



THE DEVELOPMENT OF CHARACTER-BASED DOCUMENTARY FILM FOR THE MATERIALS OF REPRODUCTION SYSTEM

Titin¹, Ruqiah Ganda Putri Panjaitan^{1✉}, Yohanes Gatot Sutapa Yuliana²

¹Biology Education Program, Faculty of Education, Universitas Tanjungpura, Indonesia

²English Education Program, Faculty of Education, Universitas Tanjungpura, Indonesia

Article Info

Received August 2018
Accepted November 2018
Published December 2018

Keywords:

*Documentary film,
character, material
reproduction system*

Abstract

Technological development that increased rapidly influence the adolescent sexual behavior as well as moral values it has. In order to avoided the deviant behavior and disorders / disruption of reproduction then adolescents needed to understand the importance of maintaining reproductive health. This study aimed to develop a character-based documentary film media that was suitable for used in the learning process on reproduction system materials, so that adolescents can realize the importance of maintaining reproductive health. Character-based documentary film media is expected to shape student character values. The form of this research belonged to research and development. The research consisted of six stages: potential problem, information gathering, product design, design validation, product design improvement, and product trial. The research instrument used in the form of media validation sheet and questionnaire of student responses to character-based documentary film media. The result of validation of media expert on character-based documentary film on reproduction system material was valid. The result showed film-based documentary trials through the test of legibility to students of class XI SMA N 1 Pontianak got percentage of 82.03 with high criteria. The conclusion was that the character-based documentary film on the material of the reproductive system was appropriate to be used as a medium in the learning process.

© 2018 Universitas Negeri Semarang
p-ISSN 2252-6617
e-ISSN 252-6232

✉Corresponding author:

Ruqiah Ganda Putri Panjaitan
Biology Education, Faculty of Education
Universitas Tanjungpura, Indonesia
E-mail: ruqiah.gpp@gmail.com

INTRODUCTION

Recently, there are many immoral cases conducted by juveniles in Indonesia (Fitriyah *et al.*, 2017). Based on the monthly report of reproductive health from Health Officials of Pontianak in 2015, the cases of premarital sex among teenagers happened to 713 people, with 23 unplanned pregnancy, 32 sexually transmitted diseases, and 54 abortions. As the time goes by, the cases of free sex increases among teenagers. The fact shows that there is a degradation of moral among the society which consider those things as normal stuffs. Actually, the immoral conduct should be avoided by every individuals. Thus, there should be a platform which informs the teenagers on how to properly use the reproductive system as well as the defect and diseases transmitted from it.

According to Titin & Dara (2016), the learning of biology will be easier through direct observation. Somehow, not all biological objects are observable. The unobserved material is system of reproduction of human. The system of reproduction is included in the 2013 curriculum for High School students. The material is available in grade XI. From the syllabus of 2013 Curriculum, the scopes of the materials are: male vital organs, female vital organ, fertilization, contraception tools, and the diseases of sexual organ. The syllabus expects the students to be able to 1) analyze the relation between the structure of the tissue of reproductive organs and the function of the tissue in reproductive process through literature study, observation, experiment, and simulation, 2) apply the understanding of human principle of reproduction to handle the problem of the increase of the population through Family Planning program and the increase of human resources quality through the socialization of breast milk consumption, 3) provide the analysis of defect on the structure and organ function which causes the defect of human reproduction organ. In relation to that, the learning process of reproduction system should be taught clearly to students. Hence, students understand with how to maintain the health of their organ and avoid themselves from risky sexual behavior. Moreover, the material is also related to teenagers' life. Reproduction system in biology class is related to character building to avoid the cases of sexual harassment to happen.

The interview to the teacher of biology in Pontianak shows that teachers always feel

discomforted when they deliver the materials of reproductive system due to taboo issues and personal sensitivity. They tend to use media of power point presentation to teach the students. The media tends to make the learning process monotonous since there is no active feedback from the students. The statement is in line with Ichsan *et al.* (2017). Monotonous learning media make the students bored that they become difficult to accept the materials. Besides, power point presentation makes the students passive, sleepy, and achieve low outcome in the end of the classroom activities. The content of the presentation also only limits students' knowledge in cognitive layer. Later, the students lack on the understanding of the skills and behavior in maintaining their reproductive health. As stated by Suyono & Hariyanto (2011), learning is supposed to be a process where students can acknowledge, improve, enhance, and strengthen new abilities.

In the learning process, teacher is demanded to create an innovative and attractive learning environment (Panjaitan *et al.*, 2016). Thus, there should be an attempt to achieve the expectation. The writers propose the use of documentary film on the system of reproduction. Documentary film is explained by Maiyena & Pinta (2014) as the audio visual medium which records events or activities to send certain message to the audiences accurately. The documentary film in this research is the audiovisual medium in video or picture (real recording and animation), sound and music which contain the materials of reproductive system. The material loads the values of character which is not only real happening but also animation which should be understood by the students. Animasi dalam sebuah media bertujuan untuk memaparkan sesuatu yang rumit atau kompleks untuk dijelaskan dengan gambar atau kata. The animation is used to explain the material in actual way that the students can visualize the material clearly (Kurniasih *et al.*, 2015). The use of the media can accommodate students which have different ability (Nurbaiti *et al.*, 2017).

The use of documentary film in learning process is expected to instill positive characters to students, especially in maintaining their reproductive health. The purpose is in line with national education's purpose to shape and develop students' character and intellectuality as well as to develop their potentials of becoming faithful, healthy, and knowledgeable people (Kementerian

Pendidikan Nasional, 2010). Overall, this research shows that character education is an important issue to achieve.

Jaya *et al.* (2014) mentions that learning process can contribute positive development to students on making them interactive and participative in the classroom. Furthermore, Suastra *et al.*, (2017) says that human resources is important for national development. Building human's character is important through habituating human with good actions and deeds. In other words, character education should include good action, feeling, and knowledge (Kementerian Pendidikan Nasional, 2010).

Documentary film is also elaborated by Dale (1969) in Tuflikhah & Gunansyah (2013) that visual senses learning can improve knowledge 75% better than the other senses, which are 13% for hearing and 12% for other senses. Misliani & Panjaitan (2013) say that the use of media in the learning process contribute the ease of message deliveries in certain standars which makes the learning process more interesting and has better quality. It is expected that the documentaries can improve students' learning outcome and behavior.

METHODS

This is a research and development paper. The paper aims to produce certain stuffs and experiment it to prove its effectiveness (Sugiyono, 2010). The steps of the researches are:

- 1) The potentials and problems of teacher in explaining the materials which are taboo nad sensitive which later results morality crisis amongst teenagers in Indonesia, especially in Pontianak.
- 2) Collecting information through survey and delivering information regarding sexually transmitted diseases and defects amongst teenagers in Pontianak. The information were gathered from doctors and nurses, analysis of syllabus, and the cultural education from the Ministry of Education in 2010
- 3) The design of product by planning media of documentary and character content. The film is adopted from Sadiman *et al* (1986) in Munadi (2008) which includes the elements of synonpsi, storyboard, scriptwriting, shooting, dubbing, editing, and mastering.

- 4) Design validation from 2 validators which are 1 expert lecturer of biology education and 1 practitioner from High School teacher
- 5) Design revision through learing media of documentary film which is based on character education based on suggestion and comments from experts
- 6) The trials of the documentary by screening for X grade students in SMA Negeri 1 Pontianak

The instruments of the research for the data collection were validation paper from experts and readability questionnaire from the students. The analysis of the data used qualitative and quantitative methods. The qualitative analysis were the suggestions from experts. The suggestions were useful for the revision of the film. Meanwhile, the quantitative analysis was from the result of validation for the media and the readability questionnaire of students to the documentary film which is based on character education.

The conclusion of the character-based documentary film was based on the result of both expert judgment and students' readability. The judgment used Gregory test. As in Amir *et al.* (2015), documentary film is valid if it gets the score of 3 or 4 from the experts which is considered as very high. The formula of the validity is mentioned as follows.

$$Vc = \frac{D}{A+B+C+D}$$

Note:

Vc : Construct validation

A : Both judges disagree

B : Judge 1 agree Judge 2 disagree

C : Judge 2 agree Judge 1 disagree

D : Both judges agree

Criteria:

0.88 – 1.00 : very high validity

0.60 – 0.79 : high validity

0.40 – 0.59 : enough validity

0.20 – 0.39 : low validity

0.00 – 0.19 : very low validity

The tryout of the media was given to the XI grade students of XI SMA N 1 Pontianak. A questionnaire is a set of questions given to people to get their responses (Riduwan, 2011). The questionnaire in this research is closed with several questions directed to the students to achieve the

answer of research questions. The data were then analysed using Likert scale and score counting from the students' opinion. According to Riduwan (2011), the score is defined as follows.

Very Agree (SS)	= 4
Agree (S)	= 3
Disagree (TS)	= 2
Very Disagree (STS)	= 1

Counting the interpretation of score in each item is using this equation:

$$\text{Interval} = \frac{\text{skor item pernyataan}}{\text{skor tertinggi item pernyataan}} \times 100\%$$

The conclusion of students' responses from the questionnaire of readability from the character-based documentary film used the questionnaire interpretation criteria modified by Khabibah (2006) in Yamasari (2010).

RS \geq 70 : High
 50% \leq RS < 70 : Medium
 RS < 50% : Low

Note RS = Students' responses to the criteria

RESULTS AND DISCUSSION

Character-based documentary film which was made for the material of reproductive system for XI graders of Senior High School was made based on the syllabus of 2013 Curriculum. The targeted character in the film is in line to the character targeted by the National Ministry of Education (2010) which are curiosity, tolerance, social awareness, discipline, responsibility, nationalism, and communicative.

The development of documentary film is in line with the basic competence and objective of the syllabus. The basic competence of reproductive system is based on the item 3.12 which is analyzing the relation between vital organ's tissue with its function in the reproductive system of human through literature review, observation, experiment, and simulation, and 3.13 which is applying the understanding of reproductive system of human to handle the problem of the increase of the population through Family Planning program and the increase of human resources quality through the socialization of breast milk consumption.

Based on the competence, the objectives of the learning process are: 1) identifying the structure and function of human's reproduction, 2) explaining the process of sperm and ovarium production, 3) identifying the process of fertilization, pregnancy, and birth control, 4) the process of ovulation and the influencing factors, 5) explaining the menstrual cycle of women, 6) explaining the danger of unplanned pregnancy for teenagers, 7) describing the contraception tool, 8) explaining the importance of breast milk, 9) identifying the defect of reproductive system, and 10) explaining the positive activities which can be done by teenagers.

The documentary film consistsof two components, which are 1). The achievement of the competence of reproductive system, which include core competences, basic competences, and learning objectives, and 2) the elaboration of the materials with better visualization, which is with real activity, animation, pictures, youtube video, and text to explain material of reproductive system and character for students.

The learning media of the documentary film is entitled "*Remaja Penentu Masa Depan Bangsa*" or "Teenager as the Key of the Nation's Future". The media contains the material of reproductive system as well as the character building. It can be used as a helpful teaching devices for teacher to explain the relevant material for students of XI. Arsyad (2016) mentions that teachers can change students positively by directing them to important aspects in the learning process. Besides, the learning media can help teacher to explain, illustrate, distribute, and describe the material easily and effectively (Adegbija & Fakomogbon, 2012). The insertion of character in the learning aims to exemplify the students to become good people. As in Fitriyah *et al.* (2017), educational content should comprehensively include all character matters.

Besides, the delivery of learning process in the media is expected to be able to maintain the awareness of the students to their sexual organ's health. Arsyad (2016) says that the positive impact of the use of media is raising students' motivation and stimulating them to psychologically become a good person. Picture 1 and 2 present the picture of the documentary film.



Figure 1. The cover of the documentary film

The media of documentary film has been validated by experts of learning media. There were two experts, which were the lecturer of biology education in the Faculty of Education in

Universitas Tanjungpura and the teacher of biology from the Senior High School. The result of the validation can be seen in Table 1.



Figure 2. A screenshot of the documentary film

Table 1. The Validation of Documentary Film

Aspects and Criteria	Experts	
	1	2
Format		
1. The animation, video, picture, and text in the film	4	4
2. Color, visual, and text	3	4
3. The clarity of the instrument and narrator.	3	4
4. The clarity of the narrator in the documentary film.	3	4
Content		
1. The relevance of the materials to the learning objective and instilled characters.	3	4
2. The relevance of the documentary film with the materials	3	4
3. The explanation of the character and materials in reproductive systems for students	4	4
4. The briefness and clarity of the message in the film.	3	4
5. The information in the documentary film.	4	4
Language		
1. Readability of the language.	3	4
2. Language ambiguity in the documentary film.	3	4
3. Grammar of the Language.	4	4
Practicality		
The ease of operating the media	4	4
Vc	1	
Criteria	Very High Validity	

The analysis of the media form the format, content, and language shows that the video has very high validity with the score of 1. It shows that the film is developed well and fulfill the criteria used in the school. Tuflikhah & Gunansyah (2013) says that something can be called as learning media if the message of the information contain meaning for the learning process.

The aspect of the media is the appropriateness of the video, picture, and text; the use of color, visual, and text; the clarity of musical instrument and narrator; and the use of narrator's voice in the media which are in the range of 3 and 4. Keller & Suzuki (2004) illustrate the importance of combining differen tactics to attract students' attention including giving interesting picture or strange happening. Besides, combination of color is also explained. The use of the media results good effect since it affects the hearing and views (Kurniasih & Setiawan, 2013). Smaldino *et al.* (2011) says the some important elements of visuals should be explained well in the background.

The content copes the relevance of the materials to the learning objective and instilled characters; the relevance of the documentary film with the materials; the explanation of the materials in reproductive systems for students; and the completeness of the materials. Overall, the score of the validator is in the range of 3 and 4. The content of the materials is in accordance with the syllabus and learning objectives. Besides, the media also contains the affective messages or the psychomotor message. Through the film, students are invited to be grateful and protect their vital organ. The language aspects obtained the score 3 and 4 since the language of the film is easily understood by the students. The grammar of the film is also following the standard.

The practicality of all validated aspects are scored in 4. It is because the easy use of the media in the learning process. The teacher does not need to use certain application to operate that. The media is also complete with its visual and audio presentation.

The validation proves that there is only small revisions for the film. The suggestions for the revisions were: 1) there should be an additional text for the explanation of male and female reproductive organ, 2) some voice of the narrator is not heard in some parts. As in Sugiyono (2010), the validation of the product can show the

weakness of the product as well as to repair the weakness.

The documentary film has a good response from the students. The film is screened in the XI grade class with 32 students. The picture of the screening and the responses can be seen in Figure 3 and Table 2.



Figure 3. Showing the documenter film to the students

Table 2. Students' responses from the documentary film

No	Aspects	Result
1	Font size	78.13
2	Font style	85.94
3	Clarity of the text	73.44
4	Text's color composition	73.44
5	Background color composition	87.50
6	Videography	85.94
7	Narrator Voice	78.13
8	Duration	78.13
9	Backsound	87.50
10	Understandable Sound	92.19
Rata-rata (%)		82.03
Criteria		High

Students' responses from the readability test showed the average score of 82.03% and categorized as positive. The responses of the students showed that the documentary film can be used as the learning media. According to Muhson (2010) in Hartini *et al.* (2017), a planned media will help the students to understand the material well. Furthermore, the use of documentary film is also expected to give students understanding of certain concept. In Table 2, the aspects of font, color, visual, video or picture show high percentage. It means that the documentary film has high acceptance. It means, the documentary film has contrast color

and animation which is clear enough for the students.

Falahudin (2014) says that an advantage of it is to show object which is too small or too big in a proper size and speed. As an example, the video can show the development of an infant in 9 months in proper time. Besides, the media also helps the presentation which is not only verbalistic (Purwono *et al.*, 2014). Ariwibowo & Parmin (2015) explains that the use of the technology can change the learning process from being conventional to become sophisticated where students can construct their own understanding.

CONCLUSION

The documentary film of reproduction system with character building is proper enough to be used as a learning medium.

ACKNOWLEDGMENT

The research was funded by the Grants of Applied Science from the Ministry of Research, Technology, and Higher Education of Indonesia. The researchers express the big gratitude to the institution for the grants.

REFERENCES

- Ariwibowo, P & Parmin. (2015). Pengembangan Audio Visual Sistem Sirkulasi Darah Yang Berpendekatan Saintifik. *Unnes Science Education Journal*, 4 (2): 881-888
- Adegbiya, M. V & Fakomogbon, M. A. 2012. Instructional Media In Teaching And Learning: A Nigerian Perspective. *Global Media Journal*, 6 (2): 216-230
- Amir, M., Muris, & Arsyad. M. (2015). Pengembangan Perangkat Pembelajaran Berbasis Pengalaman Pada Peserta Didik Kelas XI IPA SMA Negeri 1 Pinrang. *Jurnal Sains dan Pendidikan Fisika*, 11 (3): 202-213
- Arsyad (2016). *Media Pembelajaran*. Jakarta: Rajawali Pers
- Falahudin, I. (2014). Pemanfaatan Media Dalam Pembelajaran. *Jurnal Lingkar Widyaiswara*, 1(4): 104-117
- Fitriyah, M., Made D. P. N., & Yulianto, A. (2017). Content Analysis Of Value Of Character: A Case Study Of Physics Textbook In Rembang Regency. *Unnes Science Education Journal*, 6(3): 1700-1707
- Hartini, S., Misbah, Dewantara, D., Oktovian, R. A., Aisyah, N. (2017). Developing Learning Media Using Online Prezi Into Materials About Optical Equipment. *Jurnal Pendidikan IPA Indonesia*, 6(2): 313-317
- Ichsan, I.Z., Rusdi., Sartono, N. (2017) Hasil Belajar Sistem Syaraf Menggunakan Film Pendek. Biosfer: *Jurnal Pendidikan Biologi*, 10 (2): 49-59
- Jaya, I. M., Sadia, I. W. & Arnyana, I. B. P. 2014. Pengembangan Perangkat Pembelajaran Biologi Bermuatan Pendidikan Karakter dengan *Setting Guided Inquiry* untuk Meningkatkan Karakter dan Hasil Belajar Siswa SMP. *E-Journal Program Pascasarjana Universitas Pendidikan Ganesha Program Studi IPA*, 4 (1): 1-12.
- Keller, J. M. & Suzuki, K. (2004). Learner Motivation and E-learning Design: A Multinationally Validated Process. *Journal of Educational Media*, 29 (3): 229-239.
- Kementerian Pendidikan Nasional. (2010). *Pengembangan Pendidikan Budaya Dan Karakter Bangsa Pedoman Sekolah*. Jakarta: Badan Penelitian dan Pengembangan Pusat Kurikulum
- Kurniasih, T., Haryani & Ciptowati, E. (2015). Meningkatkan Daya Tanggap Dan Hasil Belajar Siswa SMP Di Kelas Khusus Olah Raga Melalui Media Pembelajaran Animasi. *Jurnal Pengajaran MIPA*, 20(1): 100-105
- Kurniasih, F & Setiawan, N. 2013. Pengembangan Media Film Dokumenter Sebagai Pendukung Pembelajaran Akuntansi Pokok Bahasan Siklus Akuntansi Perusahaan Dagang bagi Siswa SMK Kelas X Akuntansi. *Jurnal Kajian Pendidikan Akuntansi Indonesia*, 2 (1): 21-36

- Maiyena, S & Pinta, Y. (2014). Pengaruh Penggunaan Media Fil Dokumenter Harun Yahya Terhadap Hasil Belajar IPA Siswa Kelas X SMK N 1 Guguk. *Jurnal Ta'dib*, 17 (1): 1-13
- Mislani & Panjaitan, R. G. P. 2013. Respon Siswa Terhadap Penggunaan Media Pembelajaran oleh Guru IPA Biologi di Kecamatan Kendawangan. *Jurnal Wahana Bio*, 9 (1-2): 1-10.
- Munadi, Y. (2008). *Media Pembelajaran: Suatu Pendekatan Baru*. Jakarta: Gaung Persada Press
- Nurbaiti. Panjaitan, R.G.P., Titin. (2017). The Properness Of Adobe Flash Basis Interactive Media For Respiratory System learning Material. *Unnes Science Education Journal*, 6 (3): 1662-1668
- Panjaitan. R.G.P., Savitri. E., Titin. (2016) Pengembangan Media E-Comic Bilingual Sub Materi Saluran dan Kelenjar Pencernaan. *Unnes Science Education Journal*, 5 (3): 1379-1387
- Purwono, J., Yutmini, S., Anitah, S., (2014). Penggunaan Media Audio Visual Pada Mata Pelajaran Ilmu Pengetahuan Alam di Sekolah Menengah Pertama Negeri 1 Pacitan. *Jurnal Teknologi Pendidikan dan Pembelajaran*, 2 (2): 127-144
- Riduwan. (2011). *Skala Pengukuran Variabel-Variabel Penelitian*. Bandung: Alfabeta
- Smaldino, S. E., Lowther, D. L. & Russell, J. D. 2011. *Instructional Technology and Media for Learning*. (Penerjemah Arif Rahman). Edisi Kesembilan. Kencana Prenada Media Group. Jakarta
- Suastra, I. W., Jatmiko, B., Ristiati, N.P., Yasmini, L. P. B. (2017). Developing Characters Based On Local Wisdom Of Bali In Teaching Physics In Senior High School. *Jurnal Pendidikan IPA Indonesia*, 6 (2): 306-312
- Sugiyono. (2010). *Metode Penelitian Administrasi Dilengkapi dengan Metode R&D*. Bandung : Alfabeta
- Suyono & Hariyanto. (2011). *Belajar dan Pembelajaran, Teori dan Konsep Dasar*. Surabaya: PT. Remaja Rosdakarya
- Titin & Dara, E. N. (2016). Penyusunan Perangkat Pembelajaran pada Materi Ruang Lingkup Biologi Kelas X SMA. *Jurnal Pendidikan Matematika dan IPA*, 7 (1): 45-56.
- Tuflikhah, I & Gunansyah, G. (2013). Penggunaan Film Dokumenter Untuk Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran IPS Kelas V Sekolah Dasar. *Jurnal PGSD*, 1 (2): 1-11
- Yamasari, Y. (2010). Pengembangan Media Pembelajaran Matematika Berbasis ICT yang Berkualitas. *Prosiding Seminar Nasional Pascasarjana X-ITS*. 4 Agustus 2010. Surabaya.