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PROMOTING CHILDREN'S CONSERVATION AWARENESS OF *Macaca fascicularis* THROUGH NARRATIVE VIDEO

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Abstract

This research and development (R&D) aimed to develop a narrated video of monkey's daily behavior *Macaca fascicularis* for conservation education. This R&D were conducted by the following steps as identification of potentials and problems of creating the video, data collection, video design, validation by media and content experts, revisions, and the limited field-testing of final products. To collect data some research instruments were developed such as validation sheets, feasibility test, and attitude scales. The data were analysed descriptively and quantitatively. The results showed that scores of validation video were classified as'valid' (94, 23% and 87,5%). Video media was also rated 'feasible' (95,24%) by the local forest tourism manager. Level of children conservation awareness is 'high' (88, 42%). In sum, the videos are valid, feasible, and effective in instilling conservation awareness as well ready for use in promoting children's awreness of long-tail monkey *Macaca fascicularis* protection.

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INTRODUCTION

Animals are one component involved in ecological processes. Pollination, distribution of plant seeds, and research are the benefits of animals. One animal that has economic benefits is a Long Tailed Monkey (*Macaca fascicularis*). In Indonesia, these primates are used as experimental animals in biomedical research (Gumert *et al*., 2012). *Macaca fascicularis* is an arboreal animal that lives in groups (Pramudya *et al.*, 2015). IUCN states that these mammals have the status of Least Concern or are not approved (Laksana *et al*., 2017).

The population of Long Tail Monkeys is not known yet but the numbers are very abundant in Indonesia. The geographical conditions of Indonesia in the form of islands and area have an effect on the density of monkey populations (Gumert *et al*., 2012). Several studies have been carried out in various parts of Indonesia such as in TNTP Kalimantan, Tinjil Island, and Gunung Rajabasa Protection Forest in South Lampung. The research is related to the calculation of the amount in the area which is then stated in quantitative data. Another theme is about observing the daily behavior of Long Tail Monkeys. The two themes have the purpose of one of them as a conservation step.

Conservation can be reached through a variety of educational channels. The use of films, images, and music can increase understanding of conservation (Jacobson *et al.*, 2015). A source of learning that is fun, time efficient, and gives satisfication to many people's desires (Fahrurozi *et al*., 2017). One of the tools that can be instructed is a video containing words and pictures (Higgins *et al*., 2018). The advantage of video is that it can describe movements, interests, and have an impact on the topics discussed (Giannakos, 2013). The use of videos in education related to the environment provides concrete examples and plays a role in increasing motivation (Kostereliogl u, 2016).

Videos can achieve educational goals by considering the intrinsic elements of video builders. Themes, cognitive elements, non cognitive elements, and active learning features are important for videos (Brame, 2015). Daily animal behavior is an interesting object to be a source of learning (Achmad *et al*., 2013). Monkey behavior that is sometimes ignored can build motivation and desire to keep the animal sustainable. Subject involvement in viewing videos can be realized through a question and answer process. Interactivity can increase mental and cognitive activity (Dehaan *et al*., 2010). The conservation message is then inserted in the form of dialog box, so the audience can determine which things are good to do.

Video development also includes evaluation aspects before products are circulated to the public. Conformity of material, additional information, influence of affective, display, navigation, science, and product resilience are aspects of evaluation (Ernawati & Sukardiyono, 2017). Elements in the evaluation aspect are then implemented in the validity and feasibility test. The general objectives is to develop daily behavior videos of *Macaca fascicularis* Goa Kreo. Specifically the research objectives are as follows of this research are, 1) analyzing validity according to media experts and material 2) analyzing the feasibility of video 3) analyzing the effectiveness of videos in the cultivation of conservation awareness.

METHODS

The research began by identifying potential problems in Goa Kreo. The next step is collecting data. Data collection through interview methods with 10 visitors randomly selected. In addition to interview data, the next data is the daily behavior of *Macaca fascicularis*. Followed by designing a video so that the videos are made coherent and directed. Validation by experts is done so that video s are valid materially and in the media. After that, revisions were made to improve the video parts that were not yet appropriate. The feasibility test by the manager of Goa Kreo is useful to analyze the feasibility of the video as an animal conservation education media. Before heading the final product a trial was conducted on 72 elementary school students to analyze the influence of video in the wildlife conservation education process. Data obtained from the study in the form of data validity, feasibility data, and trial data. The data is then calculated by predetermined calculation formula. The calculation formula is the result of the value multiplied by 100%. Next, get the numbers and match them with the criteria table with 4 categories. Based on these categories then described.

RESULTS AND DISCUSSION

Narrative video

Narrative videos document the daily behavior of *Macaca fascicularis* in Goa Kreo. Daily behaviors of this mammals are move, eat, rest, care, and are aggressive (attacking/ preparing to attack). Daily behavior is then compiled into a story that is sustainable and has a conservation message. The results of the development or narrative videos are presented in Table 1.

Table 1. Narrative video of *Macaca fascicularis*

No.	Section	Duration	Content
1.	Opening	1' 40''	Introduction of Kreo Cave Description of *Macaca fascicularis*
2.	Body	3' 55'' 1'10''	Daily behaviors of *Macaca fascicularis* Conservation messages
3.	Closing	20''	Credit

The characteristics of video are efficient, clear, easy to understand, and reaches the goal of agreement. The video is 7 minutes 23 seconds long, making the audience not get bored and concentrate safely from the beginning to the end. Efficient time will help when learning and absorb the supporting knowledge (Lestari, 2015). Narratives and foreign terms written on the screen are then described in mild language. Submission of the discussion directly to the point so that visitors can immediately understand the desired message. The video provides a stimulus to the point so that visitors can immediately understand the desired message. The video provies a stimulus to the respondent in the form of a positive value to protect *Macaca fascicularis. V*ideos can be useful as facilitators in the process of delivering information (Azzahra, 2017).

Video Validation

Media validation assesses aspects of software engineering, audio visual, and educational design. These three aspects are interrelated and have an influence on the assessment. Good media validity is that all three aspects have balanced values. The results of research by media experts are presented in Table 2.

Tabel 2. Media Validation

No.	Assessment aspects	Item	Scores (%)
1.	Software engineering	4	100
2.	Audio visual	5	90
3.	Educational design	4	93,75
	Average	**13**	**94,58**

Daily behavior videos are very perfect in aspects of software engineering. The software aspect in terms of management is very easy. Does not require special maintenance and expensive fees. Video in the form of software is simply stored on a flashdisk or memory on a PC or laptop. Furthermore, no special player is needed to play videos. The *mp4* format makes videos can be played directly with a computer or laptop. This practicality has an impact on easy of operation. There is no need for special skills to be able to play this video. The aspect of audio visual communication is related to video design. The design of the video intended is the idea, image, sound effect, and video presentation. In the video already contains these elements that support each other. Simple ideas for conserving animals are interpreted through moving images. Soundeffect was added so that the audience would enjoy video shows and influence the emotional level to be more insightful. Material validation assesses 2 aspects, content feasibility and presentation component. The component of content feasibility is related to the depiction of animal life and the meaning of animal conservation. Meanwhile, the presentation component relates to the success of the video to connect with the audience. The results of the assessment by material experts are presented in Table 3.

Tabel 3. Content Validation

No.	Assesment aspects	Item	Scores (%)
1.	Content feasibility	2	87,5
2.	Presentation component	6	87,5
	Average	8	87,5

Based on Table 3. valid narrative videos materially with an average score 87,5% on very valid criteria. Video material developed reaches valid values above 62%. There is no difference in

the comparison. Video contains complete material for education. The overall depiction of animals and the meaning of proper animal conservation. *Macaca fascicularis* is described from physical characteristics to daily activities carried out. The meaning of conservation is shown in the final section, with illustrations of negative things done. The scene taken is a real event in a tourist attraction that gives a deeper impression. Matters that may not be carried out are clearly explained with reasons.

Even though the video is valid, repairs are needed to increase credibility (Ihsan, 2015). Improvements to the conservation message section are modified in the form of dialogue. The question and answer conservation modification is a characteristic that distinguishes it from other video products. The benefit of the dialogue is to add interactivity between the presenter and the audience. Interactivity is made easy for the audience to receive messages (Boer, 2013).

Video Feasibility

Feasibility analysis is used to ensure that the products to be distributed are appropriate for the community (Bintoro, 2014). Proper video results do not contain negative and racial elements, which can be enjoyed by various ages. Decent videos have an impact on changes in audience behavior. Another impact is an increase in knowledge. In the end behavior changes and increased knowledge will reach the goal of making videos.

The results of the manager's responses to the narrative video of the daily behavior of *Macaca fascicularis* can be seen in Table 4.

Tabel 4. Video Feasibility

No.	Aspect	Scores (%)							Average
		M-1	M-2	M-3	M-4	M-5	M-6	M-7	
1.	Media function	100	100	100	100	100	100	100	100
2.	Accuracy as an educational medium	100	87,5	93,8	87,5	93,8	87,5	100	92,8
3.	Interactivity	100	83,3	100	83,3	100	100	100	95,2
4.	User interest	100	100	100	100	100	100	100	100
	Average					**97**			

*M=Manager

Interest in media functions dominates feasibility assessments. Full score was given by 7 managers in these two aspects. But there are still imperfect aspects with the lowest value of 83.33%. The average score of 97 is include in the very feasible category.

The advantages that the video has affect the value of its feasibility. The video developed has advantages in the form of interactivity and accuracy in educating. Another important thing is the contents of the video and the meaning of teaching in increasing knowledge. These advantages attract managers to make video as an educational medium. The success of the video in educating is contained in the strengths of the advantages possessed (Mawan *et al.*, 2017).

Conservation Awareness

Conservation awareness illustrates the sense of caring and positive behavior of respondents after watching the video. Conservation awareness includes concerns, concerns, interests, positive efforts, hopes, decisions and conservation responsibilities presented in Table 5.

Tabel 5. Conservation Awareness (n=72 students)

No.	Behavior	Average Answer (%)
1.	Concern	86,63
2.	Attention	88,36
3.	Interest in animals	88,77
4.	Role in preservation	89,06
5.	Positive effort	87,61
6.	Hope for the survival of animals	89,93
7.	Decision to conserve animals	89,00
8.	Conservation responsibility	89,32
	Average	**88,42**

Based on Table 5. most students show the character of conservation. A sense of responsibility for the preservation of animals and the hope that they remain sustainable goes in line with the highest percentage. This has an effect on the respondent's positive decisions and

efforts. Respondents showed interest as well as high attention with a percentage of more than 85%. However, the attitude of worrying about the audience is not as high as the other attitudes. Concerns have more items, than items that are known to cause different percentages.

Respondents showed concern about negative behavior directed at animals. Desire and level of attention to keep *Macaca fascicularis* alive very high. In addition, respondents can feel their role is needed in the act of preservation. That which characterizes a person is said to care. Impressions in videos provide motivation for respondents to care and increase awareness (Wang, 2014) .

The next aspect of assessment is the positive behavior of respondents after the video is aired. Respondents have been able to decide which actions should be carried out in *Macaca fascicularis* conservation efforts. Examples of such actions are not supporting monkeys in monkey mask attractions. In addition, posting photos to social media about protecting animals is considered important. The positive behavior of the audience after watching the videos is in a very high category with the percentage score being at 81% -100% vulnerable.

Positive care and behavior are two things that are related. A person who has caring tends to show positive behavior. Positive behavior will encourage awareness, they will agree with all forms of protection (Faizah, 2015). Positive behavior is indicated because of fear of damage or loss. The destruction of the universe because of a decreasing component is a strong driving factor (Ficko & Boncina, 2018).

The accumulation of the two aspects obtained a percentage of 88.42% with very high criteria. Videos that combine audio and visual will stimulate positive perceptions (Wottipong, 2014). Not only that, the video influences character formation. Three character components are moral knowledge, moral feeling, and moral action (Hidayanintyas, 2018). Individuals will understand the reasons and objectives for the importance of wildlife conservation.

Understanding and the process of obtaining information through videos are more effective because they get more meaningful lessons (Almurashi, 2016). The audience is more interested in learning more because it is packaged in a form that is not boring. Therefore, the videos developed can be used as *Macaca fascicularis* conservation education media. This development research has an influence on conservation awareness. However, there are still limitations. Videos are developed only in Indonesian.

CONCLUSION

Narrative videos reveal the daily behavior of *Macaca fascicularis* including moving, feeding, resting, grooming (cleaning the body), and agressive (attacking / preparing to attack). The characteristics of the videos produced are time efficient, complete material, and easy to understand. Videos are valid, feasible, and effective to influence children's conservation awareness. Goa Kreo as an agent who can interact directly with the wider community can use videos to increase motivation in the conservation of *Macaca fascicularis*.

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REFERENCES

Achmad, A., Ngakan, P. O., Umar, A. & Asrianny. (2013). The Potential of Wildlife Diversity for Ecoturism Development in The Field Laboratory of Forest Resources Conservation and Ecoturism Unhas Educational Forest. *Jurnal Penelitian Kehutanan Wallace.* 2(2). 79-92.

Almurashi, W. A. (2016). An Introduction to Halliday's Systemic Functional. Linguistics. *Journal for the Study of English Linguistics*, 4(1), 70-80.

Azzahra, R. (2017). Analisis Pembuatan Video Media Pembelajaran dalam Mata Kuliah Pembelajaran Menyimak oleh Mahasiswa Kelas A Semester V Prodi Pendidikan Bahasa Indonesia Universitas Khairun Ternate, *Widyabastra*, 5(1), 8-14.

Bintoro, A. (2014). Studi Kelayakan Produk Baru: BAN 12.00 R24 di PT GTR, *Jurnal Pasti* 8(1), 122-141.

Boer, K. M. (2013). Interaktivitas sebagai Strategi Mediated Communication pada Fans Pages Starbucks Coffee Indonesia, *Jurnal Ilmu Komunikasi,* 10(2), 113-128.

Brame, C. J. (2015). *Effective Educational Videos*. Vanderbilt: Vanderbilt University Center for Teaching.

Dehaan, J., Reed, W. M., & Kuwanda, K. (2010). The Effect of Interactivity with A Music Video Game on Second Language Vocabulary Recall. *Language Learning & Technology,* 14(2), 74–94.

Ernawati, I & Sukardiyono, T. (2017). Uji Kelayakan Media Pembelajaran Interaktif pada Mata Pelajaran Administrasi Server *Elinvo (Electronics, Informatics, and Vocational Education)*, 2(2), 204-210.

Fahrurozi, S. K., Maryono, D., & Budiyanto, C. W. (2017).The Development of Video Learning to Deliver a Basic Algorithm Learning. *IJIE (Indonesian Journal of Informatics Education),* 1(2), 49-56.

Faizah, U., Prastiwi, M.S., Subekti, N., Setyowati, D. L., Rachmadiarti, F. & Kuntjoro, S. (2015). Teaching Materials Model-Based Problem Based Learning (PBL) to Habituate Students' Conservation Awarness. *Pdf unnes.ac.id* Retrieved December 10, 2018.

Ficko, A & Boncina, A. (2018). Public Attitudes Toward Environmental Protection in The Most Developed Countries: The Environmental Concern Kuznets Curve Theory. *Journal of Enviromental Management*, 231, 968-981.

Giannakos, M. N. (2013). Exploring The Video-Based Learning Research: A review of The Literature, *British Journal of Educatonal Technology,* 44(6), 191-195.

Gumert, M.D., Rachmawan, D., Iskandar, E., & Pamungkas, J. (2012) Populasi Monyet Ekor Panjang (*Macaca fascicularis*) di Taman Nasional Tanjung Puting, Kalimantan Tengah. *Jurnal Primatologi Indonesia*, 9(1), 3-12.

Higgins, J., Moeed, A., & Eden, R. (2018). Video as A Mediating Artefact of Science Learning: Cogenerated Views of What Helps Students Learn from Watching Video, *Asia-Pacific Science Education*, 4(6), 1-19.

Ihsan, H. (2015) Validitas Isi Alat Ukur Penelitian *Jurnal Ilmu Pendidikan*, 173-179.

Jacobson, S. K., McDuff, M. D., & Monroe M C. (2015). *Conservation Education and Outreach Techniques*. Oxford: Oxford University Press)

Kosterelioglu, I. (2016). Student Views on Learning Environments Enriched by Video Clips. *Universal Journal of Educational Research*. 4(2), 359-369.

Laksana, M. R. P., Rubiati, V. S., & Partasasmita, R. (2017). Struktur Populasi Monyet Ekor Panjang (Macaca fascicularis) di Taman Wisata Alam Pananjung Pangandaran, Jawa Barat *Proc Sem Nas Masy Biodiv Indon*, 3(2), 224-229.

Lestari, I. (2015). Pengaruh Waktu Belajar dan Minat Belajar Terhadap Hasil Belajar Matematika. *Jurnal Formatif*, 3(2), 115-125.

Mawan, A. R., Indriwati, S.E., & Suhadi. (2017). Pengembangan Video Penyuluhan Perilaku Hidup Bersih dan Sehat (PHBS) Bermuatan Nilai Karakter Terhadap Peningkatan Pengetahuan Masyarakat dalam Menanggulangi Penyakit Diare, *Jurnal Pendidikan,* 2(7), 883-888.

Pramudya, A., Setiawan, A., & Rustiati, E. L. (2015) Ukuran Kelompok Monyet Ekor Panjang (*Macaca Fascicularis*) di Hutan Desa Cugung Kesatuan Pengelolaan Hutan Lindung Gunung Rajabasa Lampung Selatan. *Jurnal Sylva Lestari*, 3(3), 107-112.

Wang, Z. (2015). An Analysis on The Use of Video Materials in College English Teaching. *International Journal of English Language Teaching,* 2(1), 23-28.

Wottipong, K. (2014). Effect of Using Video Materals in the Teaching of Listening Skills for University Students. *International Journal of Linguistics,* 6(4) 200-212.