



The Video Effectiveness Based on Ethnobiology in Komodo Island as the Learning Media of PLH

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Abstract

This research was aimed to analyze the feasibility and effectiveness of video based on ethnobiology in Komodo Island as a learning media of PLH. Based on the result of observation in SMA 1 Bae Kudus, it needs a learning media that is based on ethnobiology in sustainable development subject matter and environmental pollution to help students in the learning process. This study was a R&D using one group pretest-posttest design which is done in SMA 1 Bae Kudus. The samples were from X MIPA 2 and X MIPA 3. The result of video eligibility obtained an average value of 90.2% with very decent criteria. The result of the video effectiveness comes from students learning outcomes and conservation attitudes. It was proved by the percentage of students classical completeness that had achieved the KKM ≥ 75 was 86.11% with medium to high criteria. Conservation attitude obtained an average yield of observers, friends and themselves at 83.79% with very high criteria. Students and teachers gave a good response to videos based on ethnobiology in Komodo Island. Based on this, it can be concluded that the video based on ethnobiology in Komodo Island is feasible and effective as a learning media of PLH.

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INTRODUCTION

The Komodo National Park (TNK), is a conservation area which is involved to preserve biodiversities and sustainable development, where forests provide environmental services that benefit both directly and indirectly and improve the life quality for people (Iksan, 2016; Saloh, 2015; Moeliono *et al.*, 2010 and Karl, 2003). The komodo national park has endemic animals for *Varanus komodoensis* or komodo (erdmann, 2004). There are also some flora and fauna in Komodo Island such as *Vanda limbata*, *Trimeresurus insularis* (blue or green color), *Cacatua sulphurea*, etc. Komodo is the mascot for the east nusa region because it is protected and endangered species with conservation status category in IUCN red list vulnerable section (Vu). Komodo can be found in TNK region (Komodo Island, Rinca Island, Padar Island, Gili Montang Island, Nusa Kode Island) and Flores. The local name of komodo in Komodo Island is 'Ora' / 'Sebae'

The Komodo Island only has one village called the Komodo Village. Various tribes occupied the Komodo Village, including Ata Modo (native tribes of Komodo Village), Bajo, Bima, and Java. The Abundant potential of natural resources and the komodo community still upholds the native value and local wisdom in utilizing natural resources that keep nature alive. The efforts to preserve nature represent the activity of the komodo community from generation to generation. That activity is called ethnobiology derived from ethnology and biology. Iskandar (2016) claimed that ethnobiology is the local knowledge in certain societies in utilizing botany (botany), animals (zoologists) and the natural environment (ecology).

Local wisdom is one of the ethnobiology activities. Local wisdom is all forms of uniqueness in a particular area that has value. Local wisdom is unique in all kinds of localities where both material and non-materialized cultural values and indigenous knowledge have been changed through an accumulation of practical experience and inherited from generation to generation (Padmanugraha, 2010; Jupir, 2013). The materials of local wisdom in the Komodo Village are an activity of sculpture and other art, whereas the local wisdom is non-materializing, for example, the attitudes society has like hospitality, partnership and other values of life. The local wisdom and ethnobiology in the Komodo Village have not been documented, so it is feared that the culture will be lost, therefore it will be documented in form of local wisdom and ethnobiology video in Komodo Island.

Based on the observations in SMA 1 Bae Kudus, it needs a school media based on local wisdom and ethnobiology on sustainable development materials and environmental pollution to help students in the learning process. School provides student learning resources in the form of books, but students tend to use the internet to be insightful because they are less attractive and have a low interest in reading books. Students haven't made good use of the surrounding environment in their learning process so that students can't explain local wisdom and ethnobiology even the concrete example of sustainable development in their dwelling places. Based on that problem, local wisdom and ethnobiology videos on the Komodo Island can be applied as a learning media on sustainable development materials and environmental pollution. The study is aimed to analyze the feasibility and effectiveness of ethnobiology videos on the island of komodo as a learning media in the study of the PLH.

RESEARCH METHOD

This study is a research and development study with modifications of the R&D research steps of Sugiyono (2010). This study was conducted in SMA 1 Bae Kudus in the first semester of the school year 2019/2020. The samples of this study were from X MIPA 2 Class (large scale) and X MIPA 3 Class (small scale). The research product is local wisdom and ethnobiology videos on the Komodo Island that are validator media and validator material. A new video was tested in ten students of X MIPA 3 Class on a small scale, and 36 students of X MIPA 2 Class by using one group pretest-posttest design. The result of the data includes the data of students' needs by using students' need sheets, the video feasibility by the media validator and material validator using sheet validation, and video effectiveness based on learning

results by using N-gain and classical completeness and conservation attitude concerns using sheet observation.

RESULTS AND DISCUSSION

Students' needs

Based on the results of the analysis on the students' needs in SMA 1 Bae Kudus, students who need the learning media to help them understand sustainable development materials and environmental pollution are 88.57% because of a few pictures in a book as learning resources and it is not interesting for the students. The students who know one example of sustainable development and environmental pollution in the area around their house are 28.57%. Students who know the local wisdom and ethnobiology in Komodo Island are 35.71% and students who are interested in the local wisdom and ethnobiology in the Komodo Island are 85.71%.

According to the interviews of the teacher, there are not a specific learning media in the learning process of the PLH. Teachers usually use videos taken from the Internet to add students' understanding of the material presented, but not all materials use video media taken off the Internet in the learning process. Teachers do not use the learning media when describing sustainable development materials and environmental pollution but just explain it generally some examples of sustainable development and environmental pollution. The teacher has not yet given an example of sustainable development based on local wisdom potential and the impact of sustainable development processes resulting in environmental pollution. Therefore, in these materials, they need a learning media related to local wisdom and ethnobiology based on sustainable development and environmental pollution.

Learning media has benefits such as amplifying the message, overcoming limitations of space, time, energy and senses, nurturing a spirit of learning according to a child's talents and abilities, providing the same stimuli in a child's experience and producing similar perceptions (Subiyanto, 2011). By using video-based on local wisdom and ethnobiology in the Komodo Island as a learning media, it can help students understand sustainable development materials and environmental pollution. Local wisdom and ethnobiology in the Komodo Island already represent a concrete example of the sustainable development and environmental pollution process. The communities that utilize the flora and fauna of the Komodo Island includes the sustainable development process is similar to Kudus communities in utilizing the flora and fauna in Kudus region as tourist attractions and the effect of these changes can lead to environmental pollution.

The learning media, based on local wisdom and ethnobiology videos in the Komodo Island, provides innovation that can support students' needs to get a more interesting learning process. This video was developed based on local wisdom and ethnobiology on the previously undocumented commodities island as a learning tool adapted to the basic competency of 3.2 and 4.2 on sustainable development materials and environmental pollution. It has some advantages as follows:

1. The photographs and video are concrete documentation of the komodo communities activities in Komodo Island.
2. Providing insight into the local wisdom and ethnobiology in the island of komodo that relates to sustainable development and the effect of the change is the emergence of environmental pollution, from this situation, can bring up the students' awareness of the environment.
3. Video operations are not limited to space and time, so it can be used by anyone.

Based on the results of the interviews, the teacher of the PLH subject and students responded positively to the effectiveness of local wisdom and ethnobiology videos in the Komodo Island as a learning media in the PLH subject with sustainable development materials and environmental pollution.

The feasibility of the Videos Based on Local Wisdom and Ethnobiology in the Komodo Island

The result of media and material validation may be concluded that local wisdom and ethnobiology videos on the island of komodo are deemed feasible by reaching score 90.83% that have highly valid criteria for media expert validation assessment (Table 2) and reaching score 72.92% that have valid criteria for material expert validation assessment (Table 1). These validations by media and materials experts are used as a precursor before using learning media which is the video based on ethnobiology in the Komodo Island that being tested for small-scale students and suggestions from validators were used in input the improvement for better products.

Table 1 Material Validation on the Video

No.	Assessment Criterion	Maximum Score	Validator Score	Percentage
1.	Content Eligibility Component	20	15	75.00%
2.	Presentation Component	28	20	71.43%
	Amount	48	35	72.92%
	Criteria			Very Valid

The table 1 shows that the assessment of material validation has two components that are the content eligibility component and presentation component. The indicators of the content eligibility component are components that provide a concrete example of communities like videos that depict local wisdom and ethnobiology in the Komodo Island, videos that match to sustainable development materials and environmental pollution, these videos depict the conservation of plants and animals and videos can foster a fascination for traditions. The material in the video can help students increase learning outcomes that are related to everyday life as an example, according to the statement of Lilia & Widodo (2014) that set a real example in the learning process can improve student learning outcomes and give a positive impact on students. The positive effect can be some type of student behavior or attitude, an example of the positive impact of local wisdom and ethnobiology videos in the Komodo Island, the students can appreciate a local tradition more, each other more as a form of concern, and students engage in activities of utilizing household waste video.

Presentation components include systematic material capture, coherent collapses, and clear logic flow, videos based on contextual and actionable context and videos can be used as a learning tool on sustainable development materials and environmental pollution. According to material suggestions from validator, the material arrangement of the previous video is specific to general material becomes general to specific material, the material arrangement of the needs of the native communities of komodo, such as the demand for food, medicine, houses, and other extra necessities, it is continued to fill the needs of the native communities of Komodo Island. The photography of the video material is actual and contextual because it is feasible to the activities of the Komodo Village communities that use the flora and fauna to fill their daily needs, while the communities of the komodo also participate in conservation especially with the preservation of the *Varanus komodoensis* known as 'Sebae'.

Table 2 Media Validation on the Video

No.	Assessment Criterion	Maximum Score	Validator Score	Percentage
1.	Opening Component	20	19	95.00%
2.	Content Component	36	34	94.46%
3.	Closing Component	12	9	75.00%
4.	Software Component	24	22	91.67%
5.	Audio Visual Component	28	25	89.28%
	Amount	120	109	90.83%
	Criteria			Very Valid

The table 2 shows that media validation assessment has five components, there are opening component, a content component, closing component, a software component, visual audio components that get an almost maximal score (score 4), the opening component includes the appropriate subtitles to describe the message that is delivered, the quality of photography, lighting, editing, and audience interest in the opening video. The opening component gets the advice related to changes in the caption at the size

of the small letter becomes the bigger letters size so that the audience can read the video title while watching the video.

The content component includes images consistent with local wisdom and ethnobiology in the Komodo Island based on actual and contextual, the video is arranged by systematic design, the clear and reasonable plot than the text-size precision of a subchapter, clear voice of the narrator and use standard language so that they do not create dual preconception. According to validator media's suggestion back sound is the same as the narrator's voice then the video is upgraded into a disguised background so that the audience can listen to the voice of the narrator and understand the content of the video. The presentation of this video materials coincides with the lives of the native communities of komodo that utilize the flora and fauna and preserve their environment. It is an effort to carry out sustainable development that has 3 pillars of societal culture, economy, and environment, where they depend on each other.

The closing component consists of an appropriate music selection and grow a sense of fascination on the Komodo Island tradition and improve a sense of learning. The software components include usability, complexity, reusable, maintainable and it can be operated by anyone, there is no limitation of time and space in its operations. The visual audio communication component includes supporting music that does not interfere with the narrator's voice, ideas creativity, and as a learning media that can help students learn on their own at home. Based on validator material suggestions, that video closing is incomplete in credit editor and gratitude so that the part of the video is improved and completed to credit editors and gratitude.

The effectiveness of the Videos Based on Ethnobiology in the Komodo Island

An effectiveness test of the video based on ethnobiology in the Komodo Island through learning outcomes based on *N-gain* calculations and the classical completeness and conservation attitude that was conducted at the largest scale test stage in the X MIPA 2 Class. The effectiveness tests were conducted after conducting feasibility test of the video based on ethnobiology in the Komodo Island through media and material validation by validator media experts and material validators, after through validator stages validation and ratified matter, ethnobiology video in the Komodo Island can be tested on a large scale. The ethnobiology video on the Komodo Island are said to be effective when learning outcomes based on proficiency calculations *N-gain* by X MIPA 2 Class reach medium to high criteria with percentage ≥ 75 and classical completeness calculated from the posttest value reaching $\geq 75\%$ of the total number of students accepted by KKM 75 (Indrawati, 2013) and the result of conservation attitude got percentage $>62\%$ with higher criteria (Fatmawati, 2016).

Table 3 Student Learning Outcomes in X MIPA 2 Class based on *N-gain*

Category	Criteria	Number of Students	Percentage (%)
$N-gain \geq 0,7$	High	6	16.67
$0,3 \leq N-gain < 0,7$	Middle	25	69.44
$N-gain < 0,3$	Low	5	13.89

Table 4 Classical Completeness in X MIPA 2 Class

No.	Information	X MIPA 2 Class
1.	Number of students who have completed	31
2.	Total Number of students	36
3.	Average <i>pretest</i>	74.44
3.	Average <i>posttest</i>	86.31
4.	Classical completeness	86.11%

Table 5 The Results of Conservation Attitude in X MIPA 2 Class

Criteria	Number of Student			Percentage (%)			Σ Average
	NDS	NT	NO	NDS	NT	NO	
Very High	36	15	18	100	41.67	50	
High	0	21	18	0	58.33	50	
Low High	0	0	0	0	0	0	
Not High	0	0	0	0	0	0	
Average				89.40	80.06	81.94	83.79 (Very High)

Note: SDS : Score of self

ST : Score of friend

SO : Score of observer

The large scale test was conducted in X MIPA 2 Class with a total of 36 students who obtained a percentage of learning outcomes based on *N-gain* calculation of 86.11 % with medium to high criteria (Table 3). The classical completeness in X MIPA 2 Class with average *posttest* 86.31 and average *pretest* 74.44 so that classical completeness of 86.11% (Table 4) calculated from the *posttest* score reaching $\geq 75\%$ of the total number of students accepted by KKM 75. Based on the conservation attitude in X MIPA 2 Class got 83.79% with the highest criteria. The conservation attitude through 3 stages of scoring, there are scoring of yourself got 89.40%, scoring of friend got 80.06%, and scoring of observer got 81.94% (Table 5).

The achievement of learning outcomes which is gotten by the students of X MIPA 2 Class shows that using video-based on local wisdom and ethnobiology in the Komodo Island gives positive impact Positive on cognitive learning outcomes on sustainable development materials and environmental pollution. This achievement can be proven by the activities of the students who are able to mention local wisdom in their area (where they live), students being able to name various ethnobiologist in their local area (appropriate areas) and in the school area, etc. Learning outcomes that can utilize the environment in the learning process as learning resources or learning media are better than those that use conventional learning.

The indicator of conservation attitude is divided into 4 aspects, they are aspects of knowledge, aspects of awareness, aspects of caring and aspect of participation (Dimopoulos *et al*, 2009). Such indicators are used to perceive human ties to the environment. The study shows an indicator of environmental concern that students relationships with the surrounding environment through several activities include knowledge of local wisdom and ethnobiology on the Komodo Island and where students live according to the aspect of knowledge, students do not harm and interfere with the environment in the school according to the aspect of awareness, students observe the school environment and find solutions in the neighborhood problems according to the aspect of concern. And participate in environmental

preservation activities, reducing the litter of the household industry in accordance with the aspect of participation.

The learning outcomes achievement that students got in X MIPA 2 Class shows that the use of local wisdom and ethnobiology videos on the Komodo Island has a positive impact on environmental concerns. This achievement can be proven by observation of the learning process, for example, the students can understand sustainable development and environmental pollution based on local and ethnobiology, in accordance with the assessment of the environmentally concerned attitude to the aspect of knowledge. Students exemplify a plant that can be used in the school environment, which is *Aloe vera*, *Sansevieria sp*, etc. This case is appropriate to the assessment of the conservation attitude on the awareness aspect.

The students cared about their friends, who were at the first time as an individual person when the students were asked to work on a group to do exercise, they changed. They wanted to discuss with their friends and respect the other's opinion, they did not insist on their will, the students who did tend to make bullies stop doing bullies, students who throw trash in desks change to dispose of the trash properly, students who often doodle on the table become non-doodling on the table, These cases fit the assessment of conservation attitude toward the aspect of concern. According to Faizah *et al.* (2015) states that someone who cares shows positive behavior. That positive behavior that drives a person to have consciousness, and they will agree on all forms of protection, and therefore positive care and behavior are two interrelated things. According to Ficko & Bonchina, (2018) claim that fear of any damage or loss shows some positive behavior. A strong contributing factor to the destruction of the universe due to the number of a declining component.

Students manage household waste into useful items, such as the making of a bag made of plastic packaging, which is consistent with an environmental awareness towards the aspect of participation. The achievement of conservation attitude that students acquire in the X MIPA 2 Class shows that the use of local wisdom and ethnobiology videos in the Komodo Island has a positive impact on environmental care. This accomplishment is proven by the students are more concerned with their friends, students value the friend's opinion and stop bullying, students are concerned about the school environment that is demonstrated by the ceased treatment that graffiti school property or vandalism, and students taking part in the plastic waste reduction activities.

CONCLUSION

Based on the results of the study it can be concluded that Video Based on Local Wisdom and Ethnobiology in Komodo Island is declared as a learning media based on media validation which obtained a value of 90.83% with very valid criteria and material validation which obtained a value of 72.92% with very valid criteria. Video Based on Local Wisdom and Ethnobiology in Komodo Island was declared effective against learning outcomes based on the calculation of *N-gain* which obtained a percentage of 86.11% with medium to high criteria and classical completeness which obtained a percentage of 86.11% calculated from the *posttest* value reaching $\geq 75\%$ of the total number of students accepted by KKM 75 and conservation attitudes which obtained value of 83.79% with very high criteria.

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