

Development of Interactive Digital Big Book History of North Sumatra as A Source of Learning for History Education Students on The MBKM Curriculum

Flores Tanjung¹, Abd. Haris Nasution²

{florestanjung@unimed.ac.id¹, abdharisnasution@unimed.ac.id²}

Department of History Education, Faculty of Social Science, Universitas Negeri Medan, Indonesia^{1,2}

Abstract. The importance of developing an interactive digital ledger of the history of North Sumatra which is open access for students of history major's/study programs as a learning resource is the main background for the implementation of this research. This condition is due to the existence of printed books that currently contain limited material about the geographical, economic, and socio-cultural conditions of several regions of North Sumatra with a time limit of only the 20th century. Studies on the existence of figures and the development of art by artists, especially composers, especially musicians and composers, such as Liberty Manik with the national anthem *Satu Nusa Satu Bangsa*, for example, are almost untouched. Therefore, the use of the interactive digital-based History of North Sumatra ledger will greatly facilitate students in exploring learning resources in the form of digital, multimedia such as audio, video, animation, photos, graphics, and so on, especially in the current era of the covid-19 pandemic. In addition, the digital application will give students access to other sources such as historical archives from sites such as the National Library, KITLV, and the Indonesian National Archives, to the acquisition of the latest scientific articles through national and international links available on digital applications. Therefore, research on the development of an interactive digital ledger of the History of North Sumatra is very important to do.

Keywords: Big Book, Interactive, Local History.

1 Introduction

According to Permendikbud No. 3 of 2020, which states that every higher education institution (PT) is required to assist students in strengthening competence by providing opportunities for learning outside the study program at the same university and taking learning in the same study program at a different university, the MBKM curriculum is one of the Ministry of Education and Culture's strategic policies in improving the quality of Indonesian human resources. In addition, RI Government Regulation Number 4 of 2022 concerning National Education Standards, article 6 point (4) c states, Graduate competency standards in higher education units

are focused on knowledge, skills, independence, and attitudes to discover, develop, and apply science, technology, and art, which are beneficial to humanity, the State University of Medan (Unimed) as an accredited A PT (SK BAN-PT No. 2988/SK/BAN-PT/Akred/PT/XII/2016) responded, by participating in opening the most comprehensive opportunity for students to implement these policies through several programs such as student exchanges through Permata Sakti, Permata Sari, Internships, and so on. This Government Regulation and Ministry of Education Program also give incentives to maximize distant learning in order to meet MBKM's demands in conducting online lectures. Unimed's utilization of learning technologies such as SIPDA, GAFE (Google Application for Education), Zoom, and others would substantially aid professors and students in distant learning activities, particularly during this pandemic period.

To maximize classical and distance learning in the MBKM program, lecturers must develop digital-based learning materials as an alternative to printed teaching materials, because they can enrich teaching materials/materials with multimedia facilities such as audio, video, animations, photos, graphics, journal web links, and so on. This enables students to access digital programs as learning tools for smartphones running Android and iOS via Google Play and the App Store, allowing classical, blended, distance learning, or full online history study to function more successfully, flexibly, and efficiently. Interactive digital-based teaching tools are currently uncommon as learning resources in the UNIMED FIS setting, particularly in JPS.

The Department of History Education is one of four majors/study programs in the FIS environment that are accredited A (SKBAN-PT No. 9574/SK.BAN-PT/Ak-PPJ/S/VII/2021), in response to the MBKM program by the Rector's Regulation No. 0362/UN33/PRT/2020 concerning Freedom of Learning, which requires every Lecturer to be able to develop learning activities, both offline, blended learning, and fully online. This is a required solution for implementing distant learning as a result of the covid-19 epidemic and as a response to the problems of the Industrial Revolution 4.0 in the field of education, as well as the implementation of the MBKM curriculum. North Sumatra History Course is one of the courses launched by JPS. as a subject in the independent learning program that is taken not only by JPS FIS UNIMED students but also by students who join from other universities. To maximize learning in lectures, it is necessary to develop teaching materials using digital-based learning resource applications. This is done to be able to access teaching materials/materials easily through the use of smartphones by students who attend North Sumatra History lectures either offline, blended learning, or fully online.

One of the major challenges in lectures at JPS FIS UNIMED during the RI 4.0 era and the MBKM curriculum was the lack of up-to-date and relevant digital ledgers for the CPL-CPMK, particularly for the class of courses called spatial history, which included Indonesian history, Sumatran history, North, American history, European history, African history, Asian history, and other spatial history courses. The most comprehensive book accessible today for the study of North Sumatra is William Marsden's History of Sumatra, published by Oxford University in 1966 and translated and published by Komunitas Bambu in 2008. In the twentieth-century historical study, specifically in 1950 (not up to date), and relatively limited because it does not specifically discuss North Sumatra, and is not by CPL and CPMK in the MBKM Curriculum which has been formulated by the JPS Lecturer Team, so the teaching materials are not able to meet the needs of Lecturers and Students, resulting in CPL-CPMK far from expectations.

The preceding description demonstrates how critical the digital-based ledger or interactive digital North Sumatra History Ledger is in assisting JPS students in mastering the materials in special courses, particularly the History of North Sumatra, in order to achieve each CPL-CPMK

that has been formulated. As a result, research on the development of digital teaching materials in the form of interactive apps might be new and crucial in meeting the difficulties of Higher Education in the RI 4.0 Era and Independent Learning to welcome UNIMED as The World Class University.

2 Method

The research and development technique was applied in this study. The development research technique is a way for producing specific items and testing their performance (Sugiyono, 2010:407). Research and Development is a process or series of activities that can be used to create a new product or improve an existing one (Nana Syaodih, Sukmadinata, 2013: 164).

The research and development (R&D) paradigm proposed by Borg and Gall (2003) is used in the creation of this interactive digital-based North Sumatra History Ledger Application (in Gooch, 2012:86). The stages of the R&D development model are as follows: a) the needs analysis stage, which includes student analysis, material analysis, and goal specification; b) the design phase of teaching materials products, which includes teaching material selection and initial design; and c) the production/implementation stage of initial product development, which includes teaching material manufacturing and the preparation of assessment instruments (validation sheets, questionnaires/questions); d) the revision stage, which includes revisions or improvements to the media based on validator suggestions; e) the product trial phase, which includes testing the material on students, filling out questionnaires by students, and carrying out learning outcomes tests; f) the final revision and dissemination stage, which includes the analysis of the media's success and the final improvement or revision of the media, as well as media dissemination. The efficacy test is the final phase in this investigation.³ Results and Discussion

3.1 Analysis Stage

The creation of this media begins with an examination of some of the required requirements. These requirements include content selection and user identification, which will be utilized as a guideline in the building of the North Sumatra History Ledger..

1) User (user)

Students from the Department of History Education at the Faculty of Social Sciences at the State University of Medan are the intended users of the North Sumatran History Ledger Application. According to interviews with various students, studying through mobile devices (smartphones) is highly appealing to them and may let them learn independently whenever and wherever they choose. According to preliminary research completed by researchers through observations and interviews, the average student owns an Android smartphone, which can, of course, access the North Sumatran History Ledger that will be established..

2) Material Needs

The content in this example refers to study materials for the North Sumatra History course. The researcher then shows students many learning themes that he or she has prepared, and then conducts interviews. Students were asked to rate the importance of these subjects to them based on the requirements they experienced throughout the lectures. The researcher inquired as to how

essential the subjects presented for study were in developing students' abilities in the North Sumatra History course.

Furthermore, for students' learning materials to be shown in the North Sumatra History Ledger application. Researchers discovered that the average student believes that audio and video media are extremely useful in studying Research Methods.

So, in order to meet the demands of students, researchers will integrate a number of extra elements such as practice questions and videos linked to the Indonesian History course. The movie shown is one regarding occurrences or symptoms linked to the subject matter of the Indonesian History Course, and it will be utilized as material for student projects in that course.

3.2 Product Design Phase (Design)

The creation of project-based research method teaching materials and the development of the North Sumatra History Ledger Application for Android-based research method teaching materials comprised the product design of the North Sumatra History Book Application in this study.

1) Initial Design of North Sumatra History Ledger Application Products

Following the study and production of project-based learning textbooks, the North Sumatra History Ledger Application will be designed. The initial design of the North Sumatran History Ledger application product based on Android is divided into two designs, namely the front-end design, namely the design for users (students taking Indonesian History courses), and the back-end design, namely the design for administrators, namely lecturers, so that the North Sumatran History Ledger Application that was developed can be updated at any time. Figures following depict the application's early design.

2) Display Design of the North Sumatra History Ledger Application.

a) Initial Screen of Application

The first view of the application (login) is the view that appears once the user accesses the program. The user must fill up two fields on the display, namely the user name and password. Figure 3 depicts the format of the presentation.

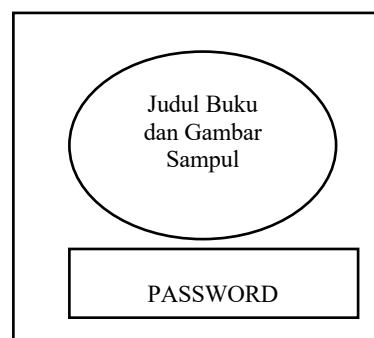


Fig. 1. Initial Display Design (Login Menu)

Students enrolled in the Research Methods course will be given a password by the professor, who also serves as an administrator for the North Sumatra History Ledger program.

b) Front View Design

The front screen is the screen that shows once the learner has successfully completed the Login stage. A menu will appear on the front screen. The first menu "About" contains information about the North Sumatran History Ledger Application product, the second menu "Material" contains materials and sub-materials that will be discussed in lecture activities, and the third menu "6 assignments" contains information about the six KKNI task sub menu items. The RPS menu is the fourth menu. Figure 2 shows the first design of the menu display for the North Sumatra History Ledger Application.

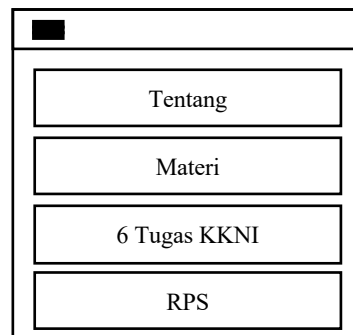


Fig. 2. Menu Display Design

c) Display Design "Home"

The "Home" menu is a menu that contains matters relating to the North Sumatra History Ledger Application, such as; 1) The name of the North Sumatran History Ledger Application, 2) the purpose of the North Sumatran History Ledger Application, 3) how to use the North Sumatran History Ledger Application.

d) Material Display Design contained in the "Home" sub menu.

The material menu is a display that contains several types of material that correspond to the teaching materials in the online edition of the Indonesian History course, both in written form and as photos and videos. Students may also obtain RPS (Semester Learning Plan) and powerpoint presentations from this option. Figure below depicts the material display design.

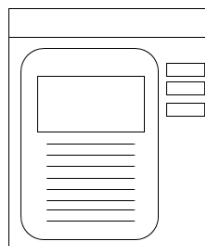


Fig. 3. Home Display

e) 6 Task Display Design.

The North Sumatra History Ledger Application is developed to meet 6 goals established by the KKNi curriculum applicable to Medan State University, in addition to supporting the blended learning paradigm. The 6 task menu displays a full explanation of the 6 activities that students must complete. Figure following depicts the display design.



Fig. 4. KKNi's 6 Task Menu Display Design

3.2 Product Development Phase (Development)

The development stage is where the North Sumatran History Ledger Application is created. It was modified to the design when creating this North Sumatra History Ledger Application. First, resources necessary to fill up the information of this North Sumatra History Ledger Application, including photographs, videos, and animations, are collected. These materials were collected through the use of electronic books, Google, and YouTube.

Following the collection of all resources, the North Sumatran History Ledger Application, the Android version of the North Sumatra History Ledger Application, is created using the Sigli software. Figure following depicts the outcomes of the creation of the North Sumatra History Ledger Application.



Fig. 5. North Sumatra History Ledger Application Cover Vie

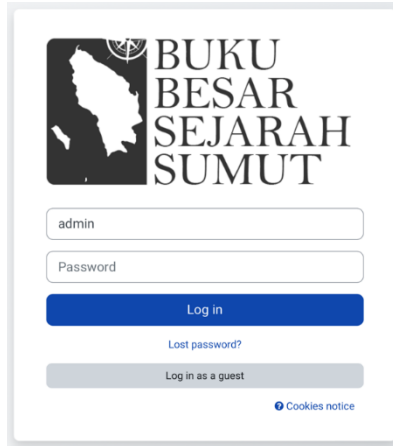


Fig. 6. Display of LMS Impressions in the North Sumatra History Ledger Application Implementation Stage

3.3 Implementation Stage

The product trials that have been prepared for a number of responders are included in the implementation phase. The researcher creates a learning scenario utilizing the Blended Learning paradigm during deployment. The blended learning implementation consisted of four sessions: two face-to-face meetings and two online meetings for Indonesian history lectures utilizing Zoom and Dandroid web meetings. During the experiment, the researcher invited two experts, a learning media specialist and a material expert, to evaluate the North Sumatra History Ledger Application.

1) Expert Validation

Before using the product, the researcher requested an evaluation from the Research Methods Material Expert and the Digital-based Learning Media Expert. The three experts' opinions are as follows:

(a) Media Expert Assessment Results

Media experts are respondents who are considered to have a good or bad assessment of a learning medium. This North Sumatra History Ledger application was tested by 1 digital learning media expert who assessed the software engineering and visual communication side. The results of the media assessment recap are shown in Table below:

Table 1. Result of Media Assessment Recap

No	Item	Scor2
1	The description of the North Sumatra History Ledger application is clear	4,00
2	The guide to using the North Sumatra History Ledger Application is easy to understand	4,50
3	Display of the North Sumatra History Ledger Application cover	4,00
4	The North Sumatra History Ledger application does not take up much memory	3,50
5	The process of loading video media and images goes well	4,00
6	The layout of the North Sumatra History Ledger Application layout is interesting	4,00
7	The composition and design of the colors used are attractive	4,00
8	The appearance of the design, size and layout of the icon is just right	4,50
9	Icons / buttons that make it easier for users to use the media	4,50
10	The audio file in the North Sumatra History Ledger Application runs well	4,50
11	The learning videos are going well	4,50
12	The North Sumatra History Ledger application can be run on all versions of Android	4,00
13	Use the correct font type and size	4,50
14	The use of effects and the interface in the North Sumatra Historical Ledger Application is simple and attractive	4,00
15	The North Sumatra History Ledger application can be used anytime and anywhere	4,50
16	Display design according to user level	3,50
17	Ease and simplicity in operation	3,50
18	The language used is easy to understand	4,50
19	Consistency in the placement of image and video media	3,50
20	Accuracy between background and font color	4,50
Total		82,50
Average		4,10
Criteria		Very Good

According to the assessment form above, media professionals awarded extremely good ratings for all topics, totaling 82.50 with an average score of 4.10. Based on the total and average data, it is possible to conclude that the Android North Sumatra History Ledger Application "History of Indonesia" is appropriate for use in blended learning.

(b) Material Expert Assessment Results

Respondents who are material specialists evaluate the feasibility of the material content contained in the created North Sumatra History Ledger Application media. The material experts appointed by the author in this study are experts who truly understand how to design interesting learning based on materials and sub-materials in the Indonesian History course, as well as having a scientific background related to learning Indonesian history and understanding learning models. The material assessment findings are presented in the table below.

Table 2. Results of Material Assessment Recap

No	Item	Score
1	The material contained in the North Sumatra History Ledger Application is in accordance with the IQF curriculum	5,00
2	This North Sumatra History Ledger application can support the achievement of learning objectives	4,00
3	Compatibility between material design and project based learning	5,00

No	Item	Score
4	This application of the North Sumatra History Ledger can make students interested in learning more about teaching material	4,50
5	The material contained in the North Sumatra History Ledger Application is in accordance with the RPS for the Research Methods course	4,00
6	Application of the North Sumatra History Ledger can increase students' courage to use the Research Method.	4,50
7	This North Sumatra History Ledger application allows students to study independently	4,00
8	The readability of sentences and paragraphs is clear	4,50
9	The material contained in the North Sumatra History Ledger Application is arranged in a systematic and coherent manner	4,00
10	The videos displayed in the North Sumatra History Ledger Application can help students understand the material	4,00
11	The video link presented is in accordance with the material	3,50
12	Encouraging students to be actively involved	4,00
13	The practice questions given in the North Sumatra History Ledger Application are in accordance with the material presented	4,50
14	The suitability of the practice questions with the learning objectives	4,00
15	Use terms that are appropriate and easy to understand	4,50
16	Provide motivation/interest and curiosity of students	4,50
17	<i>Up to date</i> material	4,50
18	The material presented contains 4 North Sumatra History competencies	4,50
19	Conformity between the material and the needs of history education majors	4,50
20	The images used in the North Sumatra History Ledger Application	4,00
Total		86
Average		4,3
Criteria		Very Good

The material specialist offers a very excellent rating of the material displayed by the researcher on the product in the assessment questionnaire above. The calculation results for all elements in the material assessment, namely up to 20 assessment items, yielded a total of 86 with an average value of 4.30. Based on the total and average values, it is possible to conclude that the content of the Android North Sumatra History Ledger Application "History of Indonesia" based on Literacy Hots is appropriate for usage in educational settings.

2) Application of the North Sumatran History Ledger Application in Learning the History of North Sumatra

The application of the North Sumatran History Ledger for the Literacy Hots-based Research Methods course is the product developed in this research. Therefore, it is necessary to implement the use of the North Sumatran History Ledger Application in learning Indonesian History courses to find out how students respond and evaluate the products developed.

3.4 Student Interest in Android-Based Learning

Students were asked to fill out a response questionnaire by giving an assessment of each indicator by putting a check mark () on the range of numbers that are considered appropriate, namely (4) to strongly agree, (3) to agree, (2) to disagree, and (1) to disagree, in order to determine their interest in learning the Research Methods course using the North Sumatran

History Ledger Application based on Literacy Hots. The questionnaire findings were then analyzed by computing the percentage value acquired from each aspect, namely the total value of each aspect divided by the maximum number and multiplied by 100%, as stated by Hariyadi (2009) in Susanto (2012: 75):

$$P = \frac{f}{N} \times 100\%$$

Keterangan:

P = Persentase

f = frekuensi yang sedang dicari atau skor yang diperoleh

N = *Number of cases* atau skor maksimal

Furthermore, according to Khabibah (2006) in Wulandari and Waryanto (2012), to establish the answer category supplied by students to an aspect by matching the percentage results with positive criteria, including:

85% ≤ respon = sangat positif (sangat tinggi)

70% ≤ respon < 85% = positif (tinggi)

50% ≤ respon < 70% = kurang positif (kurang tinggi)

respon < 50% = tidak positif (tidak tinggi)

Table 3 Results of Student Response Questionnaires

No	Aspect	Percentage	Criteria
A	Happy Feeling	87.15%	Positive
B	Interest in North Sumatra History Ledger Application	86,57%	Positive
C	Attention	85,85%	Positive
D	Student Engagement	88,24%	Positive

The student response questionnaire yielded a percentage of 86.49% for elements of happiness, 87.67% for aspects of student interest in utilizing apps, 85.81% for aspects of attentiveness, and 88.24% for aspects of student engagement. Looking at the four elements, it indicates a highly favorable student reaction, implying that students are very interested in studying using the produced North Sumatra History Ledger Application.

4 Conclusion

The developed North Sumatran History Book application can be one of the effective learning media for students and helps in learning the history of North Sumatra. The Hybrid Learning model will certainly be more effective when coupled with the use of the Ledger Application. In

addition, the use of the North Sumatran History Ledger Application can stimulate students in developing a learning and independent culture and also increase students' Literacy Hots skills.

References

- [1] Amri, S. Pengembangan dan Model Pembelajaran dalam kurikulum 2013. Jakarta: Prestasi Pustaka (2013)
- [2] Arsyad, Azhar. Media Pembelajaran. Jakarta: Rajagrafindo Persada (2011)
- Darmadi, H. Metode Penelitian Pendidikan. Bandung: Alfabeta (2011)
- [3] Darmawan, D. Pengembangan E-Learning Teori dan Desain. Bandung: PT Remaja Rosdakarya (2014)
- [4] Effendi, Emyp dan Hartono Zhuang. "E-learning Konsep dan Aplikasi". Penerbit: Andi Offset. Yogyakarta (2005)
- [5] Hobri. Metodologi Penelitian dan Pengembangan (Developmental Research) (Aplikasi pada Penelitian Pendidikan Matematika). Jember: FKIP Universitas Jember (2009)
- [6] Kadir. Statistika Terapan. Jakarta: Raja Grafindo Persada (2015)
- Lehman, Lynn. A Proactive Approach to Employee Training & Development. Rising Sun Consultants (2007)
- [7] Miarso, Yusufhadi. Menyemai Benih Teknologi Pendidikan. Jakarta: Kencana Prenada Media Group (2007)
- [8] Muhtadi, Ali. Pemanfaatan Program Computer Assisted Instruction (CAI) dalam Program Pembelajaran Berbasis Internet. Universitas Negeri Yogyakarta (2013).
- [9] Munadi, Y. Media Pembelajaran Sebuah Pendekatan Baru. Jakarta Selatan: Referensi (2013)
- [10] Musfiqon. Pengembangan Media dan Sumber Pembelajaran. Jakarta: Prestasi Pustaka Publisher (2012)
- [11] Nasr, Ahmad. Attitude Towards Biology and Its Effect on Students Achievement. International Journal of Biology, Vol.3, No.4 Oktober 2011 (2011)
- [12] Nasution, Abd Haris. Pembelajaran Sejarah abad 21. Obelia Publisher: Medan (2021)
- [13] Putu Gilang Marya Putra, W. S. Pengembangan E-Learning Berbasis Moodle Pada Mata Pelajaran IPS Kelas VII di SMPN 1 Selemadeg. e-journal Edutech Universitas Pendidikan Ganesha (2015)
- [14] Sadiman, Arief S. Media Pendidikan. Jakarta:RajaGrafindo Persada (2010)
- [15] Sugiyono, P. D. Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta (2017)
- [16] Sugiyono. Statistika untuk Penelitian. Bandung: Alfabeta (2013)
- [17] Supriatna, Nana. Komstruksi Pembelajaran Sejarah Kritis. UPI Press: Bandung (2007)
- [18] Tegeh, I Made, dkk. Model Penelitian Pengembangan. Yogyakarta: Graha Ilmu (2014)
- [19] Widoyoko, Eko Putro. Teknik Penyusunan Instrumen Penelitian. Yogyakarta: Pustaka Pelajar (2014)