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DEVELOPING AUDIO VISUAL MEDIA BASED ON PROBLEM BASED LEARNING IN ENGLISH LANGUAGE TEACHING

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Abstract

Audio-visual media is an alternative of conducting technology-based learning that can optimize the learning process. This study aims to determine the needs, quality, feasibility and effectiveness of the developed audio-visual media in English Language Teaching (ELT). This study applied the Research and Development of ADDIE (analysis, design, development, implementation and evaluation). The analysis stage was carried out by interviewing English teachers and students' self- report. The design stage was carried out by planning the systematic, media outline, and evaluation tools. The development stage includes editing and revision. A pre-test was distributed to the students followed by validation bymaterial expert, media expert and learning practitioners. The validated product then was implemented followed by a post-test. Pre-test and post-test data were used to test the media effectiveness through the paired t-test. The findings showed that the developed animated video equipped with manual for teacher was feasible and supported by the result of paired t-test which showed that it was effective for use as a learning media in ELT.

Keywords: *audio visual media, problem-based learning, animated video, English Language Teaching*

INTRODUCTION

In the era of globalization and information-communication technology we are offered various new conveniences in learning which allow us to form self-guided learning orientation. Technology plays an important role in education by guiding educators and learners to explore and enrich knowledge. The use of technology in education has potential to enhance student engagement and satisfaction by providing opportunities for active learning, collaboration, and personalized instruction (Namaziandost, 2019). Thus, it is crucial for educators to be able to utilize technology to support their teaching as well as facilitate students' learning. It also helps teachers to carry the interesting learning materials which meet the needs of students.

In this case, teachers are challenged to create an innovation in the world of education, so that the learning objectives can be achieved. One of the innovations

can be in the form of learning media development. The learning media developed and used by the teacher in the learning process aims to provide convenience in the process of delivering material concepts.

Needs analysis was carried out in a state school and a private school of Junior High School Level in Batam, Indonesia. The needs analysis was obtained by conducting pre-research interviews with the First Grade English teachers in each school.

Based on the results of the interview, it was found that the use of audio-visual media in the descriptive text material could facilitate conceptual understanding, provide learning experiences and increase the interest and students' learning motivations.

The results of pre-research questionnaire filled by the students categorized into Strongly Agree with the average score of 219.4 and percentage within 84.40%. It was obtained data that students were more likely to be enthusiastic if the teacher used audio-visual media rather than theoretical textbooks: they more understand and more motivated. The presentation of audio-visual learning media is able to guide students to learn independently. Students like the audio-visual media in the form of animated video which can reduce boredomin the learning process.

The state school in the present study rarely used audio-visual media and the teacher only used the video from YouTube and share it to the students without further explanation. While teachers in the private school in this study used audio-visual media in the form of self-made teaching video which had many deficiencies in the video such as the unclear material and sound. In other words, the teacher only moved from the real classroom to the video medium. Teachers in both schools found difficulties to create an appropriate audio-visual media due to the lack of technological knowledge and skills, and limited time.

Audio-visual learning media

Audio-visual media refers to any instructional devices which are used to communicate messages more effectively through sound and visuals, or set of tools

that can project moving images and sound (Padhi, 2021). Thus, audio-visual media can be accepted by the senses of hearing and seeing.

> The use of audio visual media provides a wide significance for both teachers and students including; maximizing the use of senses and thereby facilitate the acquisition of maximum learning of students, provide assistance to the teacher for following maxims of teaching like 'simple to complex', 'concrete to abstract', 'known to unknown', and 'learning by doing', help teachers maintaining the interest and attention of the students in the classroom activities, save time, money and energy, meet the individual difference requirements, solve the problem if indiscipline, cultivate scientific attitudes among students, a good motivating force, bring clarity of subject matters (Padhi, 2021).

A strong reason to underdone this study to develop an audio-visual media is based on the statement of the advantages of audio-visual media in the form of animated video stated by Daryanto (2013) as follows: 1) effectively used for individual, group, and mass learning; 2) flexible video size and can be adjusted as needed; 3) increase the acquisition of information to students; 4) able to display information that is difficult to display for real; 5) able to simplify the time on information in the form of processes which take a long time; and 6) can be distributed in various forms, such as CDs, DVDs, and other storage media such as flash drives or Google Drive. Thus, it is believed that audio-visual media can optimize the learning process where students' interest in learning can be increased, and immediately become a more interesting, more interactive and easy-to-packmedia in the learning process.

Problem based learning

In English learning, students are required to be able to think critically because critical thinking empowers goal setting skills and help learning becomes effective. Bransford et al. (cited in L. Smart & J. Cappel, 2006, p. 202) stated that learning becomes effective when students are actively involved, when the tasks given reflect real life contexts and experiences, and when critical thinking is formed.

In order to build students' critical thinking, teachers are required to find the

right model which make learning become interesting to students. One of the learning alternatives that provide opportunities for students to develop their critical thinking in learning is the Problem-Based- Learning (PBL) model. Problem-Based-Learning is a method which involved the use of problem scenario to encourage students to be engaged in the learning process (Savin-Baden, 2007, p.8). Problem-Based-Learning is a model that deals with students' real-life problems. Problem-Based-Learning can help students to: 1) think critically and be able to analyze and solve complex real- world problems; 2) find, evaluate, and use appropriate learning resources; 3) work cooperatively in teams and small groups; 4) improve effective communication skills; as well as 4) to become continual learners.

This study emphasizes more on audio-visual learning media development, in the form of an animated video contains the step-by-step process of Problem-Based-Learning model and focus in the competency of descriptive text material for first graders of Junior High School. This audio-visual media is equipped with a manual for teacher.

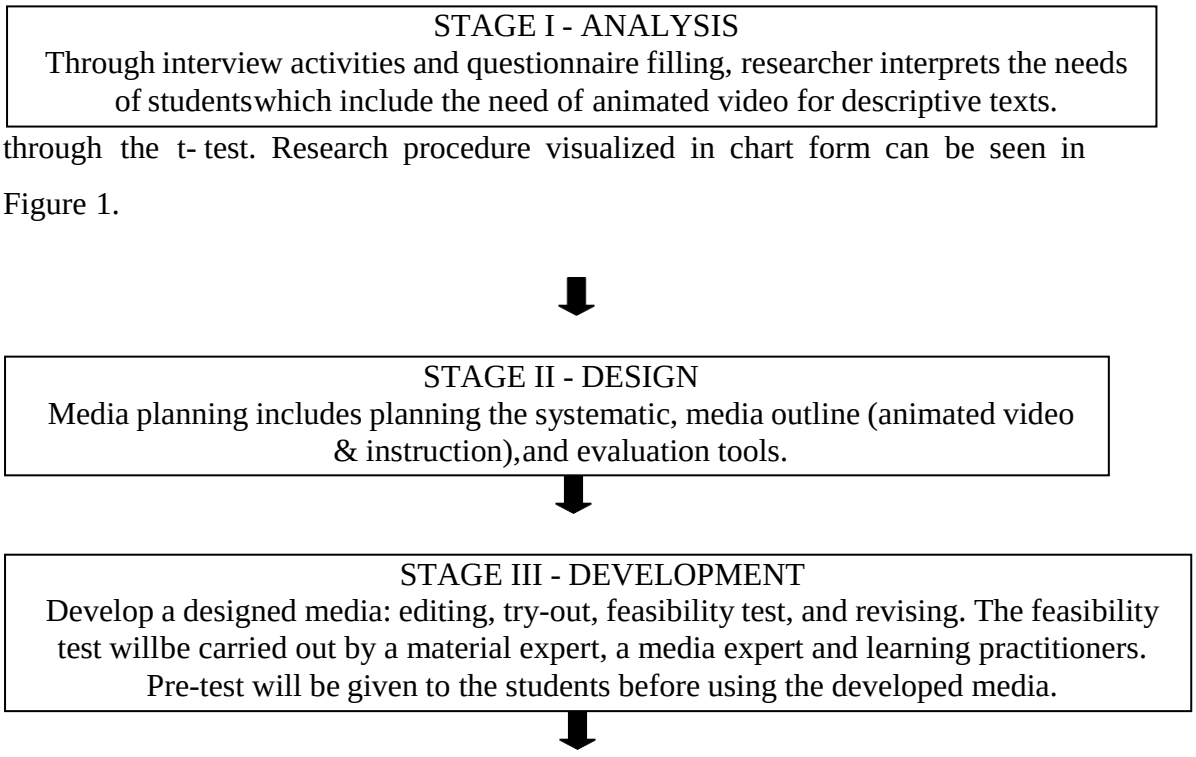
The innovations of this research with previous studies are located in the type of audio-visual media being developed which is an animated video, the learning model which adapt the Problem-Based-Learning model and the material chosen, the descriptive text material. This audio-visual learning media is not developed only to transfer the teacher from the real classroom into the video media – as used in the schools – but by directly applying the step-by- step process of Problem-Based-Learning model. Problem-Based-Learning model assumed to be a learning media which can be applied forclassroom education, distance education, as well as independent learning.

METHODOLOGY

Based on the purpose of this study, the research design was Research and Development (R&D) of ADDIE model (Analyze, Design, Development, Implementation, Evaluation) Model, which is one of the systematic learning design

models. This model is arranged programmatically with a systematic sequence of activities related to the development of an audio-visual media. Hence, Branch (2011, p.2) stated that ADDIE Model can be used to develop the educational products as it is providing the systematic guide of complex activities. Besides being used for textbook development, the ADDIE Model is suitable for developing audio-visual material.

Adapting ADDIE, this research divided into five stages: The analysis stage was carried out by interviewing English teachers and filling out questionnaires by students. The design stage was carried out by planning the systematic, media outline, and evaluation tools. The development stage includes editing and revision. Thereafter, the validation was carried out by material expert, media expert and learning practitioners. Before the media being validated, pre- test was given to students. The validated product then was implemented and students were given a post-test. Pre-test and post-test data were used to test the media effectiveness through the t- test. Research procedure visualized in chart form can be seen in Figure 1.



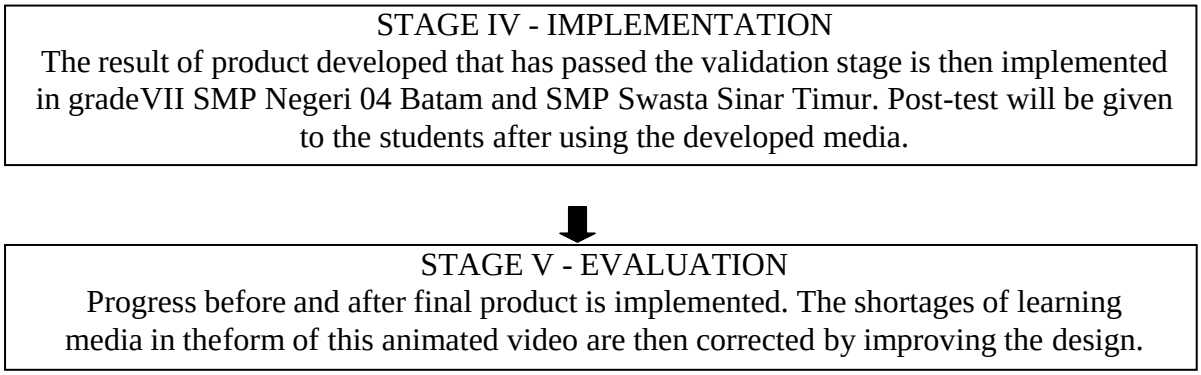


Figure 1 *Chart of Research Procedure*

The instruments used to collect data in this study are questionnaires, interview list and evaluation test. Questionnaires were given to students and validators. Interview list addressed to English teachers. Test will be used in the pre-test and post-test. The study employed paired t-test to test the difference between the pre-test and post-test. Paired t-test was suitable for the study since it aimed to compare the two sets of score from pre-test and post-test from a single sample of the research (Howitt, 2011) or to see the changes in the score of the students tested at time 1 and then again at time 2, before and after using the developed animated video (Pallant, 2016).

RESULT/FINDINGS

The needs analysis was carried out at SMP Negeri 04 Batam and SMP Swasta Sinar Timur by performing interview and questionnaire filling. The interview was addressed to the English teachers and the needs analysis questionnaire was addressed to the first graders of Junior High School.

Before distributing the questionnaire to the students, the questionnaire was validated and obtained score 29 which was categorized as very good and meant it was feasible. The result of need analysis showed 84,40% of the students strongly agreed preferred with the use of audio-visual media to text book. They were likely to be more enthusiastic, motivated, and promote independent learning through audio-visual media. Students preferred the topics about favourite people and favourite objects in descriptive text. The students expected the content of audio-

visual media in the form of animated videos as they are easier to understand, fun and can relieve boredom.

The result of the interview with the English teachers showed that there is a need for innovative learning media in the form of animated videos to attract and support students in learning English as well as their independent learning. Teachers stated that they had difficulties in developing an audio-visual media as they lacked of creativity and time. Therefore, an attractive animated video in short duration was expected to overcome their obstacles in ELT. The results of both interview and students' self-report indicated an urgent need for development of audio-visual media in ELT.

Product Development

Product development was preceded by five stages, namely analysis, design, development, implementation and evaluation. The design stage was preceded by determining and compiling a systematic, structural frame, media outline, and evaluation tools as described as follows:

- Determination of types of audio-visual media, material and learning model

  Based on the results of the needs analysis, animated video with descriptive text material based on Problem-Based-Learning was determined to be developed.
- Material collection

  The collection of materials involved both from printed media and digital media. Sources of material were obtained from several English textbooks - student and teacher manuals and official website.
- Creating learning tools included lesson plan and syllabus.
- Creating product outline

  Animated video outline was created by making a storyboard double column which consists of the description of images accompanied by narrations or script – based on the material that has been obtained. This stage also included creating manual-for-teacher outline by making a table of contents and selecting the points of the table of contents.

- Designing media

  The design of the animated video and manual-for-teacher display referred to the theme of the teaching material. In the opening picture/cover section, related images appeared to highlight the material to be learned. The color selection of characters and images used one theme and consistently.

- Export of files in digital form.

  The animated video display designs were compiled using Animaker and were carried out per section according to the storyboard that has been made. Then each part was put together using Inshot. The complete video was then added with learning support sounds, music instruments and sound effects. The finished video was then saved in MP4 format, while the manual-for-teacher display design made with Power Point was saved in PDF format.

- Evaluation tools involved validation questionnaires and tests.

  The results of product development were assessed by the validators to determine the quality and feasibility of the developed animated videos and the manual. The assessment was carried through validity questionnaires to assess the overall product from both the media and material aspects. Some examples of animated video scenes and the cover page of manual for teacher are shown below.

Figure 2. *Opening scene*

Figure 3. *Explanation scene*

Figure 4. *Manual for teacher*

Validity of the Product

Validity of the product was carried out by two practitioners, one material expert and one media expert. Both practitioners are English teachers from two Junior High Schools in Batam, Indonesia, while the material expert was from one of the universities in Batam, Indonesia. They possessed relevant expertise to the field being developed. Validity of the product was carried out to determine the feasibility and quality of animated video equipped with a manual for teacher. Based on the result of validity by both practitioners material expert, and media expert, the average score were 3.9, 3.6, 3.9, and 3.6 respectedly and categorized as Very Good, which meant the animated video product and the manual were feasible to use without revision.

Validator	Average Score	Comments
English teacher of the 1st school	3.9	- *Materi sudah sesuai dengan seluruh indikator* - *Huruf pada media sangat jelas* - *Animasinya menarik sekali.*
English teacher of the 2nd school	3.6	*Aspek penilaian pada kesesuai kebenaran dan keterbaruan isi materi sudah terpenuhi* *Keterbacaan, referensi, judul, dan layout sangat baik* *Huruf, warna, gambar, animasi, originalitas dan kelengkapan anatomi media baik* *Efisiensi media sangat baik.*
Material Expert	3.9	*Semua aspek penilaian sudah terpenuhi, namun referensi*
Material Expert	3.9	*Semua aspek penilaian sudah terpenuhi, namun referensi*

Try Out

The developed animated video was implemented in the English class to teach Descriptive Text in both schools. Forty-one students were involved in the implementation of the developed animated video in both schools. During the implementation, the researchers obtained feedback from teachers and students which were useful in the development of the product. Teachers also expressed their positive perception on the use of the media in their ELT classroom. In line with the teachers, students showed their enthusiasm in learning descriptive text through animated video.

Product Revision

In accordance with the validity results from the four validators, the developed product in the form of an animated video entitled "FINALLY, I FOUND YOU! - Let's Learn Descriptive Text" which is equipped with a Manual for Teacher had no revision. However, minor revision based on the students' and teachers' feedback during the try out was done included the font color and size, brightness of color, and quality of the audio.

Effectiveness of the Product

At the Development stage, pre-test was given to students to measure students' understanding of the material before using the developed product – animated video. The provision of material is only delivered through Power Point in online class. The valid animated video was then implemented in the English class for Descriptive Text material. After the implementation of the media, the evaluation was carried out again by running a post-test.

Data from the pre-test and post-test were analyzed using paired sample t-test. Paired sample t-test was used because the study used the same subjects but experienced different treatments (Tegeh, Jampel, & Pudjawan, 2014, p. 83). In this study, the data obtained from the same participants with different treatment included by using Power Point and the animated video. The value of t_c (21,609) is greater

than the value of t_t at the 5% level (2.021) and greater than the value of t_t at the 1% level (2.704). Therefore, $t_c > t_t$ and the null hypothesis (Ho) is rejected. As $t_c > t_t$ and Ho is rejected, it can be interpreted that there is a significant difference between the pre-test and post-test scores of 41 students. Based on the result of the analysis, there was a significant difference between the evaluation results before and after using audio-visual media in the form of animated video. It can be concluded that the developed product namely, the Audio-visual Learning Media Based on Problem-Based-Learning for Descriptive Text Material to First Graders of Junior High School in the form of animated video was effective for use in ELT.

DISCUSSION

Based on the result pilot study through interview and questionnaire, it was found that there was an urgency for innovative learning media such as animated video that could attract and support students in learning English as well as promoting their independent learning in two schools in Batam, Indonesia. The similar views were expressed by the English teachers in both schools. Audio-visual media was rarely used by the teachers. In fact, teachers only relied on video from YouTube or simply used the self- made teaching video. They realized that learning media needed to be updated and varied to avoid students' boredom and facilitate different learning styles. Although they realized the advantages offered by audio-visual media in their teaching, their lack of ability, creativity, and time to design an attractive audio-visual media hindered them to realize it.

The present study, developed audio-visual learning media using ADDIE model The development of audio-visual learning media is carried out in all stages to produce media that have been tested for quality, feasibility and effectiveness as a learning media. This research is limited to media development without any product development training for the subject teachers concerned.

Audio-visual learning media were validated by learning practitioners, media experts and material experts to determine the quality and feasibility of the developed media. The validation results from two learning practitioners, material

expert and media expert showed a positive response.

Pre-test and post-test were given to students in purpose to measure how much students understand the subject matter (descriptive text material) before and after the implementation of the animated video. The data obtained from pre-test and post-test then was analyzed by performing the t-test. The result of the t-test revealed that the Audio-visual Learning Media Based on Problem-Based- Learning for Descriptive Text Material to First Graders of Junior High School was effective for use in ELT process. This result is in line with Qurrotaini, et. al. (2020); Ponza, Jampel, & Sudarma (2018); and Jembari, Tastra, & Mahadewi (2015) which stated that animated video is effectively used as a learning media and effective in improving students learning outcomes. A well-developed audio visual media was also reported to be effective to develop students' enthusiasm and motivation in English speaking activity (Ahda, 2016).

The significant of the developed audio-visual in a form of animated video in this study also expressed by the teachers and students in ELT during the try out. Students claimed that they were easier to understand the teaching content through audio visual and felt more enjoyable. As stated by Lee, audio-visual learning media in EFL classroom can greatly enhance language learning and create effective and enjoyable learning (Lee, 2015). In line with Lee, Padhi states that audio visual aids make teaching learning process more effective, make students more active, develop interest towards learning, make teaching clear, easy and understandable, develop power of observation, and improve the power of retention (Padhi, 2021).

CONCLUSION

The development of Audio-Visual Learning Media Based on Problem-Based-Learning for Descriptive Text Material to First Graders of Junior High School had come to conclusions that there was a need of an animated video in learning descriptive text for first graders of Junior High School, so that learning English not tend to be textbook oriented as well as to help students in their

independent learning. The results of the validation by practitioners, media expert, and material expert indicated that the quality of Audio-Visual Learning Media Based on Problem-Based-Learning for Descriptive Text Material to First Graders of Junior High School was declared to be feasible for used as a learning media in ELT. This was supported by the result of the t-test which showed that the Audio-visual Learning Media Based on Problem-Based-Learning for Descriptive Text Material to First Graders of Junior High School in the form of animated video was effective for used in the learning process. This study is expected to shed lights in language teaching media and inspired English teachers to develop their own teaching media by using relevant technology. Continuous training on developing English teaching media by utilizing technology should be considered to develop English teachers' professionalism. Further research in developing similar media with more various topics and different samples is recommended.

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