

# DEVELOPMENT OF VIDEO-BASED MULTIMEDIA FOR JAVANESE LANGUAGE SUBJECTS MATERIAL MACA GEGURITAN THROUGH DICK AND CAREY MODEL

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## ABSTRACT

The objectives of this development are to (1) Produce video-based multimedia for Javanese subjects as learning support media, (2) Know the effectiveness of using video-based multimedia for Javanese subjects as learning support media, and (3) Know the attractiveness of using video-based multimedia for Javanese subjects as supporting media for class VII as supporting media Learning. The development model in this study uses the Dick & Carey method. Material experts, design experts, and learning media experts are all involved in the development process to provide input and suggestions for improvement. In addition, colleagues who are Javanese language teachers at SMPN 23 Surabaya and students as users as well as targets for the development of video-based multimedia Javanese subjects maca geguritan material SMPN 23 Surabaya also provided comments and suggestions for development products so that they are good and suitable for use. The Use of Video-Based Multimedia Development for Javanese Language Subjects Maca Geguritan Material Through the Dick and Carey Model at SMPN 23 Surabaya can effectively increase active learning interaction. Video-Based Multimedia Products Javanese Language Subjects Maca Geguritan material is the final product of this development research project. The substance, learning design, and feasibility of learning media from these experts are all at a very decent level. The feasibility of small group trials and field trials with qualifications, meanwhile, is very high and does not require revision.

## I. INTRODUCTION

One of the known learning resources in learning is teaching materials in the form of videos. Teaching materials in the form of videos are one of the components of learning that need to get attention. This is because teaching materials in the form of videos can share convenience with students in order to understand learning material [1][2].

Javanese subjects are included in one of the subjects that are considered difficult by most students, this is shown by student learning outcomes that tend to be low. At SMPN 23 Surabaya, the indicator of low learning outcomes in students is seen by the value of Javanese subjects that do not reach KKM, especially in the ability of reading practice skills. One of the causes of low student learning outcomes is the low component of student motivation / interest in learning activities in Javanese subjects, this is shown from the low attention and involvement of students during learning activities carried out and the process of completing task exercises that are made not optimal [3].

Based on the results of initial observations at SMPN 23 Surabaya, it was found that the learning resources that have been available (by utilization) for Javanese subjects are generally limited to teaching materials that are available as is, usually in the form of textbooks without including media that are in accordance with the characteristics of the learning material.

The development of video-based multimedia learning at SMPN 23 Surabaya is considered by developers to be very urgent for now, because the media and learning strategies that exist and are used until now are still not in accordance with the needs of students. The results of the developer's observations show that: (1) the lack of student interest in Javanese subjects because the way of delivering Javanese subjects is less able to attract students, and is only memorizing and remembering concepts after that repeating them and is considered less related to real life and contextual, (2) the learning outcomes obtained by students in Javanese subjects at SMPN 23 Surabaya are relatively low, (3) learning activities in the majority of classes are conventional only using the lecture method,

active participation of students is less and the focus of teacher attention is more on teaching and the process of developing self-strengths that students have lacking, (4) teaching materials are accompanied by media that are in accordance with the characteristics of the subject matter delivered are less available, (5) teaching materials that have been available generally pay less attention to student characteristics, (6) The lack of appropriateness of the test items that have been prepared in the teaching module is basically not in accordance with the learning objectives set by the teacher, so that if the test items are tested to students they get results that are not in accordance with what they want to achieve. This happens because the indicators that have been set by the teacher have differences with the indicators that have been set in the available teaching materials [4][5].

The function of multimedia learning is a tool in teaching activities in order to support the use of methods in teaching that are applied and used by teachers. One of the electronic learning multimedia is in the form of video, in this case it can use computers as a supporting tool for learning media in a more interactive classroom [1][6]. In order for learning to create a more pleasant atmosphere in teaching and learning activities in class, teachers can create material into an attractive teaching media packaging, by using technology in learning so as to create video-based learning multimedia that can make it easier for students to absorb the material.

Video-based multimedia is a media whose main purpose is an effort to provoke interest in student learning on the subject matter, so it is hoped that students' feelings of pleasure will arise and it is expected that students will more easily understand the subject matter that has been presented by the teacher [7]. Maru et al., (2020) explained that video-based multimedia is one of the media that has an effort to provide educational value in learning, so that video-based multimedia, which initially only has a function as a media that is only used as a complement and entertainer, can eventually also be used as a medium and learning tool.

The reason for choosing this video-based multimedia is for several reasons. First, almost most of the children today are mostly more active in using their social media, both through devices and computers, it happens because for them Video-based multimedia is a very fun thing and very liked by them [7]. It is expected that students will be more interested through something they like so it is expected that it will be easier in the material taught. Second, by using video-based multimedia students can easily remember the learning material delivered by the teacher.

There are several studies on video-based Multimedia development research with positive results on the learning process and the results of research that has been carried out [1] concluded that the development of Learning Videos Using the Power Director Application helps teachers a lot to develop their learning materials. Similarly, the results of the study [8][9] concluded that the Learning Videos to Improving Students' Reading Comprehension in Elementary School developed have effectiveness to improve learning outcomes. Consider the above. It is very necessary to develop Javanese video-based multimedia

Seeing the above problems, there is a desire and hope for researchers to come up with a plan to conduct a study in the form of video-based multimedia development so that the needs of students can be facilitated in an effort to increase their learning motivation, therefore researchers carried out a Video-Based Multimedia Development of Javanese Language Subjects Maca Geguritan Material Through the Dick and Carey Model at SMPN 23 Surabaya.

The objectives of this development are to (1) Produce video-based multimedia for Javanese subjects, class VII maca geguritan material as a learning support media, (2) Know the effectiveness of using video-based multimedia for Javanese subjects, class VII maca geguritan material as a learning support media, and (3) Know the attractiveness of using video-based multimedia for Javanese subjects, class VII maca geguritan material as supporting media Learning.

## II. METHOD

The research that researchers do is a type of development research and the type of data is quantitative and qualitative data. This research is in the form of a Video-Based Multimedia Development of Dick and Carey Model Maca Geguritan Material at SMPN 23 Surabaya. The development model used in this study is using the Research & Development (R&D), Dick and Carey development model. The Dick and Carey model [10][11], focuses the stages of overall improvement on the design and model of procedural learning systems. The researcher chose the Dick and Carey development model because it is in line with the title of the research conducted by the researcher is to develop Video-Based Multimedia Maca Geguritan material in accordance with the explanation described by [10] Dick and Carey's model with the stages of the video multimedia development process is a model that is mostly used by learning designers in the world of education.

The model proposed by Dick and Carey describes a fundamental design process, the nature of which is very detailed and neat, comprehensive, and reflective-evaluative. The development model carried out by this researcher also has various types of advantages such as quotes from [10], namely: (1) the flow of model development

is clear, detailed, and comprehensive, (2) the steps of model development are critical reflective, and (3) the learning system uses a design model developed in trials in learning conditions with tiers ranging from limited, broad stages, up to validation test.

The procedure of Dick and Carey's model research is to have ten stages in the development of Dick & Carey, namely: (1) identify instructional goals, (2) conduct instructional analysis, (3) analyse learners and contexts, (4) write performance objectives (formulate specific objectives), (5) develop assessment instruments (develop instruments) assessment), (6) develop instructional strategy (develop learning strategies), (7) develop and select materials (develop and select learning materials), (8) design and conduct formative evaluation of instruction, (9) revise instruction, (10) design and conduct summative evaluation. The flow of the development process of Video-Based Multimedia Maca Geguritan material according to Dick and Carey, is described with the chart below [11]:

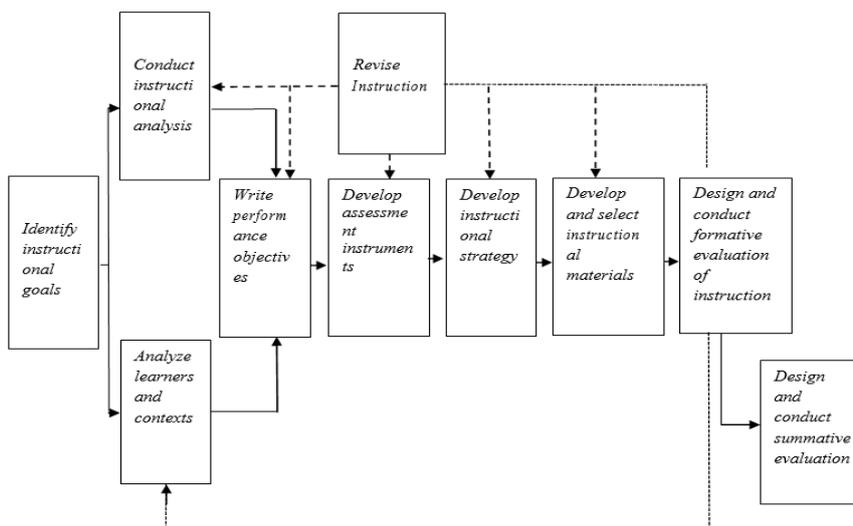


Figure 1 Research Model Chart and Dick & Carey Development [11].

The results of the distribution of expert test questionnaires, student and peer trials will be obtained data and will be processed with descriptive statistical analysis techniques in the form of percentage descriptive forms. This descriptive statistical analysis technique uses a formula to calculate the percentage of the results of each questionnaire from expert test subjects and trials as below [11][12]:

$$Percentage = \frac{\sum(R \times O_1)}{N \times O_2} \times 100\% \tag{1}$$

Where :

- R : Choice Answer
- N : the overall number of aspects observed
- O<sub>1</sub> : Preferred weights
- O<sub>2</sub> : Highest weight

The level qualifications below are used to provide meaning and make decisions in product revision activities, while the level qualifications have the criteria below:

Rating scale	Classification	information
81%-100%	Excellent	No Revisian Required
61%-80%	Good	No Revisian Required
41%-60%	Enough	Revisian Required
21%-40%	Not Good	Revisian Required
0%-20%	Very Unkind	Revisian Required

The test subjects in this study were content experts, design experts, media experts. The target trial in this development is the target for users of products developed by developers, namely students in Javanese subjects in grade VII SMPN 23 Surabaya. In this trial, the target includes one student is an individual trial, 9 small group students who have smart, medium, and less criteria, then a field trial of 21 students, as well as one colleague. In the

development of Multimedia Based Video Material Maca Geguritan, the selection of test subjects is based on random pilots and is carried out using a lottery method, because of limited time, energy, and cost. According to the sample is a part of the characteristics and number of the population [10]. The sampling technique is probability sampling which is a type of simple random sampling, [10] is a sampling technique that provides equal opportunities for each element or member of the population (all students of Class VII-E at SMPN 23 Surabaya) who are selected as sample members.

### III. RESULT AND DISCUSSION

Data and data analysis will be presented in this chapter successively starting from the results of reviews by content experts, design experts, media experts and peers. Data obtained from the results of the assessment of the feasibility of learning content, design feasibility, media feasibility, peer feasibility, individual, small group and field trials on the feasibility of this learning product are presented for analysis based on the assessment formula adopted from the National Education Research and Development Agency Curriculum Center in 2007. Based on this analysis, it will be known the shortcomings or ineligibility of learning content, the feasibility of learning design and the feasibility of products that have been prepared by researchers. The next step is to revise or improve what is suggested by the assessor so that this product is suitable for use by teachers of Javanese Maca Geguritan Material at SMPN 23 Surabaya. Thus, this product will be beneficial for students in the school.

#### 1. Content Experts

Content expert data is obtained from experts in the field of Javanese language based on the consideration that the content experts in the field of study have competent experts in the field of Javanese Maca Geguritan material. So that references or references can be made for the improvement of student worksheets. Data analysis based on the results of the questionnaire can be seen from Figure 2:

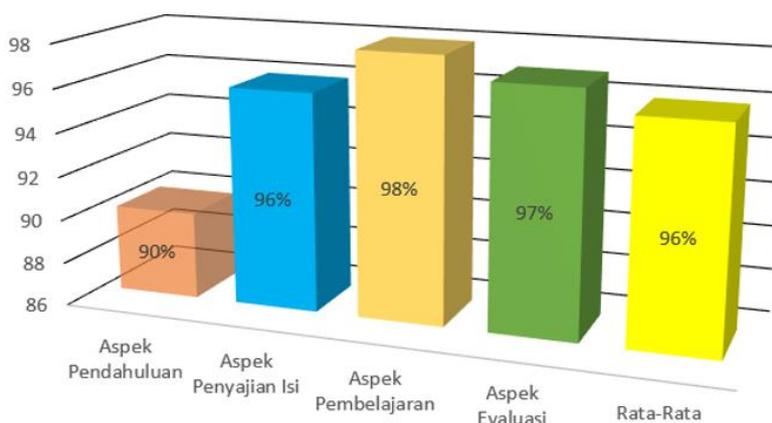


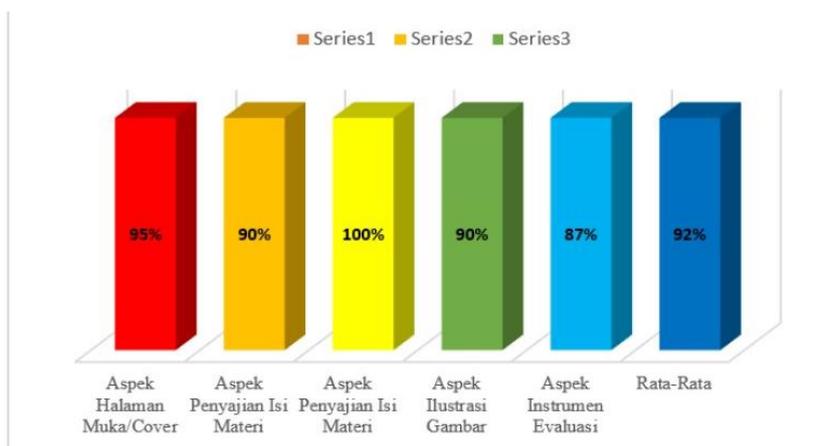
Figure 2. Analysis of Assessment of Teaching Materials by Content Experts

Based on graph 1 on the Feasibility Scoring Analysis of Learning Content which has 4 assessment aspects, namely the preliminary aspect, the content presentation aspect, the learning aspect, the evaluation aspect with 28 aspect indicators outlined The score obtained from the questionnaire is 135 and this score if according to the determination of the criteria adopted from the National Education Development Research Agency Curriculum Center (2007) is in the range of up to 96%. So the feasibility of design experts on video-based multimedia Javanese subjects maca geguritan material SMP Class VII Using the Scientific Approach of the Independent Curriculum at SMPN 23 Surabaya means that it is suitable for students.

According to content experts, things that need to be improved are: learning videos are in accordance with educational materials and technology. The material provided is also coherent, but there are still some terms in the Indonesian, the terms should be given information in Javanese as an addition to student knowledge.

#### 2. Design Expert

Design expert questionnaire data obtained from design experts for revision of video-based multimedia products Javanese subjects maca geguritan material can be seen in figure 3.

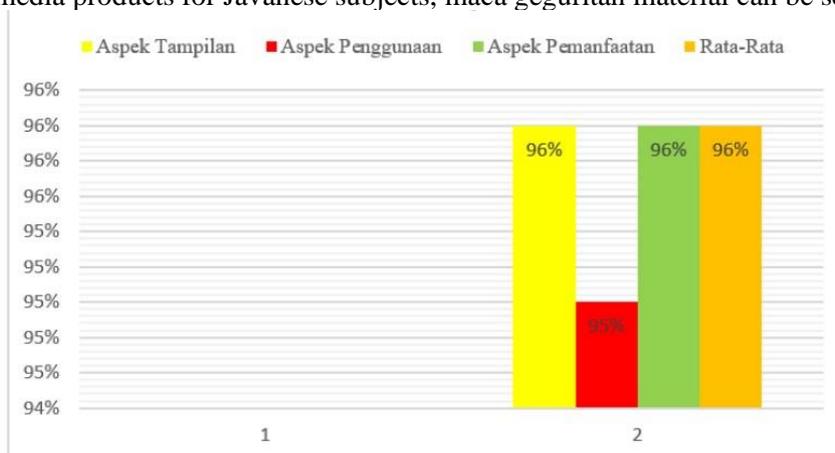


**Figure 3.** Analysis of Assessment of Teaching Materials by Design Experts

According to design experts things that must be improved: (1) Images should be annotated, (2) Systematics of writing, and (3) Fonts according to standards. Based on figure 4 on Learning Design Feasibility Scoring Analysis which has 5 assessment aspects, namely cover page aspects, content feasibility aspects, material content presentation aspects, image illustration aspects, evaluation instrument aspects with 18 aspect indicators outlined in the questionnaire. The score obtained from the questionnaire is 83 and this score if according to the determination of the criteria adopted from the National Education Development Research Agency Curriculum Center is in the range of 92%. So the feasibility of design experts on video-based multimedia Javanese subjects maca geguritan material SMP Class VII Using the Scientific Approach of the Independent Curriculum at SMPN 23 Surabaya means that it is suitable for students [11].

### 3. Media Expert

Learning media expert data obtained from media experts and content expert questionnaire data for revision of video-based multimedia products for Javanese subjects, maca geguritan material can be seen in figure 4.



**Figure 4.** Analysis of Assessment of Teaching Materials by Media Experts

According to Media experts things that need to be improved: (1) Using the auto play format when the video is distributed using VCD, (2) Slowing down the part that is the focus of student scrutiny so that students can take notes again and be easy to understand, (3) In the quiz section the time counts down, (4) The assignment link link is made clearer so that it is easy for students to read.

Based on figure 4 on Learning Media Feasibility Scoring Analysis which has 3 assessment aspects, namely the display aspect, the use aspect, the utilization aspect with 24 aspect indicators outlined in the questionnaire. The score obtained from the questionnaire is 115 and this score if according to the determination of the criteria adopted from the National Education Development Research Agency Curriculum Center is in the range of up to 96%. So the feasibility of media experts on video-based multimedia Javanese subjects maca geguritan material Using the Scientific Approach of the Independent Curriculum at SMPN 23 Surabaya means that it is suitable for students [11].

#### 4. Goal Testing

##### a. Individual Trials

Data was taken from Class VII-E SMPN 23 Surabaya, using questionnaires from 3 selected students. This trial data is useful in testing the quality of various elements of learning materials contained in video-based multimedia Javanese subjects, maca geguritan material that is being developed and to correct existing deficiencies in Video-Based Multimedia Javanese Language Subjects, Maca Geguritan material. The results of data analysis can be seen in figure 5.

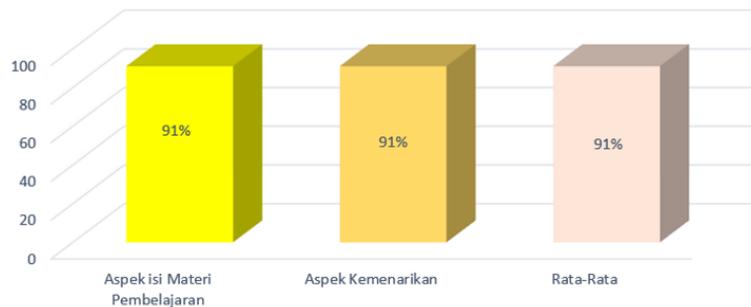


Figure 5. Results of individual trial questionnaires

Based on figure 5 Student Questionnaire Results on Learning Content Feasibility Scoring Analysis which has 20 aspects of interest and aspects of learning material content. The score obtained from the questionnaire can be seen as a percentage of eligibility of 91%. So the feasibility of video-based multimedia Javanese language subjects maca geguritan material at SMPN 23 Surabaya means that it is very feasible to be used for students in learning.

##### b. Small Group Trials

Data was taken from Class VII-E SMPN 23 Surabaya, using questionnaires from 9 selected students. This trial data is useful in testing the quality of learning material elements contained in video-based multimedia Javanese subjects, maca geguritan material that is being developed and to improve existing shortcomings in Video-Based Multimedia Javanese Language Subjects, Maca Geguritan material. The results of data analysis can be seen in figure 6.

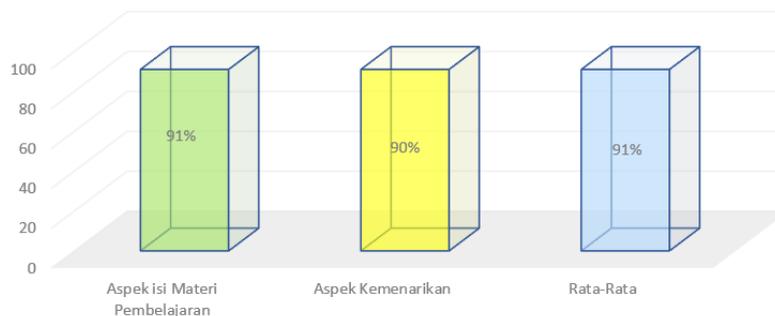


Figure 6. Results of Small Group Trial Questionnaire

Based on figure 6 of Student Questionnaire Results on Learning Content Feasibility Scoring Analysis which has 20 aspects of interest and aspects of learning material content. The score obtained from the questionnaire can be seen as a percentage of eligibility of 91%. So the feasibility of video-based multimedia Javanese language subjects maca geguritan material at SMPN 23 Surabaya means that it is very feasible to be used for students in learning.

##### c. Uji Coba Lapangan

Data was taken from Class VII-E SMPN 23 Surabaya on the date, using questionnaires from 21 selected students. This trial data is useful for testing the quality of learning material elements contained in video-based multimedia Javanese subjects, maca geguritan material that is being developed and is useful in correcting shortcomings in Video-Based Multimedia Javanese Language Subjects, Maca Geguritan material. The results of data analysis can be seen in figure 7.

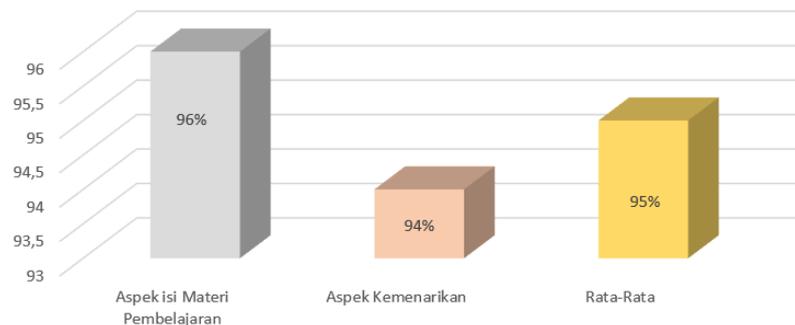


Figure 8 Field Test Questionnaire Results

Based on figure 7. Results of Student Questionnaire on Learning Content Feasibility Scoring Analysis which has 20 aspects of assessment, namely aspects of interest and aspects of learning material content. The score obtained from the questionnaire can be seen as a percentage of eligibility of 95%. So the feasibility of video-based multimedia Javanese subjects maca geguritan material at SMPN 23 Surabaya means that it is very feasible to be used for students in learning.

#### d. Peer Testing

The results of the peer questionnaire get a percentage of eligibility of 95%. These results show that Video-Based Multimedia Javanese language subjects maca geguritan material at SMPN 23 Surabaya can help students in the learning process. Based on the findings from the analysis stage presented in the results of the study, it is known that students find it difficult to understand the information presented, learning media is only limited to books and texts, the appearance is less attractive so that students are not interested. Bored of learning, and it is necessary to develop learning media that can make it easier for students to learn.

In the student analysis session, it is known that students want learning media that can make it easier for students to go to learning activities so that they are more interested and not bored in learning the material. The selection of video-based multimedia Javanese subjects maca geguritan material is a support for learning media developed because it is known to make it easier for students to learn and has an attractive appearance so that students in Javanese language lessons maca geguritan material appear feelings of liking.

Video-based multimedia Javanese subjects maca geguritan material in learning activities can be used as a tool in the teaching and learning process because learning videos are media that have elements of sound, animation, and motion. When the analysis on the problem has been obtained, the developer carries out further activities, namely in choosing learning videos as learning video media [13][14][15].

The next stage after the analysis stage is the stage of designing activities which includes designing formats in planning learning videos. In the predetermined framework, planning starts from the framework of the learning video title, learning objectives and analysis of learning objectives, material content, and videos then after the design framework is successfully completed then proceed to the video editing stage. After doing all the new design, proceed to the evaluation stage about what needs are needed at this design stage which designs based on the elements above.

The next stage is to go to the stage of developing media that is created based on the existing planning in the design stage of making learning video media which starts from the design of story ideas to the video editing stage and continues with evaluating from material, media, and design experts called validation.

The input obtained from experts is to get suggestions in order to improve the learning videos that are being developed. Input from experts and education practitioners is used as a reference in making improvements. Not only that, the activity of filling out the validation questionnaire will also ensure the feasibility of the media so that it can be tested on students. Improvements are made by developers with the aim of producing a viable video development product. Products that have been developed are then improved on components that must be revised in the media, for example color changes contained in the unit ladder to make it look very attractive, the volume of sound is increased so that it is clearer and other components that must be repaired.

The validation results obtained from content experts in the development of video-based multimedia material maca geguritan get the category "very decent" with the resulting percentage results are an average of 96%. The design expert's assessment on the development of video-based multimedia material maca geguritan is included in the "very feasible" category with an average percentage of 92%. These results are also in line with the results of

media experts' assessments on the development of video-based multimedia material maca geguritan which is included in the "very feasible" category with a percentage of 96%. Field trials can be done if the assessment of experts obtains a minimum score with good category, so that these results can be continued into the next stage of research [16]. The next activity after revising the product from expert input is testing to students. The stages carried out above are the implementation stage. The results of student trials on maca geguritan material learning videos received results in the category of "very feasible" with an average of 91% in individual and small group trials and obtained 95% results in field trials. Because the product developed by the researcher according to the target trial of students and peers is good, at this stage the product does not undergo revision

#### IV. CONCLUSION

Based on the results of research on Video-Based Multimedia Development of Javanese Language Subjects Maca Geguritan Material at SMPN 23 Surabaya can be concluded several things, namely: (1) Video-Based Multimedia Development of Javanese Subjects Maca Geguritan material is developed based on the analysis of teacher and student needs, (2) The results of validation from experts, namely material experts, media experts, and design experts on Video-Based Multimedia development products Javanese Language Subjects Material Maca Geguritan gets results with criteria that are very feasible to use, (3) Sourced from the results of research on the development of Video-Based Multimedia Javanese Subjects Maca Geguritan Material can be concluded that Video-Based Multimedia learning media Javanese Subjects Maca Geguritan material can be used in the process of developing the ability to design creative, innovative, and interesting learning.

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