



Transformation of Folklore Texts into Interactive Multimedia Digital Forms as Blended Learning Teaching Material

Titin Setiartin Ruslan*, Eka Wahyu Hidayat, Ipah Muzdalipah, Agi Ahmad Ginanjar

Siliwangi University, Tasikmalaya, Indonesia

*Corresponding author. Email: titinsetiartin@unsil.ac.id

ABSTRACT

Generation Z students spend more time accessing digital devices, exploring information on the internet, communicating, and interacting on social media. This generation is more pragmatic and analytical in thinking. They will be challenged to find information through digital devices and be able to learn independently to absorb knowledge. Digital teaching materials are widely available on the internet but do not meet the criteria for teaching materials. The transformation of folklore into interactive multimedia digital form is carried out to overcome the availability of teaching materials that correspond to the characteristic of Generation Z students. The objective of this research was to transform folklore texts into interactive multimedia digital forms as digital teaching material based on blended learning. Digitizing interactive multimedia teaching materials makes it easier for students to appreciate folklore. This study used a qualitative descriptive research method with a mixed strategy, qualitative-quantitative sub-sequential exploratory design. The result of the research was interactive multimedia applications as a product for blended learning teaching material. The results of testing applications using the System Usability Scale got a score of 76.84 meaning that the application is in a good category and can be accepted as digital teaching materials.

Keywords: *Blended learning, Folklore, Interactive multimedia, Material.*

1. INTRODUCTION

The assumptions and problems of digital blended learning in the era of Generation Z above became the basis for research. Many digital teaching materials have been produced. However, folklore teaching materials in the form of interactive digital multimedia are very rare. For this reason, this research produced folklore teaching materials in the form of interactive digital multimedia blended learning appreciative reading in secondary schools (Rasheed, Kamsin, & Abdullah, 2020).

The transformation of folklore texts into interactive multimedia digital forms is the focus of designing the transformation syntax. The concept of transformation above is in line with the term transfer of vehicles, a change from one type of art to another, which is, transformed into other types of art. A fictional story as a transformation of folklore in the form of text over the discourse as creations of folklore in the form of illustrated stories (Damono, 2018; Setiartin, 2018). The framework of a system in the form of multimedia products cannot be separated from its elements, namely elements of text,

image, audio, video, animation, and interactivity (Setiartin, Nuryanto, & Muzdalipah, 2017). This is intended so that the manufacture of a multimedia system can take full advantage of its constituent components. The combination of multimedia elements separately can convey information but is not optimal. Multimedia products that aim to convey information will be maximized if it consists of a combination of these elements (Hidayat & Irawan, 2013).

Folklore is usually composed of historical materials or associated with historical matters, with evidence such as the origin of village names, weapons, or other objects. The evidence directly or indirectly, functions as a collective of speakers as identification of pride; and group superiority. However, the evidence is certainly not a historical fact (Hidayat, 2014). Facts in folklore are facts that are built or inserted by some freedom of the imagination of the speaker, because the motives for conveying the facts tend to differ according to historical science.

Multimedia products such as digital-based learning media are also referred to as software. In its manufacture required stages or methods of software development according to the rules of Software Engineering. Software engineering is a discipline that addresses all aspects of software development. Luther's (1994) method is a method with a Multimedia Development Life Cycle (MDLC) approach which consists of six stages, namely Concept, Design, Material Collecting, Assembly, Testing, and Distribution. This method is simple, widely used, and includes the development of multimedia products on a technical scale.

The results of this multimedia product engineering have been widely applied to various technologies such as android, virtual reality, and augmented reality (Azim, Hidayat, & Rachman, 2019), also have been applied with learning content such as about the anatomy of the human body (Ramdani, Hidayat, & Shofa, 2019), Sundanese script (Ernawati, Hidayat, & Rahmatulloh, 2017; Komalasari, Hidayat, & Aldya, 2020), Arabic (Septian, Hidayat, & Rahmatulloh, 2017), and various transfers from traditional game concepts to digital forms (Azim et al., 2019).

Luther's method has been widely used for multimedia-based software engineering as follows: (1) Concept: The concept is the stage to determine the goal, identify users, product types, basic rules, measures, and targets. Determination of goals and characteristics; (2) Design: the stage of making specifications regarding the program architecture, style, interface, and supporting elements. Stages of collecting and assembly materials. The output at this stage is a storyboard; (3) Material Collecting: collecting elements or materials according to product needs, such as text, images (photos/pictures), animation, video, audio; (4) Assembly: incorporation of all materials into the project based on the design stage, such as storyboards and navigation structures; (5) Testing: the stage of product testing that has gone through the assembly stage to see the possibility of errors; (6) Distribution: the product is packaged in a storage medium for distribution to end users or clients.

The Minister of Research, Technology and Higher Education explained that the important elements that must be considered in the implementation of blended learning are 1) Preparation of a more innovative learning system, 2) readiness of facilities and infrastructure, 3) teacher competence in integrating physical, digital objects in learning, and 4) availability digital media and teaching materials that are in accordance with the development of students (Rasheed, Kamsin, & Abdullah, 2020). Experience with class formats that rely heavily upon online materials may translate into improved outcomes in subsequent blended courses (Risdiyanto, 2019; De Backer, Van Keer, & Valcke, 2022).

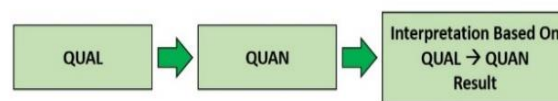


Figure 1 Explanatory research design.

2. METHOD

The research was conducted through a pre-survey of the conditions to determine the initial conditions. Clarification of the findings was followed by interviews with respondents consisting of teachers and students of SMP, SMA, and SMK.

The research's stages, steps, and strategies were qualitative and quantitative levels of analysis. The research procedure had a combination of qualitative procedures and quantitative procedures "Other mixed method writers emphasized the technique or methods of collecting and analyzing data." The exploratory design that the researcher used is in accordance with Creswell's (2010) opinion following the flow shown in Figure 1.

The design used in this study was a subsequential exploratory design. The exploratory design procedure was carried out through a two-step approach which was associated with a subsequential exploratory design. The research begins with a search for phenomena in the form of qualitative data. The second stage was compiling quantitative data. Furthermore, the results of research data, both qualitative and quantitative, were developed qualitatively. In carrying out this applied research, the instruments and data collection used include (a) documentary studies; (b) interviews; (c) observation; (d) implementation in the field; and (e) analysis and validation test. The data obtained include qualitative data and quantitative data. Qualitative data was analyzed through direct interpretation or descriptive analysis of existing phenomena. Quantitative data were analyzed using statistical methods, namely the difference test (t) with the help of SPSS version 18. One-way ANOVA test was used to test the effectiveness of teaching materials. This test was used in line with the sample class being tested, then the data were analyzed using the t- test.

3. FINDINGS AND DISCUSSION

This study used a subsequential exploratory design with a two-step approach. The researcher associates with a subsequential exploratory design. This design began with a search for phenomena in the form of qualitative data. In the second stage, quantitative data were compiled. Furthermore, the results of research data, both qualitative and quantitative, were developed qualitatively.

The conventional media transformation of folklore texts into digital forms based on interactive multimedia had been successfully developed. The transformation

process was carried out from the story text (verbal) into a picture story (visual) with the process of modifying and extracting the story text, then Luther's (1994) method was applied. Learning media for the android operating system was developed by applying the concept of storytelling (audio-visuals) using text-to-speech technology so that it becomes a blended learning in Indonesian subjects.

Data analysis was carried out by statistical tests (quantitative analysis), and qualitative analysis through descriptive analysis. Based on two data testing methods. Next, the analysis results were compared and linked. From the process of mixing and matching data, the validation of the model development was tested. The following is a description of the discussion of the research results.

Transformation is a change of appearance. The concept of transformation above is in line with the term transfer of vehicles. Transfer of rides is a change from one type of art to another. Literary works can not only be translated, that is, transferred from one language to another, but also translated, that is, transformed into other types of art. A fictional story, for example, can be turned into a dance, drama, or film; be a song or a painting; even in the form of interactive digital multimedia. The industrial revolution is currently entering its fourth phase. The rapid development of science and technology has a major impact on human life. Various conveniences and innovations are obtained with the existence of digital technology. The service becomes faster and more efficient and has a wider range of connections through the online system. The world of education also takes advantage of opportunities and answers the challenges of the industrial revolution 4.0, by utilizing digital teaching materials in blended learning

Changes in structure and form are directly related to form and appearance. Transformation as a transfer from verbal to image in the form of media, of course, cannot avoid the emergence of change. Characters, plots, settings, and even themes, can change from the original form into another form. If the text of a literary work speaks through language and words, the digital form focuses more on the use of visual forms (images). Transferring or changing the form of folklore texts into interactive digital multimedia forms into digital teaching materials in blended learning.

The process of developing appreciative reading skills is carried out by developing the abilities of the informative, perceptive, conceptual, analytical, synthesis, and evaluative stages of appreciation. Readiness of interactive multimedia in modern learning information technology explores 4C (Critical Thinking, Creativity, Collaboration, and Communication) students. Therefore, research-based higher education must encourage lecturers' competence in various studies to increase. Given that not all students can easily understand the teaching material.

Facing the era of the industrial revolution 4.0, the role of higher education is very important, especially in the development of science and technology. Blended learning is learning that can be done without having to be present in class. Students are also able to explore the values in folklore. Students can creatively express back ideas, ideas, and values of folklore. Transformation of folklore in the form of text over the discourse as creations of folklore in the form of illustrated stories.

The test results based on a questionnaire distributed to 40 respondents using the System Usability Scale method, the average number of SUS scores was 76.84. So, it could be concluded that the application of interactive multimedia-based folklore learning media based on the SUS Score was considered acceptable with a Grade "C" in the Good category so that the interactive multimedia-based folklore learning media application can be used as digital teaching materials.

The manufacture of multimedia products follows the stages in MDLC software engineering, namely the Luther method which consists of six stages as follows: (1) Concept stage, (2) design stage, (3) material collecting stage, (4) assembly stage, (5) testing phase, and (6) distribution stage. Concept stage is the initial stage in defining application development objectives which include a description of the concept as described in Table 1, conceptual analysis, and user identification. Conceptual analysis aims to identify initial conditions and expected conditions from the use of teaching material applications that occur in the classroom during lessons. The initial condition is that students read folklore, appreciate, perceive, identify, and examine the elements of story building (intrinsic and extrinsic). Furthermore, the teacher evaluates to measure the understanding of students. Expected conditions are all activities carried out through Android-based applications where students actively carry out learning activities using applications and teachers monitor the results of evaluating student understanding through applications.

Design stage is a stage containing software design activities for multimedia products, such as transforming folklore prose into pictures, making modifications of concepts, using case diagrams, sequence diagrams, navigation structures, and storyboards. The navigation structure used in making this application is a composite navigation that directs the search for user information based on the menus provided in the application. Material collecting stage is the stage of collecting materials and making materials for multimedia products for folklore learning that will be made. These assets consist of text, images, audio, animation through the process of collecting materials/assets from various sources from books, photos from the internet, and from films that have a visual appearance that corresponds to the folklore material. Most of the material creation using Adobe Illustrator software.

Table 1. Concept description

Concept	Description
Title	Digital Teaching Material Folklore
Audience	Teacher and Student
Duration	Unlimited
Text	Image in *.png formatted
Image	Image and icon (*.ai, *.png and *.jpg)
Audio	Audio format *.mp3 and *.wav
Animation	Animation object character (*.fla)
Interactivity	Buttons and objects
Themes	Learning Media
Application Description	This application is an interactive multimedia-based teaching material or folklore-based learning media. Applications are used by teachers as teaching materials and used by students as teaching materials in the teaching and learning process in appreciative reading of folklore. The folklore in this application is only limited to the story of Ambu Hawuk and the story of the national hero KHZ Mustofa

Assembly stage is the stage of combining all materials/assets as multimedia elements that have been collected in the previous stage based on the storyboard design. Merging multimedia elements using Adobe Animate software. To facilitate the creation of audio assets, audio assets are created using Text-to-Speech technology. The result of this stage can be seen in Figure 2.

Figure 2 contains the application menu display that appears after the splash screen is executed. The example image above is a screenshot of KHZ Mustofa's national folklore. The folklore menu options will be directed to the opening screen for each available story. After that the folklore can be read by the user by pressing the forward and backward buttons. At the bottom there is text containing the narration of the scene in the picture button play is used when the user wants text narration in Audio format.



Figure 3 Main menu display and story menu.



Figure 2 Product distribution packaging.

Testing Phase is the application testing phase with alpha and beta approaches. Alpha testing with black box to test the functionality of the application made and to see the possibility of errors in the application. Testing the functionality obtained results that all application functions that are designed and made are in accordance with the application design.

Distribution stage is the final stage in application development, where the distribution stage is carried out by distributing the application in the form of an *.apk file of 66.7 MB to users via the internet at the address <https://bit.ly/SekalaApp01>. The minimum system requirement for the application to run properly is Android OS 4.0, Processor 1.5Ghz Quad-Core, 2GB RAM, Screen Size 5.0 Inch. The resulting application is then packaged into a specially made container for distribution purposes to schools that are the target of research as seen in Figure 3. The resulting multimedia product is equipped with printed documents regarding the Learning Implementation Plan (RPP), Student Worksheets (LKPD), Learning Modules, Model Guides, Application Usage Instructions, and a CD containing application APK and document materials in digital form.

In the application usability scale measurement, tests are carried out on applications that have been developed. The testing process uses Alpha and Beta Testing. Alpha testing is done through the design of a questionnaire to evaluate the testing of the development of interactive multimedia-based folklore-based learning media applications. The test uses System Usability Scale (SUS) to determine the user's response to the application that has been developed. Statements of user opinions in the questionnaire on applications that have been developed can be seen in Table 2.

Table 2. System usability scale (Lewis, 2018)

No.	Statement
1	I think I will use this application often
2	I find it difficult to use this application
3	I think this application is easy to use
4	I need help from other people or technicians to use this application
5	I feel the features of this application work well
6	I feel there are a lot of inconsistencies in this application
7	I feel that other people will quickly understand in using this application
8	I find this application confusing
9	I am sure I can use this application
10	I need some time to get used to it before using this app

The measurement begins with the distribution of questionnaires to the education population in the City of Tasikmalaya with samples from junior high schools, senior high schools, and vocational high schools. Questionnaires were distributed randomly to the selected population. The design of the questionnaire according to the Table 1, based on the SUS method. The total respondents who have filled out the questionnaire are 40 respondents. The average number of SUS scores obtained is 76.83.

4. CONCLUSION

Digital media in learning can explore the activities and creativity of students in critical reading and creative writing. Blended learning in appreciative reading can be modified by the teacher according to the needs of students. Information processing in digital literacy has stages: perception, conception, and evaluation in the cognitive, affective, and psychomotor domains. Collaborative learning strategies require teachers to be more innovative and creative in managing the class so that students feel comfortable.

The transformation of story texts in the form of interactive digital multimedia is practically interactive multimedia into a tool for guiding students to develop digital multiliteracy metacognition. Develop students' critical reading and creative writing skills.

The conventional media transformation of folklore texts into digital form based on interactive multimedia has been successfully developed. The transformation process was carried out from the story text (verbal) into a picture story (visual) with the process of modifying and extracting the story text, then method was applied. Learning media for the android operating system was developed by applying the concept of storytelling (audio-visuals) using text-to-speech technology so that it becomes a blended learning in Indonesian subjects.

From the results of the calculation of the application usability scale, it can be concluded that the SUS score that has been obtained at the next measurement stage is

evaluated to see the usefulness of the application made. From this value according to the SUS assessment standard, the application of interactive multimedia-based folklore learning media based on the SUS score is considered acceptable. This means that the results of testing applications developed using the System Usability Scale (SUS) test were obtained with an average score of 76.84 so that it can be concluded that the application of interactive multimedia-based folklore learning media is considered acceptable by users with grade "C" in the category 'Good'.

ACKNOWLEDGMENTS

This article is a product of a decentralized research grant funded by the Directorate of Research, Technology and Community Service (DRTPM) with the Higher Education Applied Research Scheme (PTUPT) of the Ministry of Education, Culture, Research, and Technology of Republic Indonesia. Acknowledgments and pride are conveyed to 1) Directorate of Research and Community Service. Ministry of Education, Culture, Research, and Technology, 2) Chancellor of Siliwangi University, 3) Chairman of research and service institutions University of Siliwangi.

REFERENCES

- Azim, M. F., Hidayat, E. W., & Rachman, A. N. (2019). Android battle game based on augmented reality with 2D object marker. *Jurnal Online Informatika*, 3(2), 116-122.
- Cresswell, J. W. (2010). *Research design: Qualitative, quantitative, and mixed approach*. Yogyakarta: Pustaka Pelajar.
- Damono, S. D. (2018). *Alih wahana* [Transfer ride]. Jakarta: Editum.
- De Backer, L., Van Keer, H., & Valcke, M. (2022). The functions of shared metacognitive regulation and their differential relation with collaborative learners' understanding of the learning content. *Learning and Instruction*, 77, 101527.
- Ernawati, R. S., Hidayat, E. W., & Rahmatulloh, A. (2017). Implementasi teknologi augmented reality sebagai media pengenalan aksara Sunda berbasis android [Implementation of augmented reality technology as an android-based Sundanese script recognition media]. *Jurnal Teknik Informatika dan Sistem Informasi*, 3(3), 512-523.
- Hidayat, E. W., & Irawan, E. P. (2013). Prototype Informasi Digital Jurusan Teknik Informatika UNSIL Berbasis Multimedia [Multimedia-Based Digital Information Prototype of Informatics Engineering Department of UNSIL]. *Konferensi Nasional Sistem Informasi*, 2013.

- Hidayat, E. W. (2014). *Perancangan Self-Service Kiosk Information System di Universitas ABC* [Self-Service Kiosk Information System Design at ABC University]. Proceedings of Konferensi Nasional Sistem Informasi-KNSI, STMIK Dipanegara Makassar, 413-417.
- Lewis, J. R. (2018). The system usability scale: past, present, and future. *International Journal of Human-Computer Interaction*, 34(7), 577-590.
- Luther, A. C. (1994). *Authoring interactive multimedia*. Academic Press Professional, Inc.
- Komalasari, N., Hidayat, E. W., & Aldya, A. P. (2020). Aplikasi pengenalan Bahasa Sunda berbasis multimedia dengan konsep VISUALS [Multimedia-based Sundanese language introduction application with the concept of VISUALS]. *Jurnal Nasional Pendidikan Teknik Informatika: JANAPATI*, 9(1), 21-31.
- Ramdani, P., Hidayat, E. W., & Shofa, R. N. (2019). Pengenalan anatomi tubuh manusia berbasis augmented reality untuk laboratorium biologi [Augmented reality-based introduction to human anatomy for biology laboratories]. *Jurnal Siliwangi Seri Sains dan Teknologi*, 5(2), 72-77.
- Rasheed, R. A., Kamsin, A., & Abdullah, N. A. (2020). Challenges in the online component of blended learning: A systematic review. *Computers & Education*, 144, 103701.
- Risdianto, E. (2019). *Analisis Pendidikan Indonesia Di Era Revolusi Industri 4.0* [Analysis of Indonesian Education in the Industrial Revolution 4.0]. Retrieved from: <https://www.researchgate.net/publication/3241>
- Septian, H., Hidayat, E. W., & Rahmatulloh, A. (2018). Aplikasi pengenalan Bahasa Arab dan Inggris untuk anak-anak berbasis android [Android-based Arabic and English introduction application for children]. *Jurnal Online Informatika*, 2(2), 71-78.
- Setiartin, T., Nuryanto, J., & Muzdalipah, I. (2017). Folktales Text Transformation: Learning Model to Read Appreciatively. *Journal of Education, Teaching and Learning*, 2(1), 94-99.
- Setiartin, T. (2018). Intertextual Folklore in Animated Comics as a Learning Model of Appreciative Reading. *KnE Social Sciences*, 619-631.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

