

FOSTERING DIGITAL LITERACY CULTURE THROUGH CREATIVE WEB BASED COLLABORATIVE WRITING OF FOLK STORIES

Riche Cynthia Johan, Yudi Wibisono, Isah Cahyani, Afief Yona, Dadi Mulyadi, M. Ridwan Sutisna, Ardiansah
Universitas Pendidikan Indonesia
riche@upi.edu

Abstract : *Preserving the Indonesian local writing culture needs to be done and one form of the writing is folk stories. Does every Indonesian recognize the diverse folk stories of regions from Sabang to Merauke? In schools, we find reading materials on legendary stories emphasizing historical sides and describing the coexistence of nature, animals, and humans which become the themes in revealing the cultural and historical richness of every region in Indonesia. Simply recognizing and storytelling the folktales are not enough as the willingness to write them down is essential to make them remain in possession and preserved as regional cultural wealth. Through the design and development method, this research developed a collaborative writing model utilizing a creative website for writing, which presented stories in the form of texts and pictures publication. The research involved 10 teachers and 10 students who have important roles in producing 20 folk stories. The story writers were assisted by 10 librarians to strengthen the accuracy and clarity of the stories for further publication. The story illustrators helped the writers in completing the stories with illustrative pictures to clarify the meaning and give art nuances in the story. The stories were published digitally for the sake of cultivating writing, reading and sharing stories in technological packaging.*

Keywords: collaborative writing, creative web based, folk stories, digital literacy.

A. INTRODUCTION

The digital world is now an inseparable part of our life and almost all levels of society depend on their surrounding digital technologies as it is not uncommon to see people around us fixated on their mobile devices to communicate or do other activities.

The digital world refers to all technological devices based digital technology technologies developed based on binary numbers, which only consist of 1 (one) and 0 (zero). All commands from a digital device are formulated into a row of binary numbers. One byte consists of 8 bits (binary digits) that can represent the whole data and information such as characters, values, colors, sounds and so on.

All process in our lives, as long as they can be represented in binary numbers, they can be stored into digital devices. The process of this changing is known as digitization, which makes us easy to get, disseminate and produce information. The ease in getting information causes us to be surrounded by a sea of information that allows us to sort out the information that we really need. The rampant phenomenon of

hoaxes today is one of the proofs that that we must have the ability to filter and receive useful information.

Information literacy has experienced a shift in meaning. Literacy is traditionally defined as a person's ability to write and read as well as signing a document (Wright, 2010). The development of digital technology has led to information literacy capabilities including how to access information digitally and how to evaluate the information obtained and use it accordingly. The digital world raises two opposing sides in relation to the development of digital literacy. Research conducted by Mitchel Kapoor (Culture, 2017) shows that young people who have the expertise to access digital media today have not balanced their ability in using digital media with obtaining self-development information because digital literacy is an important thing that is needed today so that we can participate in the modern world.

Indonesia is known as the 6th largest country of internet users in the world. The rapid development of technology and internet penetration almost all over the world leads people to adapt and work in new ways. One of the indicators of digital literacy skills is creativity in doing new things in new ways. Online collaboration is an example of how to work together simultaneously in a separate place. Addressing this phenomenon, developing a collaborative writing model using creative website in which stories are presented in texts and pictures and published digitally to facilitate writing, reading, and sharing stories is an important solution.

B. RESEARCH METHODOLOGY

This study used Design and Development method as is stated by Hevener et al. (2004:77) that "Design science ... creates and evaluates IT [Information Technology] artifacts intended to solve identified organizational problems". Based on this definition, there are six steps of design and development adapted in the research: (1) Identifying the problems that motivate the research; (2) Explaining the purpose; (3) Designing and developing the prototype; (4) Testing the prototype; (5) Evaluating test results; (6) Communicating the results. Following these steps, the development of the collaborative writing model using creative website for writing begins with identification and problem analysis and continues with identification of objectives. Then it is followed by prototype design and development, prototype testing, refinement evaluation of the product developed and finally communicating the results.

C. RESULTS AND DISCUSSION

1. Identification and Analysis of Problem

Considering the importance of developing a collaborative writing model, an observation was conducted to see the factual conditions in the field by visiting information centers in several area of West Java, in this case West Java Provincial Office of Library and Archive in cooperation with several best school libraries West Java explored local potentials in developing folk stories. A benchmarking program was also conducted in PAHOA schools in Serpong Tangerang area (<http://www.pahoa.or.id/>) that have developed folk stories writing program in the form of printed books and Indonesian folk stories game. This suggests that some schools still have a lot of concern about Indonesian folk culture and transform it into school reading books. This is a good initiative and deserves to be appreciated, however it would be more ideal if the printed books and games can be accessed in digital form.

In this information age the ease of information access digitally is due to rapid development of information and technology in every walk of life including the education sector, public services, business, etc. Hence it would be wise to have digital literacy skills, which means having the ability to process various information, be able to understand messages and communicate effectively with others in various forms including creating, elaborating, communicating, working in accordance with ethical rules and understanding when and how technology must be used to effectively achieving goals.

Digital literacy is the ability to understand and use information in many formats from various sources when it is presented through a computer (Lee, 2014 in Gilster, 2007). It houses and becomes an important foundation for the ability to understand about technological devices and information and communication technology which of course is inseparable from both technology and information literacies (UNESCO). Understanding of digital literacy should be introduced to all levels of society so that they have more or less the same knowledge and ability. Hence, it can be concluded that digital literacy is a basic skill that enable an individual to work collaboratively using ICT based tools available today and is the skill that must be owned by all levels of society.

Today the ability to work collaboratively online is a non-negotiable thing, yet the personal ability to collaborate needs to be supported by various factors in order to work well. This is a vital ability that must be possessed in facing the 21st Century. The development of technology, especially web 2.0 based, boosts the ability to collaborate supported with the right technology. The rise of collaboration technology starting in social media, blogs, wikis, Google docs, and Microsoft Office online allows us to be able to work collaboratively.

Collaboration means the action of working with someone to produce something and online means controlled by or connected to a computer, as opposed

to “offline” meaning not controlled by or directly connected to a computer or the Internet (Oxford Online Dictionary, 2018). Based on the definitions, online collaboration can be defined as an action or work that is done together in a condition where we are connected to an information technology network. The media works together using the internet network by using suitable software products. Nevertheless, it is worth remembering that online collaboration must be supported by a reliable information technology structure, users’ ability in using the software, and a basic understanding of technology.

As stated by Shimon Nof. (2015), there some factors that influence online collaboration: (1) Technology factors, working online requires adequate infrastructure technology, whether internet infrastructure that becomes the basis of the running software or the technology infrastructure owned by users. As a country with the most internet users, Indonesia is still slow in the development of internet infrastructure; in ASEAN Indonesia ranked fourth after Singapore, Malaysia, and Thailand. The technology factors are also inherently related to the device security system and the security of users in communicating on the network; (2) Ethics, in online collaboration, user’s behavior in the system or within the workplace environment also influences the cooperation conducted and an understanding of computer ethics and internet ethics is the initial capital for users in working online; (3) Multi-cultural interaction, working collaboratively allows us to work using tools and with diverse people or which is even multidisciplinary and to integrate with a variety of people from diverse disciplines to challenge themselves in collaborating.

2. Identification of Purpose

The collaborative writing model using creative website for writing, in which stories are presented in text and picture publications, is intended to adress the problem of digital literacy culture and to bring collaborative writing approach to the web and to investigate the effectiveness of the approach to support student collaboration and active participation. The goal is to let students create web application using collaborative writing approach and web media technology as platform to sustain the collaborative writing project in a given subject chosen by students through design and development: (1) Creative web for writing that contains walls or pages that can be written directly by individuals who are often called sources or contributors; (2) Creative web for writing that provides an opportunity for the story writer to choose the image developed by the illustrator; (3) Creative web for writing is developed as an effort to do online review on appropriateness of the script; (4) Folk stories as digital products that are ready for publication and read by audiences through web pages.

3. Design and Development of Prototype

The process of designing and developing the collaborative writing model prototype consists of several stages:

- a. Reviewing research planning documents related to the determination of work studies and the scope of theoretical analysis that needs to be prepared to complement the theoretical text supporting the development of research prototypes.
- b. Preparing the IT and technical teams, the students, and the sample areas followed by preparing the stages of research implementation.

This collaborative writing model via creative website involves five major parts of the prototype design and development team. The research team develops the design of the writing program, the IT team prepares the form of user web interface and navigation system as well as the entire process of the work, and the story writing team is made up of teachers taken from 10 regions in West Java. The students are given the opportunity to try the prototype storytelling web. There are also illustrators who will give illustration to the story developed and team of librarians who will review and provide input on the legitimacy needs of the stories and their suitability with their regions of origins.

The model prototype of the collaborative writing website is designed and developed by involving five

major parts of design and development team as follows: (1) The creative writing website contains pages that can be written directly by the contributors. The web pages are directed to teachers and students participating in creating stories directed at folk stories and the culture of the region where they live, provided in the writing, reading or exploring menu of the web; (2) The creative writing website gives the story writer the opportunity to choose an image developed by the illustrator, meaning that there is a role for art development in each story presented and that the illustrator has an important role in creating images suitable with the content of the stories; (3) The creative writing website allows for online review of the appropriateness of the manuscript guided by reliable librarians from West Java region so that the stories produced have novelty although they are actually local legends; (4) Folk stories that have fulfilled the aspect of illustration availability and received ticket to publish or present their stories can find their stories digitally published and read by the visitors of the website. This web-based collaborative writing model produced an application web called "NaraCerita". The general description of the web prototype for collaborative writing project is given below.



Figure 1. Home page of naracerita.com



Figure 2. Display page when reading a story

- a. Analysis of folklore, fairy tales and other literary works along with writing techniques and standard rules in story development.
- b. Identification of West Java area and the potentials of folk story sources to be written on the web (visits to Indramayu, Cirebon, Sukabumi, Bogor and Ciamis).
- c. Designation of story reviewers team, illustrators team and editors team in packaging the stories along with identification of their tasks.

Complete profile of the personnel involved is presented in Table 1.

Table 1. Data of Teachers Team

No	Name	School Name	Official Position
1	TS, S.Pd	SMP Negeri 6 Majalengka	Secondary Teacher
2	IS. A, S.Pd.	MTs N 13 Ciamis	Islamic Secondary Teacher
3	LL, S.Pd, M.M.Pd	SMPN 1 Cicalengka Kab. Bandung	Secondary Teacher
4	MAR,S.Pd	SMP Negeri 3 Padalarang Kab.Bandung Barat	Secondary Teacher
5	IF, S.Pd	SMPN 3 Salawu Kab. Tasikmalaya	Secondary Teacher
6	DP, S. Pd	SDN Kalijaga Permai	Primary Teacher
7	I S., M.Pd	SD Negeri Cikaret 1 Cianjur	Primary Teacher
8	Q, s.pd	SD Negri Bantarkemang 3	Primary Teacher
9	D, S.E	SMPN 1 Gabuswetan	Secondary Teacher
10	Arumdina	SDIT 1 Adzkie Sukabumi	Primary Teacher

Table 2. Data of Reviewers Team

No	Name	Name of Institution	Official Position
1	H, SP, MM	District Office of Library and Archive of Ciamis Regency	Superintendent
2	H P., S.I Pust	SMA Kristen Penabur Cirebon	Librarian
3	E K.,S.Pi	The Center of Library and Dissemination of Farming Technology, Ministry of Forestry	Librarian
4	FI I. N, S.IP	District Office of Library and Archive of Indramayu Regency	Librarian
5	Y H.,S.Sos.	District Office of Library and Archive of Sukabumi Regency	Librarian
6	D S., M.I.Kom	UPI Library	Librarian
7	H H. M., M.I.Kom	UPI Library	Librarian
8	M D. A., M.I.Kom	UPI Library	Librarian
9	L N., S.Pd	UPI Library	Librarian
10	SS., MP	UPI Library	Librarian

Table 3. Illustrators Team

No	Name	Name of Institution	Official Position
1	S D., S.Pd	SMKN 4 Kota Bandung	Vocational Secondary

			Teacher
2	M R S., M.Pd	Department of Curriculum and Educational Technology UPI	Media Lecturer
3	D M., M.T	Department of Curriculum and Educational Technology UPI	ICT Lecturer
4	A, M.Ikom	Library and Information Study Program UPI	Media Technology Lecturer
5	M I	Art Education Study Program UPI	Students
6	M. R A. M	Art Education Study Program UPI	Students
7	Y W.	Library and Information Study Program UPI	Students
8	M A P.	Library and Information Study Program UPI	Students
9	M	Art Education Study Program UPI	Students
10	R M S.	Library and Information Study Program UPI	Students

Table 4. Data of Student Authors

No	Full Name	School Name	School Adress
1	M F. B.	SMPN 1 Cicalengka	Jl. Dipati ukur no 34 Cicalengka Kab. Bandung
2	R F G.	MTs N 13 Ciamis	Jalan Simamulya No. 06
3	D I O S.	SDN Cikaret 1	Jl. Raya Sukabumi gg Al-Falah Cikaret Cianjur
4	I A S.	SMPN 6 Majalengka	Jalan Raya Cikasarung Nomor 57 Kel. Cikasarung Kab. Majalengka 45415
5	S. S Z.	SDIT Adzkie 1 Sukabumi	Jl. Sukamanah, RT. 002/09, Cisaat, Sukabumi
6	S K Y.P	SMP Negeri 1 Gabuswetan	Jl. Gabuswetan No.12 Gabuswetan Indramayu
7	F M. R.	SMPN 3 Rajadesa	Dusun Cileueur Rt 02 Rw 01 Desa Tanjungsukur
8	HH.	SMPN 3 Padalarang	Babakan Loa no. 37

- d. Distributing invitation for focused group discussion in identifying the implementation of story making, picture drawing and review process of folk stories.
- e. Exercising focused group discussion to provide information about the shape of the story, tasks and responsibilities, as well as rights and obligations of each role; namely story writer, story reviewer, illustrator, and story editor.
- f. Reviewing the web prototype arrangement with teacher authors, story reviewers, illustrators and story editors.
- g. The process of writing, reviewing, and preparing illustration for the prototype of creating writing web.

4. Prototype Testing

Prototype testing was carried out through black box testing, which is a functional testing without considering the flow of program execution, only to prove the results of program execution are in line with expectation. The test was conducted by checking the function of tools in the prototype web, starting with checking the form of user web interface and the navigation system tools with the entire program carried

out by information technology team. The stories written were then checked for story plot and students were given opportunity to try out the prototype web. Next, the illustrators team checked the pictures used in the story, while reviewers team and the librarians gave input on the validity of the story and its suitability to the region of origin.

5. Improvement Evaluation of Product Developed

Following the prototype testing, an evaluation was conducted to refine the prototype as there were still several web components that were not in line with expectations. The evaluation suggested that it still needed development and refinement.

6. Communicating the Results

The end result of the collaborative writing model is in the form of a collaborative website with the following details: (1) The creative writing website contains pages that can be written directly by the contributors; (2) The creative writing website provide opportunities for the story writers to choose images developed by illustrators; (3) The creative writing website conducted online review on the appropriateness of the stories; (4) The folk stories

developed are ready to be published digitally through web pages

The product model of this collaborative writing approach relates to the features of the final product that determine the nature of websites in terms of coherence with chosen topics, web architecture, conceptual structure, user requirements, accuracy and completeness of information, reference sources, and writing styles.

The most important characteristics of a web is that it provides support for collaborative production from sharing knowledge, documents, and learning materials by reading, writing, group reflection and interaction. Collaborative writing requires technical skills related to formatting, editing, font usage, color, input of multimedia elements (text, graphics, images, audio and video) to web pages, hyperlinking, etc.

Over the past decade, the second generation of collaborative web (Google docs, Wiki, etc.) have entered the language class and have redefined the dynamics in interaction between class members. The tools are designed to be highly interactive and collaborative because they provide many writers with virtual space to contribute to the text developed. The researchers ensure that students with different language fluency levels participate more equally when they can remain anonymous. Face-to-face writing indicated the total highest score and students enjoy working on Google Docs.

The collaborative writing assignment require students to work together to produce shared text. In groups, students stretch tasks for each other and create products that are more advanced than those derived from individual work (Chang & Simpson, 1997; Jones, 2007). However, the use of group works or small pairs in writing classes seem very limited to the early stage of brainstorming, or more generally, to the final stage of peer review, in which students review each other's work and give suggestions on how to improve the written text.

Previous researches on collaborative writing revealed that it is a way to foster reflective thinking, especially if learners are involved in explaining and maintaining their ideas for their peers (Higgins, Flower, & Petraglia, 1992; Keys, 1994; Storch, 2005). Other researches are related to students' language (Donato, 1988; DiCamilla & Anton, 1997; Storch, 2002; Swain & Lapkin, 1998) show that in the co-authoring process students do not only consider grammatical and lexical accuracy but also discourse. Furthermore, depending on the type of group/pair dynamic formed, collaborative writing can encourage the collection of knowledge about language, which is called collective scaffolding (Donato, 1988; Storch, 2002, 2003)

Collaborative writing also gives students the opportunity to give and receive direct feedback, which cannot be obtained when writing individually. This might explain why couples tend to produce text with greater accuracy and grammar complexity than individual authors.

Considering the above arguments, there are essentially several activities that can be carried out in

order to communicate the results of collaborative writing model using website: (1) Communicating the website through social media; (2) Communicating the website by asking more writers to contribute; (3) Communicating the website to teachers, regional education office and regional library office so that the website can be used properly; (4) Communicating the results through literary works.

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