



Blended Learning Development Based on Connective Theory to Improve Results of Learning Concepts and Digital Literacy

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Abstract. The impact of globalization touches various fields of human life, including education. Standard learning 21st century pushed in teacher preparation the learning process based on creativity, innovation, and local knowledge to advance go to virtual all classes. Blended Learning's significance to repeating history as one of the social science disciplines of the humanities has a repeating pattern. This encourages studying with the 5W1H pattern as a formula for critical analysis thinking that will lead to an understanding of the concept and connectivity of history itself. History learning media with the "Historical Scenario" media model requires a blended learning strategy. This learning media utilizes the repetition of historical patterns from various sources such as digital literacy and direct learning can lead to the process of understanding historical concepts, not monotonous like chronicles. The effectiveness of online learning for several history courses in the FISH Unesa history education study program in 2021 shows that online learning is becoming a new habit. Connectivism theory-based learning efforts that use various sources and learning materials through online media Vinesa and the internet need to be supported by offline learning resources such as books, archives, and other documents. Blended learning is one of the online learning solutions in Indonesia and aims to (1) Describe the implementation of Blended Learning based on connective theory help us to understand the concept of African history in history education students FISH Unesa, Combine historical scenario media through blended learning based on connective theory can provide an understanding of the concept of African history for students of the Unesa FISH history education study program. (3). Applying the theory connective learning model Blended Learning can increase digital literacy skills, then progress media scenario history.

Keywords: Blended learning · connective theory · learning concept of African history

1 Introduction

Phenomena history learning to explain history as one of the disciplines of social humanities which is dynamic has a repeating pattern [1]. This encourages studying history in a

different context from the exact sciences. History with the 5W1H pattern as a formula for critical analysis thinking will bring up an understanding of the concept and connectivity of history itself. History learning media with the “Historical Scenario” model requires a blended learning strategy. This learning media utilizes the repetition of historical patterns from various sources such as digital literacy and direct learning can lead to the process of understanding historical concepts, not monotonous like chronicles.

The results of preliminary research on understanding historical concepts based on blended learning methods have been studied [2]. Research on understanding the concept of regional history in learning blended learning based Vinesa 2018 subjects African History at the State University of Surabaya in the odd semester of the academic year 2018–2019. The results of this study have shown that student activities in responding to assignments and discussions showed a positive response. Student responses showed that 80.69% of students agreed that through vinesa, students were actively involved in the learning process.

The effectiveness of online learning for several history courses in the FISH Unesa history education study program in 2020 shows that online learning is becoming a new habit. Based on the results of research on the effectiveness of online learning within the FISH Unesa history education study program, it shows that the Whatsapp Group (WAG) application is still an alternative solution that is widely used in the Unesa FISH history education study program. Most of the research results on the effectiveness of online learning in 2020 show that 70% still use the WAG application to send learning and instructional materials and email to collect lecture assignments. Although there are still a few who use online learning applications 15% of 10 courses each semester. However, this shows that there is a change in the digital literacy skills and abilities of the lecturers and students.

The magnitude of the influence of the media (such as television, newspapers, magazines, the internet, and radio) on society indirectly affects the cognitive condition of students - in the sense of the word for them it will be easier to describe events or things that are real (factual) compared to imagining something abstract. Therefore, teaching materials must under go several adjustments from content-based to context-oriented [3].

The role of educators/lecturers in this virtual classroom is to provide learning facilities to students like conventional learning. The tasks of educators/lecturers in virtual classes include (1) preparing all forms of information about the learning materials being taught, (2) preparing assignments, and (3) training and evaluating assessments which are then uploaded to the virtual class feature. Learning in virtual classes (online/online learning) is original and managed by the educators/lecturers themselves [2]. Various conveniences can be obtained through the virtual class feature, and online learning through virtual classes can be accessed via computers, laptops, tabs, and smartphones which of course must have an internet network. All students and educators/lecturers can access this feature for free or at no cost [3]. This situation encourages the growth of digital literacy skills for all parties to realize the 21st-century learning process [4].

Based on what has been described above, the formulation of the problem proposed in this study is:

1. How can the feasibility of historical scenario media through blended learning based on the theory of connective provide an understanding of the concept of African history for students of the Unesa FISH history education study program?
2. How can the effectiveness of media with the historical scenario Blended Learning based on theory connective can help understand the concept of African history in history education student Unesa FISH?
3. How to implement Blended Learning based on the theory of historical scenarios connective media can increase digital literacy skills for students of history education Unesa FISH?
4. How effective is Blended Learning based on the theory of historical scenarios connective with media to improve learning outcomes for the understanding of the concept of African history education student Unesa FISH?

2 Research Methods

The research is development research, which is aimed at developing comic media. The development model that will be planned in this research follows the path of the ADDIE model from Dick and Carey. The stages of developing historical scenario media by applying the theory of connective to improve understanding of African history. Research Stages by (1) Preliminary Study Analysis to develop this historical scenario media product can be initiated by a problem in understanding African history that has not been optimally applied. (2) The application of design or development of product development in this research is attempted to be written in a clear and detailed manner. At this stage the product design is still conceptual and will underlie the development process at the next stage with (a) format selection, the media developed is vi-learning in the form of Vinesa which contains various learning materials and links to internet-based media. (b) The initial design of the historical scenario worksheet media became one of the student worksheets in optimizing their knowledge and digital literacy skills to produce learning media for understanding African history. The learning design refers to a blended learning process with a rotation pattern that is set for synchronous and asynchronous-based interactions in an odd semester in 2021/2022. (3) The process of understanding the concept of African historical material is carried out by optimizing digital literacy skills based on the theory of connective to develop historical scenario media [6]. This Connectivism theory encourages students of the class of 2019 who are research subjects to produce a portfolio of scenario media worksheets that utilize learning resources and learning materials. In the previous stage, a conceptual framework for implementing a new product has been developed. The conceptual framework is then realized into a product that is ready to be implemented. This development is in the form of historical scenario worksheets. Meanwhile, the learning mediator uses Vinesa which will be made in the odd semester 2021/2022 in the African history course for 2019 students. The research subjects in the development of this historical scenario worksheet media were students of class A, B, and C in class 2019 who in the odd semester of the 2021/2022 academic year took African history courses [6].

The development stages of this research include two steps, namely (1) Preparation of historical scenario media that can lead students to develop their creativity and historical

imagination to understand the historical concept of Regions in Africa. (2) Development of vinesa based on connective theory by linking several raw materials in the form of various digital sources. At this stage, it is also necessary to create an instrument for (a) Expert validation earning development based on blended learning patterns with rotation patterns. (b) Expert validation of the learning media, and (c) Material expert validation.

3 Result and Discussion

Implementation of the product in the ADDIE research and development model is intended to obtain feedback on the product being made/developed. The implementation period of the activity starts in May 2021 and ends on November 30, 2021. The material that was raised at the African history university with the vinesa account address <https://vinesa.unesa.ac.id/course/view.php?id=10014465> in the odd semester 2021/2022 for these Class A, B, and C 2019 students. Results in progress are:

3.1 Eligibility of Historical Scenario Media

History learning is meaningfully introducing the reality of people's lives who are close to their living environment and the construction of knowledge as well as self-experience as a valuable historical learning resource process for the learning process in the classroom. History lessons should be more global and futuristic so that students can realize their position and can play a role in global life [9] through a technical form of media (measuring instrument) historical scenarios. Brian Garvey & Mary Krug mention that the what meant by studying history is (1) gaining knowledge of facts history; (2) gain an understanding or appreciation of events or periods or people living in the past; (3) acquire the ability to assess and criticize writings on history (historical works); (4) learn how to do research history; and (5) learn how to write history [10].

The eligibility of Historical Scenario Media can be explained as the development of internet-based learning at this time is a necessity because online learning can reach a wide range of material to be delivered. Vinesa or online learning as one of the media in learning has an important role in overcoming the limitations of space and time in the learning process. This research is development research using the ADDIE Dick and Carey model [5]. The research subjects were Class 2019 students in the history education study program who were taking the African History course at the State University of Surabaya in the odd semester of the 2021/2022 academic year.

Vinesa learning as a learning resource is part of the process of building critical and reflective thinking skills by using learning resources and knowledge information in digital form through internet media [4]. The results of the validation test from these experts are the stage for reviewing the feasibility of historical scenario media as worksheets for student learning activities of the Unesa FISH History Education study program. After validation and feasibility of learning materials that will be used as teaching materials and learning resources, work on worksheets on historical scenario media based on the validator of learning materials that will be displayed together in Vinesa, and the learning techniques are blended learning with a rotation pattern [3].

After validation and feasibility of historical scenario worksheets based on Connectivism theory for blended learning model rotation, the score of 87.5 is considered very feasible and effective. Technically, the implementation of historical scenario media in blended learning with rotational patterns is shown together in vines with technically based on the theory of connective. This learning validation test aims to see the feasibility of historical scenario media as a worksheet for student activities to carry out the theory of connectivity when they can link various learning resources obtained by digital literacy in Vinesa or other digital sources.

Connectivism theory can be developed in the asynchronous learning process in Vinesa and synchronously when studying together at Google Meet so that the rotation blended learning pattern is recorded for its interactions. The conclusion of the three directions to expert examiners, both material experts, media experts, and learning experts gave a total score of 261.3. The feasibility of the historical scenario media in this study resulted in an average feasibility value of 87.1 or very feasible and very effective to be applied in African history learning. The accessibility of vines and the adaptation of historical scenario media with technical instructions were carried out as student learning activities in understanding African history. The test instrument uses an instrument/questionnaire which will later be tested openly for Class 2019 students taking African history courses.

3.2 Effectiveness of Historical Scenario Media

The effectiveness of the historical scenario media as a worksheet for student learning activities of the Unesa FISH History Education study program with a blended learning model with a rotation pattern appears in the learning implementation process. The dissemination stage of the historical scenario media development design is generally limited to Class 2019 students taking African history courses in the odd semester 2021/2022. This stage is carried out to see the results of the implementation of the historical scenario media from students using the learning worksheet media.

The instrument in the form of a satisfaction questionnaire on the effectiveness of blended learning based on the theory of connective is used by researchers as a guide to determine the validity of historical scenario media in African history learning that is being developed. Based on the results of data analysis of questionnaire responses learning implementation of blended learning patterns of rotation with worksheets media historical scenario in this study [6]. The results of the implementation average of 84.38 was very effective for learning activities. The effectiveness of this blended learning model received a good response in the learning material section, through Vinesa students learn independently and asynchronously.

The results of the calculation of the questionnaire in the form of percentages are then explained with qualitative sentences. Through the results of this questionnaire, data was obtained that the design and layout of historical scenario media worksheets were very effective in increasing African history learning activities by 87.27 or the category was very feasible to be implemented to understand digital-based African history.

3.3 Digital Literacy Ability

Digital literacy thinking is used to create innovative, creative, direct learning strategies and contains critical thinking processes through the 5W1H pattern. Implementation of learning blended learning pattern of rotation for 2019 as a student of the millennial generation sufficient to support digital literacy skills. Students' digital literacy skills increase due to asynchronous learning activities with the Vinesa platform and being able to connect teaching materials at Vinesa with the ability to surf and browse the internet to combine their additional knowledge in a structured manner based on task guides to create historical scenarios media.

Adhering to the principle that each individual is unique and has their talents, the learning techniques must pay attention to the diversity of students' learning styles. This can optimize this diversity in the era of smart society 5.0 to increase imagination creativity and historical explanation so that digital-based historical scenario media can highlight events correctly and appropriately, and improve their digital literacy skills [11].

Scenario-based digital literacy skills have facilitated students to learn history well and optimally. The implementation of this blended learning model based on the theory of connective aims to optimize all learning resources at Vinesa and from outside Vinesa, such as browsing and searching activities on the internet or other digital sources [5].

Historical scenario media in which one of the assignment columns must include learning resources to encourage student activities needs to be digitally literate. The role of educators in blended learning is no longer "infomediary" because students can directly asynchronously access knowledge sources independently and be guided by the instructions for working on assignments in the historical scenario media. Based on the results of the assignment activities in the historical scenario media worksheet, student activities to understand African history material are designed in 2 task patterns. This assignment using historical scenario media worksheets was able to improve students' digital literacy processes, both individually and in groups. The digital literacy process only started at the third meeting because there were obstacles in the process of uploading materials at Siakadu.

Blended learning rotation pattern with the asynchronous concept using the Google Meet plugin Vinesa with Unesa account for both teaching lecturers and students of the Class of 2019. The teacher account, namely septi@unesa.ac.id as a Vinesa content creator, is designed with the Vinesa rotation pattern model. Meanwhile, Class 2019 students who take African history courses are automatically enrolled in the vinesa system as learning participants which are applied in blended learning based on the theory of connective. The goal is that students with an account logged in.....@mhs.unesa.ac.id can optimize the process of browsing and surfing in search of digital learning resources.

Connectivism-based literacy skills for the 2019 class of students are increasing because of the assignment bill that utilizes a minimum of 4–5 learning resources, both digital and non-digital to create historical scenarios. The diversity of digital literacy used as a source of student learning in compiling the historical scenario media in table 14 has a variety of soft files. This shows that students' efforts to browse and surf the internet and choose a variety of digital literacy have developed their literacy skills better. The concept of connective theory in the development of digital literacy skills that have been

carried out by students shows positive aspects. This can improve students' ability to improve their skills and scientific knowledge about historical learning resources.

3.4 Student Learning Outcomes

Learning outcomes are mandatory bills and the final result of the implementation of learning that confirms the success of developing learning products. From the results of the average pretest and posttest scores on African history materials designed in various forms of learning resources such as e-books, youtube video links, PowerPoint, pdf extension files, e-journals, and other learning resources, it is known that the average pretest score is 52.33. The increase in learning outcomes through the post-test got the average value of the Class of 2019 increasing to 88.03. This increase is significant with a wide range of knowledge from various digital sources that are linked as learning resources and teaching materials for African history in vinesa.

Based on the N-gain formula to see learning outcomes following the assessment of the pretest and posttest results show that the success rate of learning outcomes using historical scenario media worksheets is 0.75 or gets a score of 75%. This historical scenario media is quite effective in improving student learning outcomes and digital literacy skills in understanding African history. Based on the results of the pretest on general knowledge of the study of African history which consists of 20 questions in total, each class produces an average pretest score, namely class A gets an average of 52.73, class B gets an average value of 50.37 and class B gets an average value of 53.89. While the post-test results show an increase in knowledge and understanding of African history as a special study of regional history because it has several features that are globally contested by several western countries.

The posttest results for class A got an average score of 88.18, class B got an average score of 89.07, and class C got an average score of 86.85. If you apply the N-gain formula, it can be seen that the increase in understanding of African history material in each class increases by 75% in knowledge and understanding after receiving assignments and evaluations based on historical scenario media.

The implementation of the Blended Learning rotation pattern has succeeded in increasing understanding of African history because students can link various learning resources and teaching materials at Vinesa as a mediator of blended learning-based learning. Students' digital literacy skills after receiving basic knowledge from Vinesa make their understanding of African history improve because they get various other learning resources from various digital sources. The diversity of other learning outcomes can be seen in UTS's work in the form of media from various digital platforms. Historical scenario media is a tool to develop imagination and historical explanation based on digital sources/literacy that can clarify knowledge and understanding of African history holistically.

The coherence and breadth of the concepts of African historical material that are studied in historical scenarios are realized as historical learning media and have been successfully mastered and understood by the analysis and explanation processes [5]. As a result, the results of the historical learning media based on the historical scenario media were successfully realized following the achievement of learning the concept of African history itself [7].

The results of the UTS illustrate that the digital literacy skills of Class 2019 students have increased by producing a variety of African history learning media as a result of their learning. The result has been explained that learning media with historical scenario media worksheets succeeded in providing a good chronological understanding of an African historical event after successfully comparing and analyzing various digital learning resources as materials for making learning media according to the needs of the African history learning concept. 10 types of learning media were successfully created after the students of Class 2019 got a lot of digital literacy guided by their formulation with historical scenario media [7].

The feasibility of historical scenario media through blended learning based on the theory of connective provides an understanding of the concept of African history for students of the Unesa FISH history education study program. Historical scenario media as history learning worksheets are needed to assist the learning process to analyze, map, and link various learning resources and teaching materials as a process of learning the concept of African history as a study of regional history that influences the dynamics of human history [8]. Media effectiveness historical scenario with Blended Learning based on theory connective can help understand the concept of African history in history education student Unesa FISH. It can be seen how vinesa facilitates the synchronous learning process with google meet which is linked in learning activities at vinesa. While the asynchronous learning process has been arranged in vinesa through several digital teaching materials that are suitable for learning needs. Also linked are several links to digital learning resources outside of Venice that are directly linked and can be useful to improve students' skills and creativity in analyzing the dynamics of African history [5].

Implementation of Blended Learning based on a theory of history connective with media scenario has improved digital literacy skills for students of history education Unesa FISH [7]. This can be seen how the Class of 2019 students managed to provide digital bibliographies when surfing and browsing to search for, find and map various digital literacy as valid learning resources for making history learning media [3]. Literacy skills and abilities (digital literacy) in various digital formats were successfully improved when students were given the flexibility to search for various learning resources through historical scenario worksheets.

Individual awareness, attitude, and ability to properly use digital tools and facilities as information needs and goals have become the main focus of attention for learning activities based on the theory of connectives. Digital access to these information resources has now become a must given the volume of information in an electronic format that is available as learning materials and resources. Educators/lecturers function more as facilitators and assistants for students to learn many contexts and together learn to understand the concepts of African history properly and correctly and scientifically.

Effectiveness Blended Learning based on theory connectives with media scenario history can improve learning outcomes understanding of the concept of African students of history education FISH Unesa already appears since the introduction of working instructions media historical scenario as a physical manifestation of the implementation of the understanding of learning African history right and according to learning needs [8]. Improved learning outcomes can be seen in the process of how students can link

various digital sources and teaching materials at Vinesa into a learning media application that is following learning objectives.

4 Conclusion

This research is an effort to compose teaching materials in the form of vines which are somewhat different because the researchers want to provide a complete understanding in the form of multimedia to provide an understanding of the history of the region conceptually in the context of African dynamics from time to time. Based on the results of the African History vinesa activities, you can:

1. The effectiveness of Blended Learning based on theory connective can help understand the concept of African history in history education students FISH Unesa increased understanding of the history of the region based on the results of the validity test showed a feasibility level of 87.1 or very feasible as a working medium for student learning activities.
2. Media historical scenario with Blended Learning pattern of rotation based on the theory of history Education connective help students understand the concepts FISH Unesa African history well and truly at 84.38 and 28.13 of media history scenarios effectively support learning with blended learning pattern rotations.
3. Implementation of Blended Learning patterns based on theory connective rotation with historical scenarios media can increase digital literacy skills for students of history education Unesa FISH. Students' digital literacy skills increase through the Vinesa platform and can connect teaching materials at Vinesa with the ability to surf and browse the internet to combine their additional knowledge in a structured manner based on the task guide of making historical scenarios media. Digital literacy skills based on scenario media and the vinesa platform with online-based virtual multimedia teaching materials can facilitate students in learning history well and optimally.
4. Effectiveness of Blended Learning pattern based on theory connective rotation with historical scenarios media has increased the understanding of the concept of learning outcomes for students of African history education Unesa FISH. The results of the N-gain learning African history showed a value of 75 or quite effective in learning outcomes based on the pretest-posttest scores and assignments that were presented and realized in the form of good and correct learning media according to learning achievements and understanding of African historical concepts according to the implementation of historical scenario media.

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