

## **Construction of Environmentally Minded History Learning Through Infographic Media to Increase Students' Ecopedagogy**

**Ainun Munawar**

ainnsejarah@upi.edu

Study Program of History Education

School of Postgraduate Studies, Universitas Pendidikan Indonesia

**Abstract:** The importance of environmental awareness in studying history is to build an understanding of human life. Human life as a historical actor cannot be separated from its habitat, environment and other living things. The era of visual digitization is at least one of the challenges that needs to be overcome to develop innovative learning content. Environmentally-minded history learning content is one of the cognitive fields that must be optimally absorbed by students in order to have a sense of empathy for the surrounding environment, so methods and media are needed so that the content can be absorbed optimally. The method used in this research is research and development which adapts the ADDIE development model research (Analyse, Design, Development, Implementation and Evaluation). Pre-tests and post-tests will be used to get students' interest in learning and environmental awareness gained through history learning. Assessment of historical infographics containing environmental insights has been declared appropriate for use in history learning by experts, and the conclusion is that there are differences between students' learning interests and environmental awareness using infographic media and classes that do not use.

**Keywords:** Infographics, History Learning, environmentally minded

## Introduction

The living environment is the unity of space along with all objects, forces, circumstances, and living beings. Including humans and behaviours that affect the concentration of life and the well-being of humans and other living beings (Muhaimin, 2015). Environmental components that are closely related to human life. Environmental damage is often caused by human actions that do not spread it such as littering, using beavers that are not environmentally friendly, cutting trees carelessly and others. Education seeks to develop the potential of individuals to be able to stand alone. Each individual needs to be given various development abilities, ranging from concepts, principles, creativity, responsibility, and skills.

Hasan (2017) explained that education is a very important and decisive socio-cultural effort in introducing the challenges, abilities possessed and attitudes of the people of the nation at that time in facing challenges and providing answers. Similarly, the changing challenges faced over time, and how the nation's people develop their knowledge, technology, and attitudes in responding to these changing challenges. Learning today prioritizes digital-based learning, because teaching materials can be accessed anytime, anywhere. Moreover, students prefer learning media that have practical and concise goals. The phenomenon of low concern of the younger generation for the environment is one of the big challenges faced by educators.

Educators are tasked with preparing learners to participate effectively and contribute actively as part of a sustainable society that regulates an ecologically healthy environment (Capra, 2007). Education has a close relationship with awareness of the environment. Every learning that occurs is part of efforts to preserve the environment. Tilbury (in Ahmad, 2013) explains that environmental education is not only related to physical-biological problems, but also relates to aesthetic, economic, political, social, historical, and cultural aspects. Because history is included in the multidisciplinary environmental education, there is a link between history learning and the environment. Studying history, learning about the environment can use the Ecopedagogy

approach.

Kahn (2008) writes of his hope that ecopedagogy can leverage education for sustainable development to make strategic interventions on behalf of the oppressed, but ecopedagogy also seeks to generate awareness based on sustainable concepts.

Environmentally-oriented history learning provides a diachronic understanding of several things. First, history learning seeks to uncover the relationship between humans and the environment. Second, the study of history provides an explanation of the development of the relationship between humans and the environment. Third, history learning provides an explanation of the development of environmental problems that occur.

One of the problems with history learning in high school lies in the supporting element of student interest is the media. Based on the results of observations and interviews conducted, there is still a lack of media use in history learning and a lack of varied media. In fact, according to Dellyardianzah (2017) learning media is very necessary in the learning process, in addition to students being easily to accept and understand the material presented by the teacher, students can also be actively involved in the learning process and can overcome student saturation during the learning process. The development of learning media should aim at improving positive outcomes, novelty and innovative media are needed to achieve as expected.

Respondents said that in learning history there are points that need to be done by the teacher, easy to understand and not complex in delivery. What is needed is an understanding of the essence of an event and having a connection with the surrounding life. The low and declining quality of education, as widely discussed by the media and some studies, largely concludes that teachers are one of the biggest culprits. Therefore, it is very necessary to realize that directed teacher professional coaching needs to be carried out to increase effectiveness in teaching, one of which is in the development of environmentally friendly historical learning media.

The ongoing history learning process has been running smoothly and uses several methods and models used for the learning process in schools, but students still lack understanding of history, especially understanding that has a connection with their environmental life. This indicates that there are factors that influence students' understanding of history. Control of environmental problems is carried out by providing experience and various understandings that can solve problems, make decisions, and participate with considerations based on ecological, social, economic, and ethical aspects that show changes in behaviour and attitudes to help solve existing problems related to the environment and to avoid environmental crises in future generations (Palmer, 1998).

Conflicts over environmental maintenance efforts to give birth to environmental problems that occur in the surrounding environment are experienced by students in schools. Based on the results of a preliminary study conducted on 36 students who were randomly selected through the distribution of intelligence questionnaires, it was known that their ecological intelligence was relatively low. Some of the indicators in question are an attitude of empathy towards the environment, living things, cooperation with the community, problem-solving skills towards the environment, and support in terms of positive environmental maintenance.

### **Methods and Research Design**

*Methods.* This development research aims to produce learning media that can support the learning process in the classroom. In this study, researchers developed learning media products in the form of infographics. This product will be developed into an environmentally sound history learning media. Therefore, this study uses research and development methods. This type of research uses Research and Development (R&D) research, which is a process used to develop and validate research products (Punaji Setyosari, 2010).

*Research Design.* This research design adapts the ADDIE development model research which consists of five stages which include analysis, design,

development, implementation and evaluation (Sugiyono, 2015). ADDIE model is one of the most common models used in the instructional design field, a guide to producing an effective design (Nada Aldoobie, 2015). Development is carried out by making designs in accordance with the input of initial respondents, either teachers or students. In the next step, the design of the teaching materials is validated by experts, and the post-development testing step checks for dissemination or effectiveness.

Small and large-scale tests were conducted to get input for eco-friendly historical infographics. The population of this study was class XI students of SMAN 1 Ciledug and the sample taken was class XI IPA 2. Data collection at the analysis stage uses interview and observation methods to provide an overview of students' learning and conditions. During the implementation phase, researchers use testing methods to measure student learning outcomes and awareness. The test is carried out twice, at the beginning of learning (pre-test) and at the end of learning (post-test).

## **Results and Discussion**

Based on the absorption of data, both observations and interviews as the initial guidance data for development, there are several facts that need to be observed and become a reference for the development of learning media. The lack of development of teaching media that contain ecological intelligence in the research site is a strong reason to present a novelty of development. The next fact is that the level of understanding of students in learning history has two aspects that become a benchmark, namely how and for what. In history learning the role of the teacher is very important in building interest in learning and providing meaningful understanding of life around students.

## **Field Data**

Based on the acquisition of observation and interview data as preliminary data for development, several facts need to be considered and used as a reference for the development of learning media. The lack of development of teaching media

in research places is the initial reason for presenting the novelty of learning media development. The fact in the field, students experience problems with understanding historical material which tends to be complex and long. In themselves, students also tend to be lazy to read such long materials and read the material comprehensively. Usually, when providing reading material, teachers will send a material to their mobile phone and ask to read it first.

However, it is very unfortunate that in the reading material, there is still a lack of visualization obtained by students. Even though students think that visualization is absolutely necessary in learning history. With the existence of visualization in history learning, in addition to increasing interest in learning, they can also remember the course of an event or historical material to trigger the understanding of history that they learned earlier. Other findings from observations made in order to find out the learning media used before the development of infographic-based history learning media obtained the following results:

(1) the learning media used in history lessons is still in the form of power points; (2) teaching materials used as a reference for teachers in the form of LKPD whose content does not contain an in-depth understanding of historical material; (3) there is no historical content or learning media that contains environmentally sound historical learning. According to Atmaja (2019), visual-based media plays an important role in the learning process. Visual media can facilitate comprehension and strengthen memory. Visuals can also foster student interest and can provide a connection between the content of the subject matter and the real world. After obtaining data in the field regarding the situation of students and their needs in history learning, as well as seeing the results of observations related to the learning media used in the school.

Researchers carry out the next stage by designing teaching materials with the following development references: (1) product design; (2) collection of materials; (3) product design; (4) expert validation; (5) design revisions; (6) product trials; and (7) research results. The development of this environmentally-friendly historical learning media is wrapped in infographic

media. Please note that infographics are a technique of presenting information visually / graphically, so that it is easily understood by readers. Many people misinterpret it by mentioning the word infographic, because in infographics it is often seen that there is a chart whether it is a bar chart / pie chart. Even though the infographic itself is still very broad on just a chart. The possibility is that people mention the word infographic (in English) orally, then it sounds like an infographic in Indonesian (Saptodewo, 2014).

### **Media Development**

Environmentally friendly historical learning media is developed by prioritizing several aspects that need to be considered in developing learning media, namely learning objectives, media effectiveness, student abilities, availability of facilities and infrastructure, media quality, and flexibility. The parts that need to be considered in making infographic-based learning media developed are (1) material materials: this part of the material is reading materials and writing about historical events presented; (2) visual space: visual space contains a picture of an event or place developed with a brief inscription of the image; (3) Timeline: This section is a hallmark of infographic development that characterizes the chronology aspect to facilitate the understanding of aspects of historical space by learners.

Referring to the basic competencies contained in history learning at SMA Negeri 1 Ciledug, there are several materials that can be aligned with environmental insights, such as in basic competencies Analyzing pre-literacy human life and the origins of the ancestors of the Indonesian nation in the ability to adapt to the environment and the impact of the industrial revolution on the environment. The two historical materials that can be integrated with environmental insights make reference in the development of infographic-based learning media.



Figure 1 learning media the ability to adapt to the environment in ancient times



Figure 2 Learning Media the Impact of the Industrial Revolution on the Environment

### Expert Validation

Before conducting an infographic product trial, learning media must be



validated by appropriate experts, namely material experts and media experts, by validators who are considered proficient in their fields. Validators are carried out by 3 experts, 2 lecturers and 1 history teacher. Here's a table on the feasibility of an infographic-based environmental-based history learning medium.

Table 1 Eligibility Qualification by Percentage

Percentage %	Eligibility Criteria
82 – 100	Excellent
63 – 81	Good
44 – 62	Enough
25 – 43	Not Good Enough

In the development stage of environmentally friendly historical learning media wrapped in infographics, validation is carried out both in terms of material and media aspects. The validation is carried out in two stages as a test of the validity of the feasibility of a learning media. In the first stage of validity test, material validation showed results of 79.2% and 91.6% in the first media validation. In the first stage, the media has been declared good and suitable for use in history learning, but there are some suggestions for improvements and notes that need to be done in terms of material and visual media.

After the revision of the first stage is carried out based on the suggestions and notes provided by the expert, then the second stage of validation test is carried out. In this second stage of validation, in terms of material, it gets a percentage of 95.8% and 97.7% in terms of media. In this second stage of validation, gets excellent criteria (very feasible) and can be applied in research with some notes that need to be done.

### Feasibility Test

The feasibility test of learning media is carried out in small and large groups. The sample from this feasibility test is class XI at SMA Negeri 1 Ciledug. This small group test has 10 students, while the large group test has 36 students.

Here's a more detailed table.

No	Name	Aspek Penilaian				Sum	Average	Description
		Materi al	Servin g	Languan ge	Graph ic			
1.	Abdullah Fathurahman	86	85	90	84	345	<b>342,5</b>	<b>Proper to Use</b>
2.	Adam Amanullah	87	85	85	90	347		
3.	Andya Ijjrian	87	86	84	87	344		
4.	Amaris Handayani	85	81	86	85	337		
5.	Aisyah Nuruf Fajrin	84	81	85	87	337		
6.	Fajar Adi Rahayu	87	86	85	90	348		
7.	Farhan Sabili	87	85	87	90	349		
8.	Repa Silpiana	85	81	85	83	334		
9.	Novianti	86	85	87	85	343		
10	Rindilia	87	84	84	86	341		

**Table 2** Feasibility Test Results of Infographic-Based Environmentally Sound Historical Learning Media

The results of the feasibility trial on students obtained a total average value of 342.5. The average value is included in the category of worthy of use and application as a medium for learning history. In the feasibility test stage in a large group, there were 36 students who gave an assessment of the feasibility of infographic-based environmentally-friendly history learning media with a total average of 346.5 and was included in the category of worthy of use and application as a historical learning medium. Suggestions and inputs submitted by students become researchers' input to be the material for consideration of the

final results in making infographic-based environmentally-friendly historical learning media.

## **Discussion and Recommendations**

Studying the history of the environment has a variety of benefits. Hughes (2012) explains there are four benefits to environmental history. First, the history of the environment teaches the principle that human beings cannot be separated from the environment. Second, environmental history teaches an understanding of the importance of science in explaining historical phenomena. Third, environmental history teaches current environmental issues and how they occurred in the past. Fourth, environmental history provides lessons from the perspective of scale. With the application of environmentally friendly history learning, it is hoped that students can be more sensitive to environmental problems around them.

Of course, it is not easy to combine historical material with environmental insights with lecture methods in learning, therefore it requires a learning media as a tool for educators to provide material and understanding related to environmentally sound historical learning, namely by using infographic media. The development of infographic media has the same stages as the development of other media, including (1) product design; (2) collection of materials; (3) product design; (4) expert validation; (5) design revisions; (6) product trials; and (7) the final result.

The learning media compiled by the researcher is declared feasible and can be used by material experts and media experts as evidenced by the results of two stages of validation with several notes of improvement to make it more as expected, and the results state that it is feasible to use in the study. Then, environmentally sound history learning media are also declared feasible and used in history learning by students through small group and large group testing.

## References

- Ahmad, T. A. 2013. Pembelajaran Sejarah Berwawasan Lingkungan. *Indonesian Journal of Conservation*, 2(1), 74-83.
- Aldoobie, N. 2015. ADDIE Model. *American International Journal of Contemporary Research*. 5(6). University Of Northern Colorado.
- Atmaja, H. 2019. Pelatihan dan Pendampingna Pembuatan dan Pemanfaatan Media Audio Cisial Interaktif dalam Pembelajaran Sejarah yang Berbasis pada konservasi Kearifan Lokal Bagi MGMP Sejarah Kabupaten Banjarnegara. *Jurnal Panjar: Pengabdian Bidang Pembelajaran*, 1(2), 131-140.
- Capra, F. 2007. Sustainable Living, Ecological Literacy, and The Breath of Life. *Canadian Journal of Environmental Education*, (12), 9-18.
- Dellyardianzah. 2017. Penggunaan Media Pembelajaran Berbasis Videoscribe untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran Ekonomi. *Jurnal Pendidikan dan Pembelajaran*, 6(10), 1-10.
- Hasan, S. H. 2017. Pendidikan Sejarah: Kemana dan Bagaimana?. Makalah disajikan dalam Seminar Asosiasi Guru Sejarah Indonesia (AGSI). Jakarta.
- Hughes, J.D. (2012). *Natural Resources, Sustainability and Humanity A Comprehensive View*. New York: Spinger.
- Kahn, R. 2008. 'From Education for Sustainable Development to Ecopedagogy: Sustaining Capitalism or Sustaining Life?' dalam *Green Theory & Praxis: The Journal of Ecopedagogy*, 4(1), 1-14.
- Muhaimin. (2015). *Membangun Kecerdasan Ekologis Model Pendidikan Untuk Meningkatkan Kompetensi Ekologis*. Bandung: Alfabeta.
- Palmer, J.A. (1998). *Environmental Education in The 21st Century: Theory, Practice, Progress and Promise*. London and New York: Routledge.
- Setyosari, H. Punaji. (2013). *Metode Penelitian Pendidikan dan Pengembangan*. Jakarta: Kencana.
- Sugiyono. (2015). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.