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The impact of the digital storytelling rubrics on the social media engagements

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Abstract: Digital storytelling plays a vital role in passing information via attractive and interactive digital media. Therefore, there are several methods that help in assessing the quality of the Digital Stories (DSs) and classifying them into successful or failed stories, rubrics can be a solution. This paper introduces an assessment method for numbers of DSs that have been collected (for a specific year, which is 2014) from the social media site YouTube to determine if they are interesting or boring. The aim of this study is to analyse the impact of some aspects upon the developed DSs, such as how much the developer followed the story regulations (e.g. the story seven elements), and the developer/narrator gender effect. Furthermore, to discover how much such aspects are effective. All this will be reflected in the number of every DS's viewers. As results, three main elements have been revealed and discussed.

Keywords: digital storytelling; digital stories' classification; evaluation methods; rubrics; social media; data analysis.

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1 Introduction

Digital storytelling is the new term of the old art of storytelling. Storytelling is used to share knowledge, wisdom, and values. Digital stories are possibly as varied as the skills that are being improved. Digital storytelling has grown and become more popular through the development of social media and the use of the web based tools and blogs. Gubrium and Harper (2016) state that, "Our stories give form and meaning to the inchoate details of our experiences, allowing us to make sense out of life's raw footage".

Successful Digital Stories (DS) have several effective benefits which are useful for both social and emotional developments, one of these benefits is that people who view the story learn about people from diverse backgrounds other than their own and they can gain an appreciation of the types of hardships faced, in addition, the developer who creates such a story can benefit from sharing that story with others and thereby use information as a way of eliminating the distance that people feel between themselves and their peers (Yuksel et al., 2011). Thöny et al (2018) show the importance of storytelling for users when they state that, "interactive storytelling is a means to activate user participation and is widely used in other media and entertainment formats such as games or interactive theme park amusements".

Digital storytelling has also many other benefits for students, these benefits are listed below (Chung, 2007):

- 1 The extensive research on the topics of the stories and on the type of multimedia they use.
- 2 The writing skills while they are writing the story script.
- 3 The technical development skills while developing the DS.
- 4 By working in groups, students are active in the learning process and practice social skills.

There are several methods that help in assessing the quality of the DS and classifying them into successful or failed stories, these methods can be essential for developing beneficial DS. "Currently, there is considerable variety in the methods of assessment and in the criteria applied to evaluate both the product and the process of DS" (Boase, 2008), these methods can be qualitative and /or quantitative.

Rubrics, as evaluation criteria and their elements have been taken from the 'Story seven elements', 'Story map' and other aspects are adopted by more than one scholar and by the International Centres for Digital Storytelling all over the world to be helpful for assessing these DS.

By reviewing some DS that were uploaded on the social media (YouTube), variation in number of viewers have been shown. Some DS have large number of viewers, some others have few viewers. Large number of viewers for the DS is giving a good indication that it is interactive for the audience and it has valuable characteristics from the viewers' point of view, and almost the information or message of this DS has been passed down to the target audience. So, it is important to analyse the characteristics of these DS which and then lead to these variations.

This paper discusses the available methodologies of evaluating DS and tries to include the elements of the evaluation in a rubric. All DS, used in this paper were uploaded to YouTube in an appointed year to be more accurate

and reliable, and then a discussion is conducted from different areas of concern. SPSS software is used to analyse data collected.

2 Literature review on digital storytelling

Over the past and recent years, storytelling has been considered as the global way which supports many important aspects such as meaning, interaction, and memorisation, all of these can be encouraged from generation to generation (Backhaus, 1984 and Polkinghorne, 1996). Storytelling encourages personal reflection since elements of the story, i.e. past, present and future must be considered (Enskar, 2012; Anderson, 2010; Gilbert, 2002).

Storytelling is recognised as the social and cultural technique of sharing stories, it has been developed and improved in the last decades, and furthermore it has been used as a helpful element of treatment, which provides the healing process for participants (Scaletti and Hocking, 2010). Storytelling is also known as a vital tool for general nursing care (Backhaus, 1984; Banks-Wallace, 1999; Buttery et al., 1999; Smith and Liehr, 2014).

During the last decade, particularly when ‘the Digital Age’ has emerged, and almost everything has become ‘digital’, Storytelling has been converted into Digital Storytelling (DSt) to be the general and innovative Storytelling path. DSt was introduced by the Centre for Digital Storytelling in the USA in the 1990s (Lambert, 2010). Since then, the use and implementation of DSts have grown rapidly via various types of applications (McWilliam, 2009; Sidhu, 2015).

There are various types of DS (Couldry, 2008), these DS have been flourished due to the current increase in digital resources (blogs, social networks, Youtube, etc.) (Sandesh and Srinivasa, 2017).

Barrett (2004), Lambert (2010) and Robin (2012) confirmed that DS can be defined as “a short story (between 2 and 5 minutes) that combines traditional modes of story narration with a wide variety of multimedia tools, such as graphs, audio, video, animation and online publication. One of its most noteworthy characteristics is that the author narrates the story with his own voice”.

Stories are often passed down orally from generation to generation via various means of technology, and Banks-Wallace (2002) recommends that “researchers design studies that structure human behaviour and experiences within a storytelling format”, and stated that “stories serve as ‘touchstones’ into deep seated memories and experiences that otherwise would be difficult to articulate”. Greenhalgh (2001) elaborated also that “stories provide the ideal medium for conveying and learning complex human and clinical experiences”.

3 Successful and failed digital stories

There are main aspects that are essential for developing successful DS, the first important thing which should be considered is the story seven elements, Lambert (2007) in his Digital Storytelling Cookbook developed these seven

main elements of a DS, and these seven elements have been further developed and structured by the Centre for Digital Storytelling (CDS), to provide guidelines for the production of a DS, the seven elements are shown below (Ohler, 2008):

- 1 *Point of view*: involves telling stories from the first person narrative perspective, as well as being clear about the message you want your story to convey to your audience.
- 2 *Dramatic question*: involves the idea of the story arc, and using a hook to grab the audience’s attention to draw them into the story.
- 3 *Emotional content*: involves delving into real emotions in your story, using emotions that come from the heart.
- 4 *Economy*: involves keeping DS short and making every word count. DS authors are encouraged to use images and sound to replace words in the text wherever possible, to ‘show’ instead of ‘tell’.
- 5 *Voice*: involves the importance of using one’s own voice for the voiceover, and encourages the use of emotion and inflection while recording the voiceover.
- 6 *Power of soundtrack*: Music is an optional aspect of DS, but if used, it shouldn’t overpower or interfere with the voiceover and should complement the story.
- 7 *Pacing*: involves using a regular speaking voice, with natural intonations and varied tone and tempo, not rushing through the recording.

The second main aspect of creating a successful DS is the story map. Ohler (2008, 2013) recommended the map developed by Dillingham (2001, 2005) which consists of three main parts which are the beginning, the middle, and the end; each part contains more than one item. The beginning part, for example, contains items such as question, opportunities, and challenges, while the middle part contains items such as conflict of the story and the growth of the problem, and the end part of the story contains items such as the answer of the question, the opportunity which should be met, and the challenges and goals which should be met.

The third main aspect which should be considered is the “I” part of the created DS. The story developers tell their own stories from their own past personal experiences or they consider the stories from a personal point of view, they pretend these stories belong to them, this gives the developed stories more emotional depth, because if someone tells his/her story from his/her own previous experience will be more confidential and emotional than when the others tell the same story.

There are other various aspects; however, the three main aspects above are the most important that should be considered when developing a DS.

4 Evaluation methods for digital stories

Digital storytelling needs to have clear evaluation; there are variety of methods to evaluate both the product which is used for developing the DS and the process of digital storytelling itself, some evaluation methods focus on evaluating the story as an indication, rather than evaluating the process of digital storytelling in terms of

observing the group teamwork, or to observe the expression of ideas, it is preferred to use the indication of the processes as taken in the story (Boase, 2008).

In the evaluation methods, the choices are to use either quantitative research methodology as in questionnaires, or qualitative research methodology as in interviews, blog comments, and open-ended questions. Some researchers use both qualitative and quantitative research methodologies to maximise the benefits of both methodologies. There is more than one choice regarding participants who almost participate in the evaluation process, the first choice, for example, is academic staff and digital storytelling professionals, another choice is higher education students who develop DS, and/or students who learn by watching these DS.

There are some ready frameworks used to evaluate stories such as Moon's Map of Learning proposed by Moon (1999) and the Model of Reflective Learning proposed by McDrury and Alterio's (2003).

5 Rubrics as evaluation criteria for digital stories

As mentioned in the previous section, there is more than one form of assessment that uses digital storytelling; this must be coordinated with the learning outcomes.

Sanders (2009) identify three main approaches for assessing Digital stories which are used for reflection, which are:

- a *The storytelling approach*: based on the beginning, middle and end sequence of a typical story.
- b *The "levels of reflection" approach*: based on different levels or depths of reflection.
- c The use of multimedia is a reflective learning technology upon the available assessment rubrics. The rubric can be used to successfully evaluate a program. It is an instrumental tool that is used to evaluate the quality of the students' work in general, and it is used to evaluate students' DS. So, when using the rubric for DS evaluation, it will be essential to determine the number of points achieved, for example out of 10 and so on.

6 Digital stories in social media

According to Kaplan and Haenlein (2010), social media are group of internet-based applications which are developed to help a user to generate and publish some contents on networks with other members who are connected with the user, while Mangold and Faulds (2009) define social media as "the set of online word of mouth forums which includes blogs, discussion boards, forums or social networks". Alexander (2017) also mentioned an important point which is that, "we are living in a time of immense creativity, with new opportunities for creators appearing nearly every day" which means that creativity has become very common and popular, and every day there are some people who have good inspirations and motivations for new innovations.

Recently, social media produces highly interactive platforms by bringing together individuals and creating communities. Websites such as Facebook and LinkedIn are also members of this ecosystem called social media (Kietzmann et al., 2011; Du et al., 2016).

There are many researchers who talked about rubrics as significant features to measure and assess social media applications and "worked to develop and improve teacher skills in the area of educational technology" (Foley et al., 2001). Chapman and Inman (2009) discussed also how rubrics have become a 'pervasive assessment tool in the current educational settings' and help teacher in their grading processes. Rubrics can be a good solution because "social scientific researchers encounter the problems to collect high quality data since the investigating samples are always dispersed and not easy to collect" (Shi et al., 2016).

In digital storytelling as a social and educational tool, Barrett (2006) also suggests rubrics to be used for measuring and evaluating DS as a deep learning tool, while Sadik (2008) considers DS evaluation rubrics as one of the tools that examine 'the extent to which students were engaged in authentic learning tasks using digital storytelling' which is important in evaluating the amount of deepness that students reach while using digital storytelling as a learning tool.

7 YouTube

YouTube is "one of the most well-known and widely discussed sites of participatory media in the contemporary online environment" (Burgess and Green, 2013), they consider it the first original popular platform for users who are concerned with creating video.

YouTube gives millions of viewers the opportunities to access instantly, upload and watch various pieces of video; they can also subscribe and view count of their success and/or failure. Digital technology, such as YouTube, "gives everyone the means to express themselves, and it empowers them to speak in ways that previous generation could only have imagined" (Palfrey and Gasser, 2008).

Over time, "the ways of storytelling changed with every introduction of new media and technology" (Woletz, 2008). So, by the enhancement of computer technology and internet, communication is no longer restricted to text only and/or the other traditional one-sided means of communication. For this reason, people should be engaged in new methods of viewing and learning such as YouTube, Facebook and the other modern social media technology.

8 Analysis of the results

This study aimed at investigating the relation between the number of views of the story in the social media and the rubric (Table 2), the data were collected from videos that have been taken from YouTube, which were published in a specific year (2014) by three specialists. Internal consistency of the rubric was assessed.

To test the effect of rubric features and number of viewer on social network (YouTube), *t*-test and analysis of variance methods were used. A *P*-value of < 0.05 was set for level of significance. The aim of the analysis here is to find if there is any relationship between number of viewers in social media and the rubric evaluation.

The result of correlation supported a significant relationship between number of views and the seven elements in rubric evaluation ($p < .05$) as shown in Table 1.

There are three out of seven features were significant with $p < 0.05$ including the 'I' part of the created DS, quality of images and/or videos, meaningful audio soundtrack.

The rubric (Table 2) shows a new type of evaluation depending upon some main features such as point of view of the author, story main elements and number of viewers, these results have been taken by viewing forty DS based on some of the story seven elements such as: (1) point of view of the author, (2) pacing of narration and economy (story period from 3 to 5 minutes), (3) meaningful audio soundtrack, and (4) emotional contents. (The previous aspects have been taken from story seven elements subject areas). (5) The 'I' part of the created DS is one of the main aspects that give the DS more

deepness and emotional reliability. (6) Quality of images and/or videos. (7) Referencing which gives the DS more credibility and confidentiality.

Table 1 Illustration of the *p*-value of the seven elements (features) defer from the number of viewer

<i>Feature</i>	<i>p-value</i>
Point of view purpose	0.37
The 'I' part of the created digital story	0.001
Pacing of narrative and the story period from 3 to 5 minutes	0.92
Quality of images and/or videos	0.03
Meaningful audio soundtrack	0.05
Referencing	0.317
Emotional content	0.11

The first column in Table 2 represents the number of views for each video; the rest seven columns represent the evaluation of each element from the seven elements (rubric) for each video.

Table 2 Evaluation based on a rubric

<i>Number of viewers</i>	<i>Emotional contents</i>	<i>Referencing</i>	<i>Meaningful audio soundtrack</i>	<i>Quality of images and/or videos</i>	<i>Pacing of narrative and the story period from 3 to 5 minutes (economy)</i>	<i>The 'I' part of the created story</i>	<i>Point of view purpose</i>
273	7	1	2	2	1	1	3
226	2	2	2	1	1	1	3
245	8	1	3	4	1	2	3
103	4	1	3	4	3	2	4
499	6	1	3	4	4	3	4
27,977	6	1	4	3	3	4	4
6267	7	1	1	3	1	4	3
80	3		1	2	2	1	3
69	3	1	2	2	2	1	1
270	4		1	4	4	2	3
3310	8	1	1	4	1	4	3
1132	8	1	1	3	3	3	1
928	7	1	1	4	1	4	3
8791	3	1	3	3	3	4	3
411	3	1	3	3	3	4	1
68	3	1	1	2	1	1	3
199	3	1	3	2	3	2	3
980	6	1	3	4	3	4	4
15	7	3	3	2	3	1	3
6	4	1	1	1	3	1	3
1135	8	2	1	4	4	3	3
210	5	4	3	2	4	2	4
22	5	4	2	2	3	2	4
33	5	4	2	2	1	2	4
499	8	1	3	4	4	3	4
18,776	4	1	3	4	1	4	3
639	7	1	1	4	1	3	3
580	6	3	2	4	3	3	2
1476	6	1	2	4	3	3	3

Table 2 Evaluation based on a rubric (continued)

Number of viewers	Emotional contents	Referencing	Meaningful audio soundtrack	Quality of images and/or videos	Pacing of narrative and the story period from 3 to 5 minutes (economy)	The 'I' part of the created story	Point of view purpose
21,638	8	2	3	4	3	4	4
37	4	2	2	2	4	1	4
22,469	9	1	3	3	4	4	3
1170	8	1	2	4	3	3	2
121	5	1	2	1	2	2	4
298	5	1	4	2	3	2	3
1288	7	2	4	4	2	4	3
282	4	1	3	2	1	1	3
186	5	1	4	2	3	2	4
75	4	1	3	2	4	1	4
56	3	1	2	2	3	1	3

9 Conclusions

This paper analyses 40 DS which have been collected from social media (YouTube). The collected samples were assessed depending upon the story seven elements and story map, and the 'I' part of the DS. To show the relation between each element of the evaluation method and number of people who were interested in viewing these stories (number of views), SPSS software was used to find the significant features, the result was (p -values < 0.05).

As a result of the data analysis, three main points are considered as significant and have high impacts which are:

- 1 The 'I' part of the created DS has been taken into account in most of these DS, and this has given more powerful effect to the story because when anyone tells his/her own story or pretends it is his/her own story then it will be given more deepness and emotional impacts.
- 2 Quality of images and/or video shave attracted more people for viewing these DS more than the other ones which have technical problems.
- 3 Stories which have meaningful audio soundtrack and background music have given the viewer's more interactivity and attractions more than the other stories which are weak in these subject areas.

For the future work, it will be more significant to have larger dataset to be used and for more than one year which will give more accreditation and confidentiality for the work, and from the researchers point of view, more than one study can be conducted on the DS in general and these studies can give more than one contribution and valuable results, and these studies will give the DS developers good indications to enhance their DS qualities from different areas of concern.

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