

Development Of Animated Video Media for Meaningful Learning

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Abstract— Meaningful learning media has an important role in helping learners process educational messages or meaningful learning materials. Therefore, it is important to pay attention to the characteristics of learners and learning materials. Currently, there are still many media that do not pay attention to the characteristics of students, for example in the delivery of market material. The purpose of this study was to describe the feasibility and effectiveness of Canva-assisted animated video media in economics subjects. This type of research is Research and Development (R&D) research by applying Thiagarajan's 4D development model which includes defining, designing, developing and disseminating. Data collection instruments used 1) material, media and language review and validation sheets, 2) student response questionnaires. The results of the study found that: 1) the development of Canva-assisted animated video learning media was declared feasible with a material validation percentage of 90%, media validation of 86%, and language validation of 91% so that the media was declared feasible to use as learning media, 2) the results of the student response questionnaire obtained a percentage of 93.5% so that the media was declared practical to use as learning media. Thus, the Canva-assisted animation video developed is declared feasible and can be one of the alternative media that can be used in learning economics, especially market material. **Methods, Findings, and Conclusions.**

Keywords— *Animated video, Meaningful learning, Economic material, High school students*

I. INTRODUCTION

Education has a very important role in shaping the quality of competent, critical, and competitive human resources. One important aspect in the education process is how learning is delivered so that it can be received, understood, and implemented by students in a meaningful way [1],[2]. However, in practice, challenges in creating meaningful learning often arise, especially in the context of economic subjects [3], [4], [5]. In learning economics, students are invited to analyze economic problems, evaluate alternative solutions, and make decisions. This, of course, can help develop critical thinking skills needed in everyday life.

Economic subjects are often considered abstract by students because they involve complex concepts and require a deep understanding [6]. Many economic concepts such as demand, supply, inflation or perfectly competitive markets are theoretical and not seen directly in everyday life. This results in students' interest in learning economics subjects being low. Therefore, teachers need to use a more contextual and practical approach so that students can understand and appreciate the subject. One way to overcome this problem is to develop learning media that is creative, innovative, and relevant to the needs of students [7].

The use of animated video media has been proven as one of the effective approaches in increasing learners' interest and understanding [8], [9]. Animated videos can present information visually and dynamically, so that learners can more easily understand difficult concepts. In addition, this media can also create a more interesting and interactive learning atmosphere. This is in accordance with the results of Berk's research [10] which shows that learning videos can increase learner engagement and learning outcomes. In addition, Mayer, R. E., & Moreno [11] revealed that animation and simulation can help students understand abstract and complex concepts.

In the context of economic learning, integrating local wisdom is a strategic step to make learning more relevant and contextual. Local wisdom includes values, traditions and cultures that live in the local community. By integrating local wisdom into learning media, students not only learn economic concepts theoretically, but also understand the application of these concepts in real life close to their environment [2], [12]. The limited number of alternative learning media for economic learning is a consideration for the development of animated video media for more meaningful economic learning. In addition, based on the results of initial observations and interviews with economics teachers in Cirebon.

The importance of developing animated video-based learning media that integrates economic concepts and local wisdom is the main reason for this research. It is hoped that this media can help create meaningful learning experiences, increase students' interest in learning, and strengthen their understanding of economic material through a more contextual and interesting approach. This research aims to contribute to the development of education that is more inclusive and adaptive to local needs and potentials. Therefore, this study will elaborate on how to develop animated videos in learning economics for more meaningful learning.

II. METHOD

This study is development research (research and development). this development research by applying the 4d development model developed by Thiagarajan, semmel, and semmel. the 4d model consists of four main stages, namely define, design, develop, and disseminate. The subjects of this study were x-1 grade students in high school. the instruments used in this study were student worksheets and learning activity observation sheets. the data collection methods used in this study were the validation questionnaire method, observation sheets and student learning outcomes. the data analysis method used was descriptive percentage. the first stage of research by analyzing the potential and existing problems about learning in high schools in Cirebon, then

collecting data to create animated video media. the third stage began to design the initial teaching materials which were then validated by experts, the validation process was revised according to the suggestions given by the experts afterwards. the revised teaching media was tested on the use of small-scale teaching materials with 5 students, in this process a large-scale trial was not yet carried out. Experts from FPS UGJ lecturers and high school economics teachers validate teaching media. then the results of validation in the form of suggestions and comments are used to improve the teaching materials that have been developed. then validated or reassessed by experts.

The percentage calculation from filling out the expert validation sheet is.

$$Va1 = \frac{TSe}{TSh} \times 100\%$$

$$Va2 = \frac{TSe}{TSh} \times 100\%$$

Based on the above calculations, the researchers then carried out the combined validity of the analysis results with the following formula:

$$V = \frac{Va1 + Va2}{2} \times 100\%$$

Description:

V = Validation (combined)

Va1= First expert validation

Va2= Second expert validation

Tsh = Total maximum expected score

Tse = Total empirical score (validation results from validators)

The validation criteria used are as follows:

Table 1 Criteria for interpreting the opinions of validators

Criteria	Range
81% - 100%	Very valid, or can be used without revision
61% - 89%	Valid, or can be used but needs minor revisions.
41% - 60%	Less valid, recommended not to be used because it needs major revisions
21% - 40%	Not valid or should not be used
0% - 20%	Very invalid _ should not be used.

III. RESULTS AND DISCUSSION

This research aims to develop animated videos in learning economics for more meaningful learning. The results of this study indicate that the development of animated videos as economic learning media has succeeded in producing products that meet the criteria of validity and relevance for use in learning. To produce the developed product, researchers used the 4D model (Define, Design, Development, Disseminate). In

the research conducted, researchers limited the research only to the 3rd stage, namely the development stage due to time constraints. The development process was carried out through several stages, from needs analysis to evaluation by experts. In the validation process by media experts and material experts, this animated video looks at aspects of visual quality, narrative flow, and suitability for the economic concepts taught. The validation of this product involved 3 validators consisting of two lecturers who acted as media validators and language validators and 1 economics teacher who is a member of the economics MGMP as an expert on economic material for high school level.

The stages of developing animated videos for more meaningful learning for high school students, especially on market material, begin with the Define stage, namely analyzing the curriculum, analyzing the needs of students and teachers for innovative learning media and identifying obstacles in learning economics. The results of this stage become a reference in determining the development objectives and initial specifications of the animation video. The next stage is the Design stage where the storyline, visualization and narration will be designed to explain the market material with the Cirebon local wisdom approach and determine the animation style, colors, characters and graphic elements that are attractive and in accordance with the target students. After the Design stage, Development is then carried out which focuses on making and validating animated videos by going through the stages of animation production, expert validation and product revision.

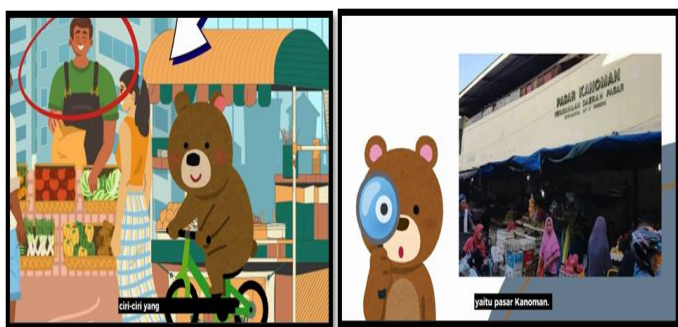


Figure 1 Visual video animation for economic learning

The results of the development of animated videos as learning media for market materials show that the products meet the quality and relevance criteria for more meaningful learning. This animated video is designed to explain market concepts, such as types of markets, market mechanisms, and the roles of producers and consumers, through clear narration, attractive visuals, and structured flow. This product uses dynamic graphic elements and animated characters designed in

accordance with the learning context to make it easier for students to understand the material.

In the development stage, the product validation process is carried out. This is done to get an assessment or suggest improvements for the developed product. The results of input from material experts in the first validation were 78% with valid criteria. Material experts provide suggestions for improvements to animated videos such as relatively short duration, haste, unstable sound and there is an addition of material that contains an invitation to students to analyze the material presented. After the suggestions from the material expert, improvements were made according to the improvement notes until finally getting a validation result of 90%.

Furthermore, the linguist provided an assessment of the language aspects of the animated video product. The linguist validator gave an initial assessment of 83% with more advice on the use of effective sentences. After making improvements, the next validation results obtained an assessment percentage of 91%. In the process of checking language, of course, the completeness of language is an important aspect, this is in accordance with the statement of Hidayah, N., Wahyuni, R., & Hasnanto [13] that linguist validation aims to test the completeness of language in terms of the language used.

Animated video media validators provide information, criticism and suggestions so that the media produced is ensured to be a feasible and quality product. The media expert validator involved in this research is one media expert lecturer. Media experts provide suggestions contained in the validation sheet including animated characters that are not monotonous and rigid, pay attention to image transitions, and the font size should be proportional. After making improvements, the percentage of assessment obtained was 86%. These results are in line with the opinion of Sukmanasa [14] that validation by media experts to obtain information, criticism, and suggestions so that the learning media developed becomes a quality product both in programming and display aspects.

The following are presented the results of the first stage validation with the second stage from the three validators (three aspects of validation), which are as follows.

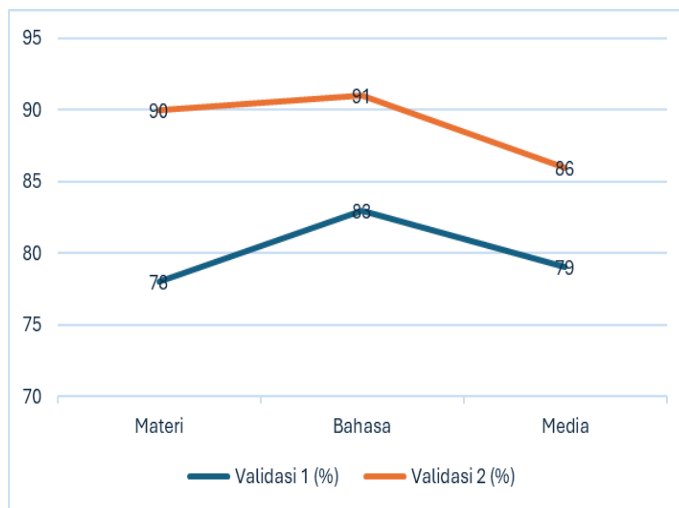


Figure 2 Results of assessment of all aspects of animated video media

In addition to the product being validated by experts, this animated video product was tested on grade X (ten) students who had received economic material in the market chapter. The results of the limited trial on 5 high school students on the animated video product showed a positive response and significant contribution in creating meaningful learning. This trial aims to measure the effectiveness of the animated video in helping students understand the market material as well as identify students' responses to the quality of learning media. Based on observations and questionnaires given, on average, students gave positive responses on aspects of visual appeal, clarity of material, and ease of following the video flow.

Learners stated that the use of dynamic animation elements and structured narration made it easier for them to understand market concepts, such as the types of markets and the mechanism of interaction between producers and consumers. In addition, the animated video is considered to attract their attention, making learning more fun and interactive. Some suggestions for improvement from students related to the presentation were to add real-life examples to make the material more relevant to their experiences. Overall, this animated video is considered effective in supporting meaningful economic learning, with the average score of the pilot test reaching the excellent category. The percentage of students' response assessment after improvement is 93.5%.

The results of the development of animated video media for learning market materials show that this media contributes significantly to creating a more meaningful learning experience. The animated video media is designed to combine visual, narrative and animation elements that can explain abstract concepts to be more concrete, interactive and interesting. The material and media expert validation results show that this product has a high level of validity, with a final score of 90%, which reflects the suitability of the media to the learning needs and curriculum standards.

The success of this animated video media is in line with Mayer's [11] findings in the Cognitive Theory of Multimedia Learning, which states that learning through a combination of visual and verbal can improve student understanding. Animated videos designed with multimedia principles, such as synchronization between images and narration, help reduce students' cognitive load, making it easier for them to process information. In addition, Aloraini's research [15] in the International Journal of Education and Development Using ICT confirms that the use of video-based media can increase student interest in learning and deepen understanding of the material through clear and interesting visualizations.

The limited trial with 5 high school students also supports the effectiveness of this media in learning. Students gave positive responses to the visual appeal and clarity of material presentation, which shows that the animated video can attract students' attention and motivate them to learn. This is in line with Guo, P. J., Kim, J., & Rubin's [16] research in the journal Proceedings of the First ACM Conference on Learning at Scale, which states that learning videos designed with interactive animations and structured narratives can increase student engagement and accelerate concept understanding.

With expert validation and positive student responses, this animated video can be considered an effective innovative learning media. Such media development is highly relevant in the digital learning era, where students need methods that are not only engaging but also support them in building deeper understanding. The use of animated video media is expected to be able to answer the challenges of learning economics which is often considered difficult, while creating a fun and meaningful learning experience.

IV. CONCLUSIONS

The development of animated video media for meaningful learning is an innovative step in improving the effectiveness of the teaching-learning process. This media is able to present abstract concepts visually and interactively, making it easier for students to understand the material. In addition, the animated video incorporates elements of local wisdom that are relevant to the students' environment. Based on the results of validation by experts, the animated video media is declared suitable for use because it meets the criteria of concept clarity, visual quality, interactive involvement, and relevance to learning objectives. With this media, students not only gain a better understanding, but are also motivated to learn more actively, which ultimately creates a deep and meaningful learning experience.

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