

Development of Cyberlink Power Director Based Learning Media in the Material of Human Digestive System

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Abstract

The need for developing Cyberlink Power Director learning media based on poetries and songs for students and teacher includes the need of videos that can be seen, heard well, and can be used repeatedly according to particular time and place. Moreover, the presentation of information can be understood clearly, can contain the contents of the material systematically and comprehensively, can improve students' learning outcomes, and can investigate the effectiveness of this media for science subject in the material about digestive in human for the fifth graders of MI Muhammadiyah Donorejo, Secang District, Magelang Regency. This research is an R&D (Research and Development) using the ADDIE step. The Technique of data analysis uses the quantitative descriptive technique. The type of instrument used was a questionnaire filled out before and after implementation. The result of this study shows that the Cyberlink Power Director based on poetries and song is proven to be valid by expert, and also effective in improving students' learning outcomes in science subject in the material about digestive components in human (paired-sample t test, $p = 0.00 < 0.05$).

1. INTRODUCTION

Learning outcomes are used as a measurement to find out how far someone has mastered the material that has been delivered and taught by the teacher. Arikunto (2019) says that learning outcomes or results are the final results (test) of some abilities after the students experience the learning processes and experiences. Moreover, the changes are seen by the actions and achievements that can be observed and can be measured in numbers. However, it is in contrast to the opinion of Suprijono (2009) who says that learning outcomes are the attainment of changes in behaviour as a whole of the aspects of human potential (cognitive, affective, psychomotor) of the learning processes which are carried out in each paragraph at least 2-3 in specific times.

A teacher can use learning media in all subjects. Learning media is one of the tools to help the success of teaching and learning process. According to Briggs (2012), learning media as a physical means to deliver contents / learning materials such as books, films, videos and so on. Besides, Bretz (1976) divides learning media into 8 classifications, namely: (1) Media of Audio-visual motion, (2) Media of Silent audio-visual, (3) Media

of Semi-motion audio, (4) Media of Motion visual, (5) Media of Silent visual, (6) Media of Semi-motion visual, (7) Audio media, and (8) Printed media. However, Sadiman (2011) divides learning media into 3 media classifications, namely: (1) Graphic Media, (2) Audio Media, and (3) Silent Projection Media. Therefore, improving the quality of education can be carried out in the form of developing methods of delivering learning materials, developing curriculum, and developing various types of learning media.

One integral part of the efforts to improve students' learning outcomes is a renewal in the form of innovative learning media (Hamdu & Agustina, 2011). The growth of awareness about the importance of the development of learning media in the future can be realized in the real form. Moreover, the type of learning media used by the teacher greatly influences students' motivation, interests, and learning outcomes.

Cyberlink Power Director is a digital video editing program to create professional films or movies, videos, and photos slideshow compiled with music, sound, special effects, transition effects, and many more (Elsyam, Safitri, & Susanti, 2019). Power Director is a row of the semi-professional

best video editing application for Android phones. Besides, it is a digital video editing program to help creating professional-looking digital video films with photo slideshows, compiled with music, sound, special effects, and transmission effects (Nainggolan 2016). Then, Power Director can be uploaded via SHAREit and Bluetooth. Dealing with the aim, this application can optimize students in learning *science subject in the material about human digestive components* creatively, contextually, and fun. As a result, students can watch video shows that contain poetries & songs with the material about human digestive system.

Based on an interview conducted on October 21, 2019 with the teacher of the fifth graders of Madrasah Ibtidaiyah (MI) Muhammadiyah Donorejo, Secang District, Magelang Regency named Mr. R. Syarifudin, the writer investigates that the learning media for Science subject is in the form of textbooks, pictures of human digestive components, and replicas of human skeletons which the function has not been well and it is easily broken if it is frequently used. However, students need innovative learning media that follows the current era which is using information and communication technology.

The problems in this research can be formulated as follows:

- a. How is the form of the development of Smart Cybpowrector Media based on poetries and songs in Science Subject in the material about human digestive components for the fifth graders of MI (Madrasah Ibtidaiyah) Muhammadiyah Donorejo, Secang District, Magelang Regency to improve the students' learning outcomes?
- b. How is the effectiveness of the use of Smart Cybpowrector Media based on poetries and songs in Science Subjects in the material about human digestive components for the fifth graders of MI (Madrasah Ibtidaiyah) Muhammadiyah Donorejo, Secang District, Magelang Regency on the students' learning outcomes?

2. RESEARCH METHODS

This section briefly and clearly describes the research method used. Research methods include the research design, population, and research samples accompanied by an explanation of sampling techniques. In this section, the data analysis techniques used in the study are also explained. Research procedures that are taken from certain references must be completed with citations and references. For non-research articles, the method section can be used to describe information gathering stages and the criteria for information sources used to conduct the study.

The type of this research method is research and development. The development model that is used by the writer is the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). ADDIE model is a model that is easy to

use and can be applied in curriculum that is dealing with teaching knowledge, skills, and attitudes (Tanjung & Parsika, 2017). Then, the reason why the writer decides to use this method is to develop science learning media through songs on the material of human digestive components with Cyberlink Power Director. To sum up, this product is expected to improve students' learning outcomes in science subject in the material about human digestive components.

According to Branch, a chart of steps for developing the ADDIE model can be seen in the Figure 1.

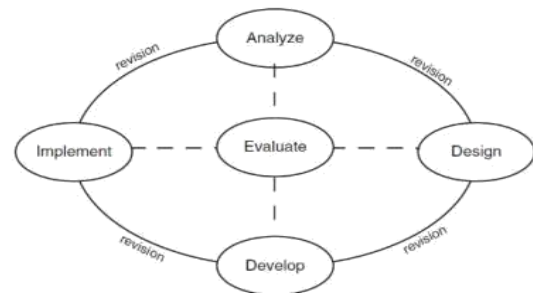


Figure 1. ADDIE Chart

a. Analysis

Analysis is carried out to gather some information before the research is conducted by means of field studies and literature reviews. Field studies are used to analyse the field needs about the development of learning media

b. Design

Design developed by the writer is designing learning media in the form of Cyberlink Power Director Media based on poetries and songs in science subject in the material about human digestive components.

c. Development

The development of science learning media product through songs with Cyberlink Power Director includes 3 steps which are: (1) developing learning media, (2) mentoring with validators, and (3) validation from the expert of media and the expert of material.

d. Implementation

The implementation of the development of science learning media through songs in the material of human digestive components with Cyberlink Power Director Media is carried out on the fifth graders of MI (Madrasah Ibtidaiyah) Muhammadiyah Donorejo, Secang District, Magelang Regency.

e. Evaluation

Evaluation is carried out to find out and measure whether the learning media developed is suitable for use. Evaluation of the learning media developed aims to improve and complete the product after going through the implementation phase (Sari, 2017).

The level of feasibility of Cyberlink Power Director Media based on Poetries and Songs can be determined by using Eq. 1 (Fransisca, 2017).

$$P = \frac{F}{N} \times 100\% \quad (1)$$

Notes:

P = Percentage of the assesment

F = Obtained score

N = Overall Score

3. RESULTS AND DISCUSSION

Based on the opinion for the teacher, expert, and students who want the development of learning videos with Slide Photo component taken from the writer's documentation, the music used is a model of pop music that is arranged by the writer. Then, the sound inserted in the video is sung by the writer and it is given special effects and transition effects. However, tones and bits for children are fun things to listen such as funny music, enjoyable, and not too loud to be delivered unlike rock songs, underground, or some sounds that are not understood by children (Robihah, 2018). Cyberlink Power Director learning media based on poetries and songs for learning science is interesting. Moreover, Cyberlink Power Director learning media based on poetries and songs is the best video editing application used to help creating digital movies / videos that look professional with photo slideshows that are completed with music, sound, special effects, and transition effects. It will create good learning videos, easy to memorize, and by following with the objectives of the learning (Hutama, 2016).

Poetries and songs are the expression of the author's soul and feeling (Meilina, Wartiningsih, & Indrapraja, 2009). Song is a text that is sung (Ifadah & Aminah, 2012). The song media used in this study is children's songs. The writer choses children's songs because they have simple choice of words and have dynamic tempo that makes them suitable to be implemented for elementary school students (Anggraeni, 2016)

Furthermore, the writer makes revisions according to the advice from the expert team. The team of experts in this study are the expert of material and the expert of media.

a. Field Trial Design

Field trial design is done based on the result of this study and based on the input from the teacher and the expert team About the display on the slide side of the photo designed by using Cyberlink Power Director as in Figure 2.

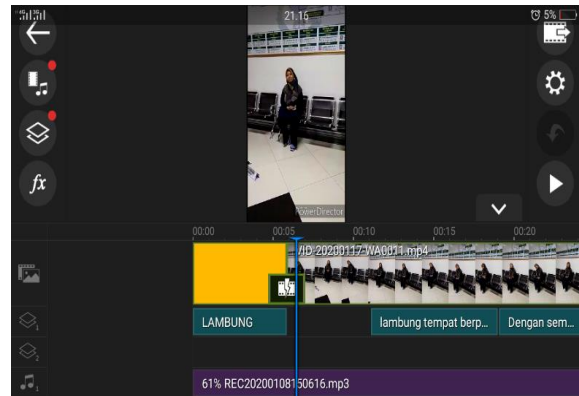


Figure 2. Slide on Cyberlink Power Director

The music produced in the Cyberlink Power Director is a pop music model. Therefore, it is following the age development of elementary school children. The music presented in the video is the work of the writer so that it can be stated as the writer's copyright. The sounds and songs in the Cyberlink video that comes from the writer's voice is following the wish of the teacher, students, and the expert team. The input from the teacher and the expert team about the appearance of special effects and transition generated by Cyberlink Power Director is following what is wanted by the teacher, students, and the expert team. However, it only needs additional introduction before the song or material menu display. Moreover, the teacher and the expert team give input and advice by adding poetries in the video made by using Cyberlink Power Director.

Based on the assessment done by the expert of material, the number of evaluation result is 78 with a percentage of 86.6% and the assessment done by the expert of media obtained 61 with a percentage of 87.1%. In conclusion, the Cyberlink Power Director learning media is appropriate to be used.

The test of effectiveness in this study is done to the 11 students of MI Muhammadiyah Donorejo, Secang district, Magelang regency. The effectiveness test is used to find out the effectiveness of Cyberlink Power Director Media based on Poetries and Songs in Natural Sciences subject of human digestive material using a questionnaire pretest and posttest learning outcomes in science subject in the material about human digestive components. The result of the effectiveness test shows an increase in the pre-test and post-test of 28.64% as it can be seen in the Table 1.

Table 1. Students' Learning Outcomes before and after using Cyberlink Power Director

Students Code	Pre-Test	Post-Test	Result
S1	80	90	Increasing
S2	60	90	Increasing
S3	50	95	Increasing
S4	35	75	Increasing
S5	60	70	Increasing
S6	35	85	Increasing
S7	55	95	Increasing
S8	60	90	Increasing
S9	45	70	Increasing
S10	45	75	Increasing
S11	85	90	Increasing
Average = 55,45 %		Average = 84,09 %	

Source: Primary Data

Based on the table above, it can be known that there is a significant influence about the use of Cyberlink Power Director Media based on poetries and songs toward the learning outcomes of the fifth graders of MI Muhammadiyah Donorejo, Secang District, Magelang Regency.

Therefore, the data above is processed by using SPSS 19.0 paired sample T test to measure the level of significance of the use of Cyberlink Power Director Media based on poetries and songs (Ratminingsih, 2016). The result of the effectiveness test can be seen in the Table 2.

Table 2. Effectiveness Test Assessment of Students' Learning Outcomes Using SPSS

Paired Samples Test				
Paired Differences				
95% Confidence Interval of the Difference				
		Lower	Upper	t
Pair 1	PRE-TEST – POST-TEST	-38.72367	-18.54905	-6.325

Paired Samples Test		
		Sig. df (2-tailed)
Pair 1	PRE-TEST – POST-TEST	10 .000

The result of the t test analysis using the SPSS 19 program with Paired Samples Statistics obtains a significance value (2 tailed) 0.00, $p < 0.05$ and post-test significance value (2 tailed) 0.00, $p < 0.05$ ($p = 0.00 < 0.05$). In conclusion, the result of the study indicates that there is a positive and significant difference between the students' learning

outcomes using Cyberlink Power Director and not using Cyberlink Power Director.

Based on the field observation, there is a high level of learning motivation from each student. The high motivation of the students in singing songs can be seen from the result obtained. The gender difference does not distinguish them in singing songs. It is in accordance to the gender scheme theory which states that gender is not always related to their gender roles (Asrul, Ananda, & Rosnita, 2015).

4. CONCLUSION AND SUGGESTIONS

The form of Cyberlink Power Director media development based on poetries and songs in *science subject in the material about human digestive components* through the initial stages, which is an application that contains a series of photo slides or pictures of human digestive components completed with music and transition effects. The product design is developed by the expert of material and the expert of media with the music in Cyberlink Power Director application following the age of the students. Moreover, the poetries are written following the material in syllabus. The combination between poetries and music is done by using Cyberlink Power Director. Thus, the Cyberlink Power Director based on poetries and songs is effective for the students' learning outcomes. This is based on the result of the calculation of t test with Paired Samples Statistics which obtains pre-test significance value (2 tailed) 0.00, $p < 0.05$ and post-test significance value (2 tailed) 0.00, $p < 0.05$ ($p = 0.00 < 0.05$).

Then, there some suggestions given by the writer. (1) Teacher is expected to use the Cyberlink Power Director as the main media in learning science, especially in the material of human digestive components. (2) Students are encouraged to utilize the products of Cyberlink Power Director based on poetries and songs in order to improve their ability to memorize the material in learning science, especially about human digestive components. (3) The school principal is expected to facilitate the provision of Cyberlink Power Director to learn science subject in the material about human digestive components to improve the students' learning outcomes. (4) Other researchers are expected to be able to develop the different versions of Cyberlink Power Director media on the other subjects.

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