the topic, and a way to present an abstract or conceptual content in a more understandable form, in order to engage them. Basically, the concept of DST involved elements such as intention, user contribution, dramatical question, perspective, articulation, soundtrack, story map, significant content, personal, engagement, expression, collaboration and tempo (Tenh, Norshuhada, & Harryizman, 2012). These elements also could help educators in implementing DST in a wider context. Thus, it will enhance the knowledge of educators and apply as a formal medium to educate students in learning institutions.

This shows the importance of the concept DST should be implemented in the application of mobile device such as tablet, to facilitate teaching and learning process. Stories become more engaged and compelling when the elements are supported with mobile device's features. Tablet is the choice of user in implementing DST for better interaction in the usage of DST (Xiung, 2013). This is due to its attractive features such as portable, small sized compared to desktop computer, pinching image to reduce/increase size with touch screen interaction, wireless networking and easy to use and learn. In addition, some basic processing capabilities, efficient high-performance graphics and memory will support tasks given to the students for media creation using DST concept. In teaching education, suggestion on implementing this method in school and higher education will help educators enhance teaching skills and expose with this new teaching method. Prospective studies on the design features for DST apps for touchscreen tablet is suggested for future research.

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