

The Effectiveness of Historical Documentary Films as Information Technology in Improving Student Learning Outcomes

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Abstract— This study aims to determine the effectiveness of documentary film media on the Dutch East Indies colonial history in Indonesia on student learning outcomes. History learning is a crucial subject in shaping students' character and nationalism. Dutch East Indies colonialism is one of the topics in high schools in Indonesia. This study used a quasi-experimental research model involving 35 students in the experimental group and 36 students in the control group, with a nonequivalent pretest-posttest control group configuration in class XI SMA. The data analysis showed that the experimental class score averaged 88.14 and the control class averaged 79. These findings indicate a substantial difference between the experimental learning outcomes and the control group learning outcomes. Historical documentary film media has been proven to improve student learning outcomes, especially the experimental group. Therefore, historical documentaries are effectively used to increase students' knowledge of history subjects.

Keywords— instructional media, documentary films, learning outcomes, history lessons, students.

I. INTRODUCTION

HISTORY learning in schools aims to make students gain historical thinking skills and historical understanding [1, 2]. Students may acquire skills to think chronologically and know the past through historical development, which can be used to recognize and clarify the development and transition process in culture and socio-cultural diversity to establish and encourage national identity amid community life [3, 4].

History learning is an important subject in shaping students' character and nationalism. One way to form the nation's character is through the study of history. When there are problems in learning history, there are problems related to nationalism. This learning problem refers to theory, lack of

imagination, textbook references, country-oriented curricula, and the tendency not to pay attention to the phenomenon of globalization that washes away the historical background [5, 6]. History lessons often take the role of memorization lessons and boring lessons. The learning is nothing more than a numerical sequence of years and events that must be memorized and then revealed again when answering exam questions. This fact cannot be denied because it is still happening today [7-9].

The teacher's professionalism lies not in the ability to develop the knowledge they have, but rather in the ability to carry out exciting and to set and relate to the close learning for students. The subjects' attractiveness is determined by two elements: the subject and the teacher's teaching method. Therefore, the task of a teacher is to deliver the lessons that were previously uninteresting to be interesting, which are considered difficult to be easy. So that learning in the classroom can run according to the teacher's wishes, innovative learning models and media are needed that emphasize students to be more active [10, 11, 12].

In secondary schools, the teaching and learning method is decided not only by the teacher but also by learning means and student activities. In the 21st century, technological advances allow children to grow naturally into a broader range of access to knowledge [13, 14]. ICT improves constructive learning and growth practices [15, 16]. There is already a transition in world education in many countries to more immersive, enjoyable, and experiential teaching methods [17]. Professors are expected to be able to use accessible media in classrooms. ICT should follow a sound pedagogic approach [18, 19]. Professors are expected to be able to use accessible media in classrooms. ICT should follow a sound pedagogic approach [18, 19]. The research process began to change from an instructor as a primary curriculum source to a teacher as a research facilitator in the classroom.

The development of teacher skills and efficiency starts in all human life fields, including schooling, modern knowledge, and communications technologies (ITC) [20, 21]. The school

system plays a significant role in creating a society, and the impact of early childhood education can support the acquisition of knowledge [22, 23]. Teaching aims at encouraging people to read and learn through working time. The presence of community education will develop awareness and expertise to improve residents' and society's welfare.

Students were educated as objects so far. Students' awareness is ready, but it is not easy to step through a mechanism that must be formed, considered, and built caused by students only passively involved. An instructor should hold students' interests in studying, studying, and developing enthusiasm to learn, learning the first lessons of their school life, and enjoying learning [24, 25]. Exciting and close learning settings must be created to actively help students' activities in the learning [26, 27]. For those reasons, the education program's consistency becomes the foundation of learning life. It should also concentrate on real-life issues [28].

The lowest learning outcomes in school are often indicated by these students' learning problems in understanding the material. This indication occurs due to ineffective student learning factors. Sometimes, even students themselves are less motivated to participate in class learning, which causes them to understand less or understand the subject matter given. Good learning can be supported by a conducive learning atmosphere, and the relationship between teachers and students can run well [29-32].

A teacher should make an effort to solve these problems. One of the solutions in educational media use can significantly contribute to the success of the learning process and the teacher's delivery of messages and the information content [33]. Learning media is a tool used during the learning process, which helps teachers deliver material to students [34]. Teachers can use the learning media in the learning process, for example, cassettes, videos, computers, CDs, films, documentary films, and others. One of the interesting is documentary film learning media usage to teach the history subject [35].

The films have advantages for both students and teachers. The film is excellent because it can explain a process. Historical films can depict past events realistically in a short time [36]. The use of film media in learning provides many benefits for learning, such as students can more accept the teaching contents easily, and students will be more motivated to learn. The historical film media can give an attractive impression to students and foster students' national spirit. Documentary film learning media has advantages, namely to teachers who can display moving visuals, both in color and in black and white, that contain learning material, can create unique visual effects that can make the learning process more attractive [37, 38]. More specifically, for the topic is history Documentary Film usage.

Documentary film learning media used for history learning in high schools include the Dutch Indies Colonial History Documentary Film. The material on the history of the Dutch East Indies colonialism is history subject matter at the high school level. Also, through the Dutch Indies Colonial History Documentary Film, students can identify the essence of life in an area with the virtues and characteristics of the area where they live so that their understanding of the history of the area gets better. Undoubtedly, the Dutch colonization of documentary film is used as an alternative for resolving the

problem of learning in the history class, according to the description above. So, this researcher formulates a hypothesis, namely:

- H0: Students whose learning uses historical documentary film media as effectively as group students without using historical documentary film media.
- H1: Students who use historical documentary film media in their learning process are more effective than students who do not use historical documentary film media.

II. LITERATURE REVIEW

History Learning

Historical learning notes that it is a mixture of learning and teaching practices in which historical events that are closely connected to the present are taught [35, 39]. Good history learning is learning that can foster students' abilities by constructing present conditions by linking or seeing the past, which is the basis of history learning topics [40-42]. This opinion is in line with understanding history from the time's point of view. There are three-time frames in understanding history: short term, midterm/medium-term, and long term. History is also discussed from a spatial perspective that cannot be ignored [43]. Students must understand the concept of changing time in history learning and realize it [44-46]. It is also possible to pay attention to contemporary developments that are increasingly global in history learning to become a vehicle for developing intellectual abilities and pride in the past and efforts to improve people's lives in the fields of socio-economic politics and culture.

Learning history is a gate for learning about what happened and its lessons. Learning history, in all its ways, is learning about humanity. The purpose of studying history is to make someone wise. Learning history would give rise to an understanding of the essence of human culture and civilization's creation, which is then referred to as historical awareness (historical awareness). Therefore, one purpose of studying history is to build historical knowledge. The learning history process in schools must also look at creating circumstances that can build historical knowledge [47, 48].

Documentary Film

To create a significant impact on the learning process, history learning in schools requires learning media. Learning media is a set of resources or supplements that teachers or educators use to engage with learners [49-51]. Good learning media can help students provide feedback and feedback and encourage students to carry out correct practices. Learning media consists of several forms, one of which is film documentary media. A documentary film is one type of film which is an actual, creative report based on information [52-54], by the statement of [55], from factual events that occur and basic patterns in documentary films describing the problems of human life.

Movies can be divided based on duration, namely, 1). Short films are with duration of under 60 minutes, 2). Long films that are over 60 minutes long [56-58]. Meanwhile, the film is divided into 4, fiction films, animated films, experimental films, and documentary films. One type of film that teenagers love producing is a documentary film [59, 60]. In recent years'

documentary films have become prestigious events for Indonesian youth, so many documentary films events and festivals have been held at the student, student, and public levels. This is also between schools, colleges, and prestigious national-level film events involving Indonesia's young generation. When viewed from the theme raised in every event or festival held in Indonesia, it focuses more on cultural and educational themes. It is most likely based on Government Regulation of the Republic of Indonesia number 23 of 1999 concerning the Implementation of Handover and Management of Recorded Films or Films. In this regulation, the fact that the work of recording story films or documentary films in frogs is one of the nation's artistic works as a manifestation of creativity, taste, and human initiative and has a critical role in supporting development in general, development education, research, development of knowledge and technology and dissemination [61, 62].

One of the documentary films is about the colonization of the Dutch East Indies in the Lampung region. The use of historical documentary films by teachers will impact helping students obtain an overview of the events. The historical process of the Dutch East Indies colonization in Lampung occurred in the past, which was unlikely to be encountered by students in their time. However, students can see a chronological sequence as desired in the learning process through the documentary films. Students will also be able to see objects of historical relics [63, 64]. It looks like it is natural in front of them because documentary films are audio-visual. The use of documentary films will add material for historical learning media in schools [65-68]. Students will be happy and interested in taking history lessons, so it is not surprising that students look enthusiastic about watching historical documentaries.

Learning Outcomes

The most significant portion of learning is learning outcomes. [69-72] Describes student learning outcomes as improvements resulting from learning that encompasses the cognitive, affective, and psychomotor fields in a broader context. [73-75] Also, note that the product of an association of learning actions and actions is learning outcomes. The teaching act finishes with a method of measuring learning performance from the teacher's hand. Learning results stop at the peak of the learning process from the student side. Six styles of cognitive conduct are stated by [76], namely: a) The ability to recall items, b) Comprehension, c) Involves the use of techniques and laws to deal with real and new problems, d.) Analysis, e) Synthesis, and f) Assessment.

Good learning will produce quality education [77]. So that teachers must be able to make every effort in preparing learning tools with lesson plans, teaching materials, learning media, and learning evaluation [78, 79]. One of these crucial things is realized by using learning media for students, which is applied in the classroom. Therefore, historical documentary film media in history is an alternative [80-82].

III. METHODOLOGY

Research Model

This research uses a quasi-experimental design that uses the nonequivalent design paradigm of a control group [83]. As seen

in the following table, the design of this analysis is:

Table I. Experimental Design

Category	Pretest	Treatment	Posttest
Experiment Class	O ₁	X ₁	O ₂
Control Class	O ₃	X ₂	O ₄

Information:

O1: Pretest in the experimental class

O2: Posttest in the experimental class

O3: Pretest in the control class

O4: Posttest on the control class

X1: Treatment with documentary film media

X2: Treatment with conventional media

Sampling and Data Collection

This study's population was Class XI SMA N 1 Natar Lampung Selatan students. This school has a homogeneous population and has the same potential, so the survey was carried out using purposeful sampling techniques in this research, namely 36 XI IPS 1 students as an experimental class and 35 XI IPS 2 students as a control class. The research was conducted at SMAN 1 Natar during the first semester of the 2020/2021 academic year, when the research was carried out.

Data Collection Instruments

The form of a multiple-choice test instrument with 50 items, five answer choices, one correct answer choice is given a value of 1, and the wrong answer choices are given a value of 0. The item validity test is carried out by displaying Pearson's Product Moment. The product moments confidence level between the item and item scores is > based on the table based on the Pearson Product Moment r table at the alpha significance level = 0.05. Only items that are empirically declared valid and meet the requirements are then compiled as a research instrument. The calculation of the instrument's reliability in this study used KR20, a test used to answer true and false (dichotomy) about the material of history. In practice, the test score given is 1 for respondents who answered correctly and 0 for respondents who answered incorrectly.

Data analysis

Analysis, namely descriptive analysis, and differential analysis are used in this study. The authors did display the distribution table, histogram, mean and standard deviation, descriptive analysis. Hypothesis testing was carried out with the two-tailed (2-tailed) Mann-Whitney U review test with a substantial level of alpha = 0.05 using the SPSS 16 assistance software. The specifications test was performed in a normality test and a homogeneity test before the Mann-Whitney test.

There is a standard distribution of the normality test to see details on student learning outcomes in each category. The Kolmogorov-Smirnov test was used in the normality test in this analysis. This test criterion usually distributes the data with a significance value > a = 0.05. History homogeneity test about whether the data on learning outcomes between groups are homogeneous. The homogeneity test in this study used the Levine test. With this criterion with a significance value > α = 0.05, the data can be homogeneous.

IV. FINDINGS AND RESULT

Current learning process

In this analysis, the place of testing was in two groups, namely SMA N 1 Natar Lampung, with class XI students as the focus of this study. Preliminary research was carried out to collect preliminary evidence on the circumstances about the use of learning media. The preliminary research gathers information on realistic learning practices, school-based facilities and resources, and the outcomes achieved during the lesson.

The teacher often prefers using learning media-based only based on the interviews' outcomes. The most important thing is to learn to walk as usual. The facilities at school, including usability of LCD projectors and laptop schools, are ideal for implementing the learning media in groups. The teacher, however, is vague and lacks enthusiasm for developing a creative process of learning that is different from usual. (a) the teaching aids were written by the lecturer on the blackboard also prioritize the instructor over conventional media, the results of a preliminary review of one of the class learning activities in the history subject. It became a problem in learning because it was found that many students still misinterpreted and did not understand the history of colonization in Indonesia. Also, when the teacher draws on the blackboard, students ignore the teacher; some play, joke with friends, and even run in groups. It gets worse when the teacher says nobody pays attention and requires the students. There is ample time for the teacher to write on the blackboard so that pupils get distracted and get more interested outside school; (b) the teacher's learning has not been accomplished because only basic theory and teaching aids in interpreting the theory are provided students. Students are at least puzzled, bored, and even uninterested in connecting between subject matter and real-life. Students will attempt to link the content itself with the understanding they have previously gained. Consequently, learning becomes passive, and in groups, learners appear to remain silent; (c) teacher-centered. Because learning so far has made students only listen to the teacher's explanation, this has resulted in students not focusing on the teacher.

The main factor of the many problems, such as (a) lack of student motivation, is believed to result from early learning. In interacting with learning media that are of interest to students, the lecture approach will make students not interested in deeper learning. However, if the teacher simultaneously uses most of the techniques used and teaching aids, in the lessons presented, the students will become bored and unselfish; (b) they will not focus on the lesson. During class, the action is seen. When the teacher explains a crowd of students who want to do things out of study activities in forepart. (c) Lack of understanding of the interpretations given by the teacher. Students become confused by the many historical lines in the colonial content that is memorized and memorized. On the test results, most students scored below the passing grade. The lack of detailed examples and media for presentations will make it easy for students to do activities outside of their classroom. Their results are not only focused on learning which makes the students less conscious of learning.

Financing for the use of learning media is sufficient in terms of equipment and resources in classrooms. There are many

options for finding and accessing learning media. However, information technology skills are essential for learning in schools, especially by senior teachers. Also, senior teachers' attitude who use the lecture method to learn information technology is more comfortable and relaxed. Finally, informative and summative tests, the teacher confuses students' learning outcomes at lower graduation levels. From the document review results, in the history subject, the subject of Dutch Indies colonization, 24 people passed, while 47 others did not meet the grades. It is a big concern in the community teaching and learning process.

Pretest Data of Experimental Class

The experimental class uses historical media to make documentary films. Before the researcher received the therapy, the study sample was given a pretest (treatment). Thirty-six students who were given fifty multiple-choice questions were the sample used to take part in the pretest.

Table II: Experiment class pretest value

Mean	Median	Modus	Standard Deviation
67,19	66,00	66,00	4,82

The pretest results' mean value is 67.19, the median is 66.00, the modus is 66.00, and the average variance is 4.82. Table 2 shows the mean value of the pretest results. It is understood that the typical test class does not satisfy the requirements that have passed. Treatment can then be performed to raise and meet the specified passing criteria by the average performance of the experimental group of students. A summary of the experimental community findings is given in the following table:

Table III: Experiment class pretest value

No	Interval	Frequency	(%)
1	76 – 85	3	8,33
2	66 – 75	22	61,11
3	56 – 65	11	30,56
Total		36	100

Table III indicates a score of 85 is the highest and a score of 56 is the lowest. The value was generally seen in the interval group of 66-75, and the incidence frequency in the interval group of 76-85 was rare.

Control Class Pretest Data

A monitoring group is a group not handled by historical film media. In other words, learning is using conventional media. A pretest was also given to the control group prior to treatment. The preliminary research sample contained 36 students. Fifty multiple-choice questions were then asked.

Table IV: Control class pretest grade

Mean	Median	Modus	St. Dev
65,83	66,00	63,00	5,46

Table IV reveals that the average value is 65.83 for a pretest control package, the average value is 66.00, the modus at 63.00, and the default is 5.46. This means that the control type means,

as in the experimental category, do not follow the passing criterion. A summary of the experimental community findings is given in the following table:

Table V: Control class pretest value

No	Interval	Frequency	(%)
1	76 – 85	2	5,71
2	66 – 75	16	45,71
3	56 – 65	16	45,71
4	45 – 55	1	2,86
Total		35	100

Table V shows the students' highest score of 85, while the lowest score is 45. The most frequent scores were in the intervals of 66-75 and 56-65, while the frequency was rarely in the 45-55 interval.

Experiment Class Posttest Data

The study group was then given a posttest after undergoing a learning therapy using historical documentary video media. The findings after the exam are the product of the student's final learning. A total of 50 multi-choice questions answer the questions.

Table VI: Experiment class posttest value

Mean	Median	Modus	St. Dev
88,14	88	85	5,35

Table VI indicates an average value of 88.14 for the pretested control sample, 88 modes 85 for the median, and 5.35 for the normal variance. This illustrates that the typical test class fulfils the requirements. Table 7 below summarises the findings of the pre-research test group:

Table VII: Experiment class posttest value

No	Interval	Frequency	(%)
1	90 – 97	8	22,22
2	82 – 89	22	61,11
3	74 – 81	6	16,67
Total		36	100

Table VII shows the students' highest score of 97, while the lowest score is 74. The most frequent scores were in the

intervals of 82-89 interval groups, while the frequency value of their appearance was rarely found in the 74-81 interval groups.

Control Class Posttest Data

After receiving learning treatment without the use of historical documentary film media, the control class performed a posttest. The posttest result results from the student's final study achievement. The questions asked are fifty multiple choices.

Table VIII: Control class posttest value

Mean	Median	Modus	Standard Deviation
79,00	78,00	73,00	5,02

Table VIII reveals a mean value of 79.00, a median value of 78.00, mode 73.00 for the pretest control group, and a standard deviation of 5.02. This indicates that the control sample did not meet the expectations for graduation on average.

Table IX: Control class posttest value

No	Interval	Frequency	(%)
1	85 – 92	4	11,43
2	77 – 84	20	57,14
3	69 – 76	10	28,57
4	51 – 58	1	2,86
Total		35	100

Table IX shows the students' highest score of 92, while the lowest score is 51. The most frequent scores were in the intervals of 77-84 interval groups, whereas the frequency of occurrence was rarely in the 51-58 interval group.

Hypothesis-testing

Testing the research hypothesis was tested by using the Independent T-test by doing the prerequisite test first. To see the final state after being given treatment (between experiment and control), a posttest was given to two groups of subjects who were given different treatments, namely learning media. Hypothesis testing in this study uses the t-test.

Table X: Hypothesis Test Results

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	.045	.833	7.313	69	.000	9.13889	1.24968	6.64585	11.63193
	Equal variances not assumed			7.320	68.917	.000	9.13889	1.24855	6.64804	11.62973

It is known that the learning outcomes by SPSS 16 are significant at $0.000 < 0.05$, so that H_0 is rejected and H_1 is accepted. It indicates that there is a significant difference between the experimental class and the control class after treatment. Because the average value of the history learning outcomes of the experimental class (the group using the

historical documentary film learning media) = 88,138 > the average score of the history learning outcomes of the control class (the group using traditional media) = 79, it can be proven that the results of learning history using historical documentary film learning media is higher than history learning using conventional media.

V. DISCUSSION

In this analysis, the effect of historical documentaries on historical outputs of learning is established and empirically illustrated. This study indicates that alternative media are needed to help students study topics in history. Based on the issues posed by the description above, learning findings vary between the experimental class in historical documentary media and the control class in typical media and the efficiency of using historical documentary films in high schools. After the hypothesis checking, the study found that H0 was rejected and H1 was accepted, indicating that using historical movie documentary media by experimental classes yielded significant learning effects.

Therefore, the experimental group using historical documentary film media in class XI SMA historical learning obtained better results than the control group. The control group had an overall average posttest score of 78. The most significant improvement in the experiment group is an increase in the pretest outcomes of all participants. The experimental group increased by 20.81, and the control group increased by 12.17.

It indicates a significant impact on the study community results in higher proportions on those who utilize Historical Documentary Film. Therefore, history should be disputed that documentary film media are more powerful than traditional media learning. Therefore, the fact is that the students who learn to use historical film media become more successful than those who do not use historical documentary film media. These findings support [84, 85] —analysis suggesting that the media employed will preferably affect the correct media' muse. The used video must be acceptable for the pupil. To make the content conveyed by video media easier for students to understand.

The nature of documenter videos makes the abstract content more accessible for students to grasp. Documentary films will allow students to appreciate the subjects discussed [86-88]. Documentary videos are a better experience for students as alternative media. Videos can significantly inspire and draw student interest if enriched with multimedia (images, animation, music, sound) [89, 90]. This is also in line with [91-93] analysis, making studying history more exciting and enjoyable by using film documentation. This film style aims to assess the depth of understanding of the students' content so the video can be played back. Video in this study is seen in history as an area of science. The study which may be required may be extended to other fields, such as anthropology and sociology.

Experimental findings indicate that students who use historical documentary films receive more fantastic learning results than textbooks. The students are engaged more because the presented documentary does not make learning monotonous [94]. Besides the material in the video that mixes the material with life in the past, the student's reasoning abilities would be defeated by the material in the video.

Documentation papers have become more efficient for statistical imaging in learning factual and logical details and cognitive tasks, including recall, interpretation, and execution, as seen by the meta-analysis findings [95]. The above analysis findings are also endorsed, depending on the results of the hypothesis performed in this report.

VI. CONCLUSION

This research explores the use of enhanced learning performance in historical documentary film media. The findings suggest that the media for documentary film history has significantly affected the experimental community on student achievement. The student experimental team was more involved and focused on learning. They also enhance the comprehension of the content by comparing everyday life to allow students to appreciate their knowledge and grow it optimally. The improvement in students' learning output has improved dramatically by the control group. Teachers should use historical film media or other media events in the classroom to establish successful learning methods.

Historical media documentaries may be used to overcome textbook (print) and other media constraints. It is shown by using historic documentary media with higher learning performance than using historical film media. While historical documentary film media has a positive effect, it should be noted that educational media has to be focused on the learning needs of students. It must be done for students to use historical documentary films massively.

VII. LIMITATION

The research examined only the effect of historical films on knowledge aspects while other aspects of learning, such as skills and attitudes, are used for learning. The created learning media are expressly incorporated sub-contexts to further research, the happiness of consumers, and other possible obstacles to using historical records so that the importance and environment of other participants can also be studied.

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