Development of Motion Graphic Animation Based on Microlearning Through Tiktok Application on Class Vi Globalization Material

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Abstract

The purpose of this study was to develop a microlearning-based motion graphic animation through the TikTok application on globalization material that is suitable for use and can improve the cognitive learning outcomes of grade VI students at SDN 1 Babadan. This development uses the Sadiman model which consists of 9 stages, namely needs analysis, formulation of learning objectives, formulation of materials, formulation of success measurement tools, writing media scripts, media production, validation, revision, ready-to-use media. The development results received a positive response from the validity test by material experts of 95.2%, while by media experts it was 89.6%. Then a field trial was conducted on grade VI students of SDN 1 Babadan with a result of 91% and a learning outcome test was carried out, namely a g value of 0.54 was obtained. Thus, it can be concluded that the development of microlearning-based motion graphic animation through the TikTok application on the Globalization material for grade VI is proven to be valid or suitable for use in learning, and can improve the learning outcomes of grade VI students on the Globalization material.

Keywords: Motion Graphic Animation; Microlearning; Tiktok Application; Globalization

1. Introduction

Alpha generation is synonymous with things or activities that can be separated from gadgets and want things instantly. Therefore, there is a need for education or education that is integrated into the internet, especially social media which has been widely used by the Alpha generation. Moreover, for today's learning system which is different from the previous era, today learning uses more technology or digital media as a medium for learning (Harahap, 2018).

Learning media is a tool that can help teachers in the teaching and learning process and convey messages to students so that they can achieve educational goals and improve student learning outcomes (Anwari, 2021). Meanwhile, learning media according to Hasan (2021) can be described as media that contains information or educational messages and can be used during the learning process which aims to stimulate students to be motivated and able to follow the learning process in a complete and meaningful way. One of the digital-based learning media is using animation media. Learning with digital technology such as animation media can be tailored to the needs of students, visualize learning concepts in a fun way and increase student motivation in the learning process.

Learning using animated media can be used as microlearning-based learning, because microlearning is a form of learning by presenting material into several segments in a concise, concise and clear form so that it is easier to understand in a short time or duration using flexible technology to make it more accessible both in class and outside the classroom (Leong et al., 2020). Video media in microlearning can also be easily used on gadgets and smartphones, and

can be uploaded on platforms that support short and vertical videos such as YouTube, TikTok, and Instagram which are Reels platforms, which match the characteristics of today's generation of students (Susantyo et al., 2023).

According to Buchem and Hamelmann (2010), microlearning focuses on one definable idea or topic and a short learning time (not longer than 15 minutes). The presentation of material with microlearning format in this media is also in accordance with the needs of Alpha generation students who like short-term learning, concise, instant, fast, visual-based, and using technology (Hashim, 2018). Microlearning is a developmental form of online learning and can be considered as an innovative approach to 21st century digital learning (Giurgiu, 2017). Microlearning is also one of the effective learning approaches or methods to improve the quality of learning (Javorcik et al., 2023).

The functions of audiovisual media are (1) to clarify the delivery of messages so that they are not too verbal, (2) to overcome the limitations of space, time and sensory power, (3) to use appropriate and diverse educational facilities to absorb and overcome the passivity of the nature of students (Sadiman et al., 2018).

Today's learning activities have also utilized social media as a medium for learning, especially for the Alpha generation, one of which is by integrating motion graphic animation into the TikTok application as a learning medium. TikTok application is an application that is loved, interesting and popular among young people (Dewanta, 2020). According to Deriyanto and Qorib (2018), the TikTok application has the benefit of helping users share and receive information and expand their social network. Batoebara (2020) also added that this application encourages creativity and helps students express themselves, especially in video making (Luisandrith & Yanuartuti, 2020). The TikTok application is also not only used to watch or make rocking and dancing videos, the TikTok application can also be used as a learning medium, because the content on the TikTok application is not all negative, but many also teach positive things. Depending on each user, there are also many TikTokers whose content provides education (Mana, 2021).

According to Timo Fecher (2019), animated motion graphics is the art of turning static elements such as graphics, images, text, and logos into cartoons by adding another dimension: time. Thus, several elements such as music, video, photography, typography, animation, illustration to 2D and 3D will be used to create interesting animated graphics (Putri, 2017).

Based on the results of observations that have been made during the Teaching Campus MBKM, at SDN 1 Babadan it is still not optimal in utilizing technology as a learning media, especially using animation media. Even during covid-19, SDN 1 Babadan only utilized Whatsapp social media for distance learning (PJJ), so SDN 1 Babadan is also still not optimal in utilizing distance learning (PJJ).

According to the 6th grade homeroom teacher at SDN 1 Babadan, 6th grade students still have difficulty understanding theme 4 globalization material with Civics and Social Studies subjects in the cognitive domain, so that the learning outcomes of some students in the cognitive domain are also low, namely not meeting the KKM. By developing motion graphic animations integrated into the Tiktok application, it is hoped that it can strengthen understanding of learning concepts and improve students' cognitive learning outcomes on grade VI globalization material at SDN 1 Babadan in a fun way, and can improve the technology-

based learning system at SDN 1 Babadan, Therefore, this study aims to develop microlearning-based motion graphic animations through the Tiktok application on grade VI globalization material that is feasible and that can improve the cognitive learning outcomes of grade VI students at SDN 1 Babadan.

2. Method

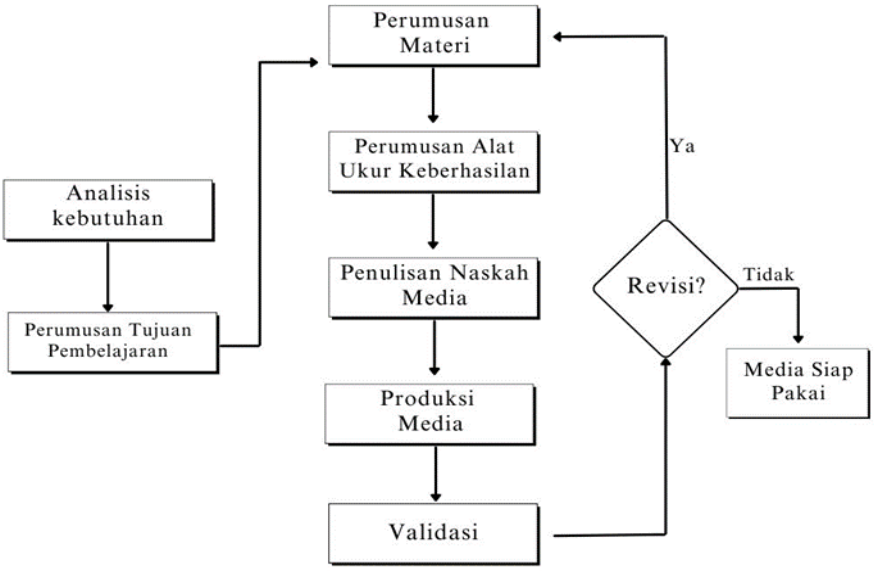

Figure 1. Sadiman Development Model (2018)

2.1. Development Model

The type of research applied is research and development (R&D) developed by Sadiman (2018). There are several stages in Sadiman's (2018) development model which include:

2.1.1. Needs Analysis

At this stage, interviews were conducted with teachers at SDN 1 Babadan whose purpose was to find out the actual conditions, especially related to the learning media used and the situation of the students themselves. According to the 6th grade homeroom teacher at SDN 1 Babadan, grade VI students still have difficulty understanding the theme 4 globalization material with Civics and Social Studies subjects in the cognitive domain, so that the learning outcomes of some students in the cognitive domain are also low, namely not meeting the KKM.

2.1.2. Formulation of Learning Objectives

The learning objectives of class VI globalization material at SDN 1 Babadan are:

1. Students are able to identify the impact of globalization in the socio-cultural field through animated media shows in detail.
2. Students are able to identify the impact of globalization in the economic sector through animated media impressions in detail.

3. Students are able to identify the impact of globalization in the political field through animated media shows in detail.
4. Students are able to identify the impact of globalization in the field of science and technology through animated media shows in detail.
5. Students are able to identify Indonesia's role in various forms of cooperation in the economic field within ASEAN through animated media impressions independently.
6. Students are able to show positive attitudes of love for the country in facing globalization through animated media impressions correctly.
7. Students are able to identify Indonesia's role in the field of science and technology within ASEAN through animated media impressions independently.

2.1.3. Material Formulation

The material used in this development is theme 4 globalization material for grade VI SD:

1. Material about the impact of globalization in the socio-cultural field.
2. Material about the impact of globalization in the economic field.
3. Material about the impact of globalization in the political field.
4. Material about the impact of globalization in the field of science and technology.
5. Material about Indonesia's role in economic cooperation within ASEAN.
6. Material about a positive attitude of love for the country in the face of globalization.
7. Materials on Indonesia's role in cooperation in the field of science and technology within ASEAN.

2.1.4. Formulation of Measures of Success

The evaluation tool used in this development research is to use a learning outcome test to determine the knowledge (cognitive) of students from learning globalization material, the learning outcome test is in the form of pre-test and post-test questions to students.

2.1.5. Media Script Writing

In this step, script writing is used as a guideline for producing motion graphic animation media. The script is made to contain a guide containing information that is used as a reference in making a media. This media script design consists of program identity, synopsis, treatment, and storyboard.

2.1.6. Media Production

At this point, researchers produce microlearning-based motion graphic animation media with globalization material based on the script or storyboard that has been made. The production of this learning animation media uses software to edit animation media such as Canva and Capcut with the final MP4 format. This animation media is divided into 4 parts, with a duration of approximately 2-3 minutes.

2.1.7. Formative Evaluation/Validation

If the product has been produced or has been completed, proceed with the validation trial stage to media experts, material experts and students. Validation is used to measure the

feasibility or validity and attractiveness of motion graphic animation media that has been developed. The tool or instrument used to validate this motion graphic animation media is a questionnaire or questionnaire for material experts and media experts which aims to collect data that will be used as a basis for determining the quality or feasibility of the video media that has been developed.

If the validation trials of material experts and media experts have been carried out, you can test the utilization of video media that has been developed through questionnaires to students through several trials, namely one to one trials, small group trials, and field evaluation.

2.1.8. Revised

If the product has been produced or has been completed, proceed with the validation stage to media experts, material experts and trials to students. Validation is used to measure the feasibility of motion graphic animation media that has been developed. The material expert is a Lecturer in Elementary Teacher School Education who has a Masters educational background and masters Globalization material for grade VI SD. Meanwhile, the media expert is a Lecturer in Educational Technology who has competence in the field of learning media and has a minimum educational qualification of S2. Then for students, namely grade VI students of SDN 1 Babadan. If the validation trials of material experts and media experts have been carried out, it can be continued by testing the utilization of animated media that has been developed through questionnaires to students through several trials, including individual trials (one to one), small group trials (small group), and field trials (field evaluation).

2.1.9. Ready to Use Media

After conducting validation to media experts and material experts, then carry out the revision stage if there is something missing in terms of media and material on animated media.

3. Results and Discussion

3.1 Result

The results of the development of motion graphic animation that has been validated to media experts, and material experts produce products that are suitable for learning, then for the results of product trials to students also get a positive response tested. The development that has been carried out produces products in the form of motion graphic animations as in the following figure:

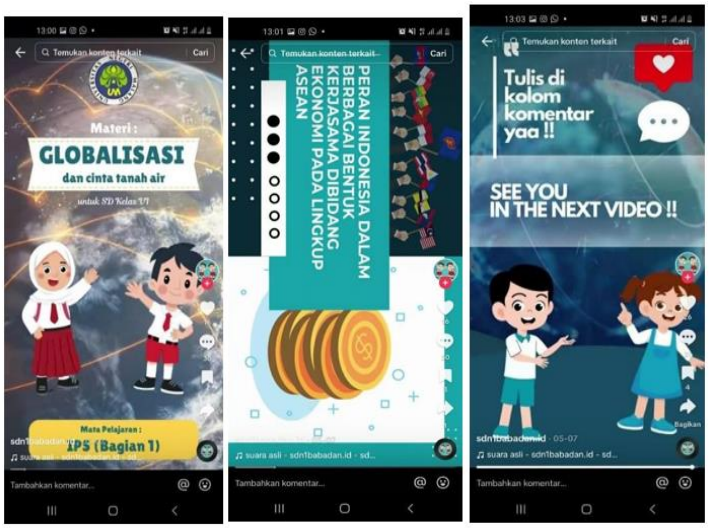

Figure 2. Motion Graphic Animation Product Display

Material experts, namely as material feasibility test validators and media experts, namely as media feasibility test validators for products that have been developed and tested on grade VI students of SDN 1 Babadan. Product feasibility tests and product trials using questionnaire sheets and response results measured on a Likert scale, such as the following table:

Tabel 1. Likert Scale Rating Categories

No	Score	Description
1	4	Highly Agree
2	3	Agree
3	2	Disagree Less
4	1	Disagree

Source : Sugiyono (2013)

Motion graphic animation products that have been validated by media experts, and material experts, and tested on students have a value category in the questionnaire with the eligibility category according to Arikunto & Jabar (2014) as follows:

Table 2. Percentage of Media Feasibility Criteria

Category	Range Percentage	Description
A	81% - 100%	Valid
B	61% - 80%	Moderately Valid
C	41% - 60%	Less Valid
D	<40%	Invalid

Source : Sumber : Arikunto & Jabar (2014)

Motion graphic animation products that have been validated by media experts, and material experts, and tested on students have a value category in the questionnaire with the eligibility category according to Arikunto & Jabar (2014) as follows.

The results of material expert validation test can be interpreted based on the eligibility criteria that the statements included in the "highly agree" category with a score of 4 are in statement numbers 4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20, and 21. The statements that are included in the "agree" category with a score of 3 are in statements number 1, 2, 3, and 11. Therefore learning material test was valid.

Media expert validation test results can be analyzed and interpreted based on the eligibility criteria that statements included in the "highly agree" category with a score of 4 are in statement numbers 1, 2, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 21, 22, and 23. As for statements that are included in the "agree" category with a score of 3 are in statements number 3, 4, 5, 13 and 17. Positive respond from expert can be interpreted that media valid for instructional media.

Tabel 3. Validation Expert Results

No.	Respondent	Average respond
1.	Material Expert	95.2 %
2.	Media Expert	89.6 %

Based on the data obtained from the material experts in table 2, getting a positive response. This is evidenced by the results of the data obtained, namely a percentage of **95.2%.** While the acquisition of data obtained from media experts in table 2, which is obtained a percentage of **89.6%**.

After validating the material experts and media experts, the product trial was continued to the students. The following are the results of student responses to the one to one trial, small group trial and field.

In this one to one trial, it was conducted with VI grade students of SDN 1 Babadan, totaling 3 students. From the presentation of student response data or one to one trials in the figure, it can be interpreted that:

1. In the visual aspect, namely in statements number 1, 2 and 3, there are 3 or all students chose "score 4 (highly agree)".

2. In the sound aspect, namely statement number 4, there are 2 students choosing "score 3 (agree)" and 1 student choosing "score 4 (highly agree)". While statement number 5 there were 3 or all students chose "score 4 (highly agree)".

3. In the usability aspect, namely statements number 6 and 9, there were 3 or all students chose "score 4 (highly agree)". As for statements number 7 and 8, there were 2 students chose "score 4 (highly agree)" and 1 student chose "score 3 (agree)".

4. In the aspect of attractiveness, namely statements number 10 and 12, there were 3 or all students chose "score 4 (highly agree)". While in statement number 11 there were 3 or all students chose "score 3 (agree)".

5. In the aspect of usefulness, namely statement number 13, there are 2 students choosing "score 4 (highly agree)" and 1 student choosing "score 3 (agree)". While in statement number 14 there were 3 or all students chose "score 3 (agree)".

The small group trial was conducted on grade VI students of SDN 1 Babadan, totaling 10 students. From the presentation of student response data or small group trials in Figure 6, it can be interpreted that:

1. In the visual aspect, namely statement number 1, there are 5 students choosing "score 4 (highly agree)" and 5 students choosing "score 3 (agree)". As for statements number 2 and 3, 8 students chose "score 4 (" highly agree)" and 2 students chose 'score 3 (agree)".

2. In the aspect of sound (audio), namely statement number 4, there are 4 students choosing "score 4 (highly agree)" and 6 students choosing "score 3 (agree)". As for statement number 5, there were 6 students chose "score 4 (highly agree)" and 4 students chose "score 3 (agree)".

3. In the usability aspect, namely statements number 6 and 9, there were 10 or all students chose "score 4 (highly agree)". As for statements number 7 and 8, there were 5 students chose "score 4 (highly agree)" and 5 students chose "score 3 (agree)".

4. In the aspect of attractiveness, namely statement number 10, there are 8 students choosing "score 4 (highly agree)" and 2 students choosing "score 3 (agree)". Then in statement number 11 there were 4 students chose "score 4 (highly agree)" and 6 students chose "score 3 (agree)". As for statement number 12, 7 students chose "score 4 (highly agree)" and 3 students chose "score 3 (agree)".

5. In the aspect of usefulness, namely number 13, 8 students chose "score 4 (highly agree)" and 2 students chose "score 3 (agree)". Meanwhile, in statement number 14, 7 students chose "score 4 (highly agree)" and 3 students chose "score 3 (agree)".

The field evaluation trial was conducted on grade VI students of SDN 1 Babadan, totaling 10 people. From the presentation of student response data or small group trials in Figure 6, it can be interpreted that:

1. In the visual aspect, namely statements number 1 and 2, 16 students chose "score 4 (highly agree)" and 6 students chose "score 3 (agree)". As for statement number 3, 17 students chose "score 4 (highly agree)" and 5 students chose "score 3 (agree)".

2. In the sound aspect, namely statement number 4, 15 students chose "score 4 (highly agree)" and 7 students chose "score 3 (agree)". As for statement number 5, 17 students chose "score 4 (highly agree)" and 5 students chose "score 3 (agree)".

3. In the usability aspect, namely statement number 6, 15 students chose "score 4 (highly agree)" and 7 students chose "score 3 (agree)". Then in statements number 7 and 8 there were 13 students chose "score 4 (highly agree)" and 9 students chose "score 3 (agree)". As for statement number 9, 18 students chose "score 4 (highly agree)" and 4 students chose "score 3 (agree)".

4. In the aspect of attractiveness, namely statement number 10, 15 students chose "score 4 (highly agree)" and 7 students chose "score 3 (agree)". Then in statement number 11 there were 11 students chose "score 4 (highly agree)", 9 students chose "score 3 (agree)", 1 student chose "score 2 (disagree)" and 1 student chose "score 1 (disagree)". As for

statement number 12, 16 students chose “score 4 (highly agree)” and 6 students chose “score 3 (agree)”.

5. In the aspect of usefulness, namely number 13, 14 students chose “score 4 (highly agree)”, 7 students chose “score 3 (agree)” and 1 student chose “score 1 (disagree)”. Meanwhile, in statement number 14, 16 students chose “score 4 (highly agree)”, 5 students chose “score 3 (agree)” and 1 student chose “score 2 (disagree)”.

Tabel 4. Student Trial Results

No.	Respondent	Positive Respond
1.	One To One Trial	95.2 %
2.	Small Group Trial	92 %
3.	Field Evalution Trial	91 %

Based on table 3, it can be seen that the results of the one to one trial were 95.2%. Then for the results of the small group trial, namely 92%. As well as for the results of the field evaluation trial which is 91%.

After conducting product trials, proceed with measuring the extent to which students understand the material outlined in the motion graphic animation that has been developed. The results of the acquisition of learning outcomes test scores that have been analyzed using the formula, then calculated the average. The categorization of the interpretation of the N-Gain score is as follows:

Table 5. N-Gain Score Categorization

***N- Gain* Value**	**Categories**
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Medium
$g < 0,3$	Low

Source : Hake (1999)

Learning outcomes were obtained using pretest and posttest data conducted before and after learning was implemented. Pre test and post test amounted to 15 multiple choice questions which were done by 22 students of class VI SDN 1 Babadan.

From the calculation of the pretest and posttest values, the g value is 0.54 so that it is included in the range $0.3 \leq g \leq 0.7$, so there is an increase between the pretest and posttest values and the increase is included in the moderate category. From the individual n-gain values obtained, there are extreme values of 0.20 and 1.

3.2 Discussion

The development of microlearning-based motion graphic animation through the tiktok application on grade VI globalization material has passed the validation stage involving material experts and media experts. The results of the material expert validation process received a very good response.

Based on data processing from these material experts, overall results can be obtained 95.2% of the expected results of 100%. The results of data processing and eligibility criteria that have been determined, it can be concluded that the Globalization Material for Class VI in Civics and Social Studies subjects contained in the learning video media is included in category A with a percentage range of 80%-100% which means valid so Feasible for Use in Learning. Then based on data processing from media experts, overall results can be obtained 89.6% of the expected results of 100%. Based on the results of data processing and predetermined eligibility criteria, it can be concluded that microlearning-based learning video media through the tiktok application is included in category A with a percentage range of 80%-100% which means valid so Feasible to use in Learning.

Followed by product trials to students, from the trial to 22 students, they received a good response, in accordance with research (Yusuf et al., 2017). The results of data processing from one-on-one trials, namely overall results can be obtained 95.2% of the expected results of 100%. Based on the results of data processing and predetermined feasibility categories, it can be concluded that microlearning-based motion graphic animation through the tiktok application is included in the category Worth Using in Learning. Then for the results of data processing from the small group trial, namely the overall result is 92% of the expected result of 100%. Based on the results of data processing and predetermined eligibility categories, it can be concluded that microlearning-based motion graphic animation through the TikTok application is included in the category Worth Using in Learning. And the last is the result of data processing from the overall field trial, the result is 91% of the expected result of 100%. Based on the results of data processing and predetermined feasibility categories, it can be concluded that microlearning-based video media through the TikTok application is included in the Very Feasible category to be Utilized in Learning. This is in line with previous research, namely motion graphic animation learning video media in science subjects about Single and Mixed Objects in grade V which meet the criteria of valid and effective. This means that the learning video media developed is feasible and effective for use in learning activities (Efendi et al., 2020), (Nasrullah et al., 2019).

The pretest and posttest questions consisted of 15 multiple choice questions. From the results of the calculation of the pretest and posttest scores, the g value is 0.54 so that it is included in the range $0.3 \leq g \leq 0.7$, so there is an increase between the pretest and posttest scores and the increase is included in the moderate category. From the individual n-gain values obtained, there are extreme values of 0.20 and 1. The n-gain value is included in the moderate category because the increase in pretest and posttest values is not much different. This can be followed up by providing reinforcement about the material to students who have not completed and giving assignments to students. Based on the above processing, overall it can be concluded that the learning outcomes test after using video media has increased.

4. Conclusion

In the development of microlearning-based motion graphic animation through the tiktok application on grade VI globalization material, it has been validated by media experts, material experts. And has been tested on students (audience), and has proven to be feasible to be utilized in learning and can improve the learning outcomes of grade VI students. This is evidenced by the results of the material expert data obtained a percentage of 95.2%, which means it is included in category A with a percentage range of 80%-100% which means Valid and Video Media is Very Feasible to Utilize in Learning. Then the results of the data obtained

from the media experts obtained a percentage of 89.6% which means that it is included in category A with a percentage range of 80%-100% which means Valid and the Material on Video Media is Very Feasible to Utilize in Learning. And the results of the data obtained from the one to one trial were 95.2%, the results of the small group trial were 92% and the results of the field trial were 91%. From the results of the three trials, it is included in category A with a percentage range of 80%-100%, which means that it is valid and Microlearning-Based Motion Graphic Animation media through the Tiktok application on Grade VI Globalization Material is very feasible to be used in learning. Then from the calculation of the pretest and posttest scores, the g value is 0.54 so that it is included in the range $0.3 \leq g \leq 0.7$, so there is an increase between the pretest and posttest scores and the increase is included in the moderate category. Thus, it can be concluded that after using motion graphic animation media through the Tiktok application on Globalization material, it can improve students' cognitive learning outcomes.

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