# Development of Learning Media Using the Sparkol Videoscribe Application on Measuring Tools at Vocational High School

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## ABSTRACT

This Study aims to (1) produce video learning media, how to use, and read measuring results, maintenance and repair of each measuring tool; (2) knowing eligibility the video learning media using the sparkol videoscribe application;(3) knowing the student respond. This research includes research and development. The development model this study refers to the Borg and Gall model and is simplified by the team into 5 steps with stages 1) Product Analysis; 2) Product Development; 3) Expert Validation and Revision; 4) Small Group Trials; 5) Large Group Trial And Product End. The development of learning media is declared possible to be used for learning with the results of media experts of 3.13 and content experts of 3.33. Student Responses based score of the small group trials result of 3.29 and large group trials results of 3.32. Based on these assessments and response, the media developed is suitable use for learning.

**Keywords**: Sparkol videoscribe, Learning media, Measuring tools

**INTRODUCTION**

Learning as a system consists of sub-systems, namely components such as students, objectives, methods, media, and assessment [1]. Because learning is a system, the success of learning is largely determined by the effectiveness of each component that will be used. Learning media occupies a fairly important position in learning, because basically the learning process is a communication process, and the communication process requires a media as an intermediary.

Learning media is everything that concerns software and hardware or tools and materials that can stimulate the thoughts, feelings, concerns, and interests of learners so that they can be used to streamline and streamline the learning process, convey the content of teaching materials from learning resources to students to achieve learning objectives . According to Soenarto [2] Learning media is anything that can convey and distribute messages from sources in a planned manner so as to create a conducive learning environment where the recipient can carry out the learning process efficiently and effectively. In addition, the benefits of learning media according to Arsyad Azhar [3] the benefits of learning media in the learning process for students are; a) learning will attract the attention of students so that it can foster student learning motivation, b) teaching methods will be more varied, c) students can do more activities not only listening to descriptions from the teacher but also other activities such as observing, doing, acting, demonstrate, and so on.

Classification of learning media is divided into 4 parts, according to Satrianawati [4][5] he types of media in general can be divided into 4, namely visual media, audio media, audio visual media, and multimedia. In its use, learning media has a function, namely visualizing something that cannot be seen or is difficult to see so that it is clear and can lead to understanding or increase one's perception [5][6].

The subject of Basic Automotive Engineering class X, especially measuring instruments, is a combination of theory and practice learning, with this, educators are required to be able to make material that will be delivered for theoretical learning well and attract students' interest, and be remembered by students later. The majority of students have *smartphones* to be able to access various learning resources from the internet, so learning media are needed that can be accessed by students via *smartphones* or laptops, for example video learning media, text video learning media, E-Module learning media, etc.

Based on interviews conducted with teachers who teach Basic Automotive Engineering subjects at Industrial Vocational

Schools in Yogyakarta, learning is carried out using the *Google classroom*, then the learning media used for online learning only uses *Power Point*. With the learning media used by educators, it is known that students have difficulty understanding the material so that the evaluation test results are also low, lack of motivation to take part in learning when online learning takes place, lack of interesting learning media to attract students' interest in online learning takes place.

Automotive basic learning is carried out online, using power point media, occasionally educators also use original measuring tools to demonstrate the material presented. With these media learning is not effective because students have difficulty understanding the material presented and students are also less interested in the media used by educators when explaining learning materials. In connection with this, it is necessary to renew the learning media used so that learning is not centered on educators and students are also interested in learning and attract students' interest in following learning.

Measuring instrument material will be easy to understand and students will also be interested in learning if it is presented in a flexible, practical interesting, and curious way rather than learning measuring tools. One of them is using text video learning media that can be accessed using *a smartphone* or laptop by each student. In addition, students can also repeat the material presented by the educator independently with the flexible nature of the learning media developed.

Competencies that must be achieved by students in the Basic Automotive Engineering subject are identifying and using measuring instruments according to their functions, how to read measurement results, maintenance and repair of measuring instruments. The material for measuring instruments is written in the syllabus as follows:

**Table 1**. Measuring instruments

| Competency | Indicators |
|---|---|
| 1. Identifying the types of mechanical measuring instruments and their functions | • Types, specifications and functions of mechanical measuring instruments |
| 2. Using mechanical measuring instruments according to the *operation manual* | • Use of mechanical measuring instruments |
| 3. Identify the types of electrical and electronic measuring instruments and their functions. | • Types, specifications and functions of electrical and electronic measuring instruments |

| | |
|---|---|
| 4. Using electrical and electronic measuring tools according to *manual operation* | • Use of electrical and electronic measuring instruments |
| 5. Identify types of pneumatic measuring instruments and their functions. | • Types, specifications and functions of |
| 6. Using pneumatic measuring tools according to *operation manual* | • pneumatic measuring tools Use of pneumatic measuring tools |
| 7. Explaining maintenance of measuring instruments | • System for maintaining measuring instruments |
| 8. Taking care of measuring tools according to SOPs and *service manuals* | |

Learning media was made using the sparkol videoscribe application and the application *wondershare Filmora* as *editing*. The sparkol videoscribe application is a video maker application that is very easy for us to learn and its ability to make videos very simply makes it easy for users to make videos. In use, the Sparkol Videoscribe application is a handwriting animation application that is tailored to your needs. In this case, this application can help in making learning media depending on the level of creativity.

The objectives to be achieved in this research are 1) to produce video learning media for measuring instrument text using the sparkol videoscribe application; 2) determine the feasibility of the measuring instrument text video learning media using the sparkol videoscribe application; 3) knowing the response of students about the video learning media, measuring instrument text using the sparkol video scribe application.

**RESEARCH METHOD**

This research includes Research and development (R&D) research with a 4-D development model [7] [8], 4 steps, namely: 1) define; 2) design; 3) develop; 4) Dissemination. The research subjects are lecturers of the UST Mechanical Engineering Vocational Education study program, teachers of Basic Automotive Engineering subjects, students of class X TKRO, Industrial Vocational High School Yogyakarta. The research instruments used in this study were questionnaires and interviews. Questionnaire is a data collection technique that is done by giving a set of questions or written statements to respondents to answer [9]. Interview according to Nana [10] s a data collection technique that is carried out orally in individual face-to-face meetings. Sometimes interviews are conducted in groups. media of

measuring instrument text using the sparkol videoscribe application *is* declared valid if the minimum response from students and *expert judgment* is good/decent. The assessment category is in the form of statements of SB (Very Good), B (Good), K (Poor Good), SK (Very Poor). Then it was changed according to the *Likert*, namely: SB=4, B=3, K=2, and SK=1. Below is a table for converting quantitative to qualitative values [11][12]

**Table 2**. Converting quantitative to qualitative values

| Average score | Category classification |
|---|---|
| $3,25 \leq \bar{X} \geq 4$ | Very good |
| $2,50 \leq \bar{X} < 3,25$ | Good |
| $1,70 \leq \bar{X} < 2,50$ | Not good |
| $1 \leq \bar{X} < 1$ | Very not good |

**RESULT AND DISCUSSION**

This study aims to produce a product in the form of text video learning media created using the sparkol videoscribe and wondershare applications filmora as an editing. The development steps in this study refer to the 4-D development model into four steps, namely: 1) define; 2) design, 3) initial product development; 4) dissemination**.**

**Define**

Analysis phase begins with an interview with the teacher in charge of Basic Automotive Engineering subjects. After the interview, the next step is to analyze the curriculum and syllabus used so that later the media developed is more focused and not wide and in

accordance with the material presented by the supporting teacher. At this stage of product analysis, the material used must also be considered for inclusion in the developed media, besides that the material must also be aligned with the syllabus and in accordance with the competencies and indicators that must be achieved in the Basic Automotive Engineering subject, especially tool material. measuring.

**Design and Develop**

At this initial product development stage, the researcher conceptualizes and makes a guide for making learning media or manual books. By conceptualizing and making manuals, it is hoped that the contents of the learning media are not too broad or not out of topic and in accordance with the target user. This stage also includes the preparation of an outline of the media content, designing the content of the material, and making the design of learning media. Making learning media using the sparkol videoscribe is adjusted to the criteria for use and writing rules that are in accordance with good and correct Indonesian writing. The process of making learning media using the Sparkol Videoscribe application must be entered into the application one by one, starting from inserting animations, images, text, etc.

The learning media realized by the researcher is in the form of a technology-based running text video that can be downloaded

using a laptop or *smartphone* which on average every student has it.

At this stage of production, the steps involved are as follows:

a.  Making Intros

Researchers choose intros by making their own, namely *downloading the background* and choosing the type of *font* that has also been provided free of charge by the application itself. Then enter the *editing*, colour adjustments, *font* and size selection, adding the university logo.
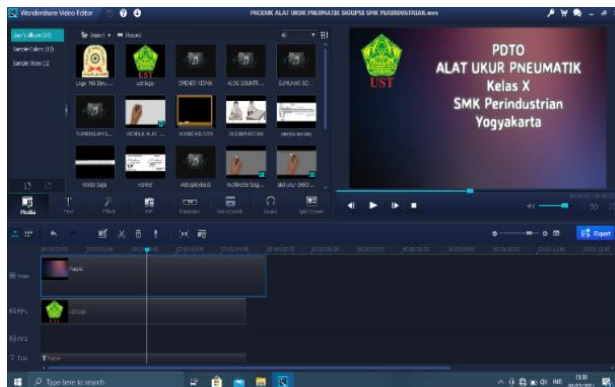


**Figure 1**. Making an intro using the wondershare Filmora

b.  Selection Background

The next step, namely the selection of the *background* so that later the *background* with the color of letters and images is not the same color. In addition to the *background*, the selection of hand and pencil animations must also be considered.
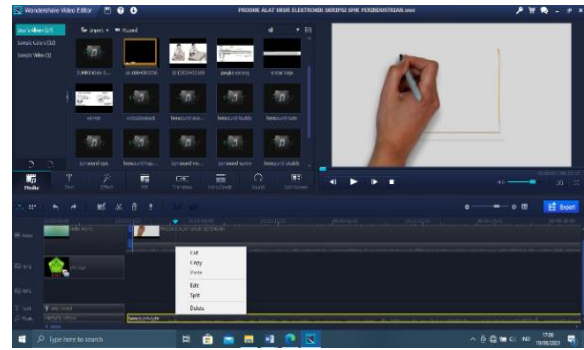


**Figure 2.** Background

c.  Preparation of Material Text

At the stage of preparing this material, the process of compiling this material refers to the syllabus. The material included in the learning media was taken from several sources, namely the Automotive Engineering Basic Work Module from the Directorate of Vocational Development in 2013 and published by the Ministry of Education and Culture in 2013, New Step 1 Toyota Training, and the measuring instrument module.

d.  Selection of background music and *Dubbing*

This selection of music consists of Intro music and background music. Intro music and background music are obtained by *downloading* from *link* that can be downloaded for free and adapted to future needs. Next, make a recording with adequate tools and in harmony with the running text. Learning media developed is suitable for use for learning.
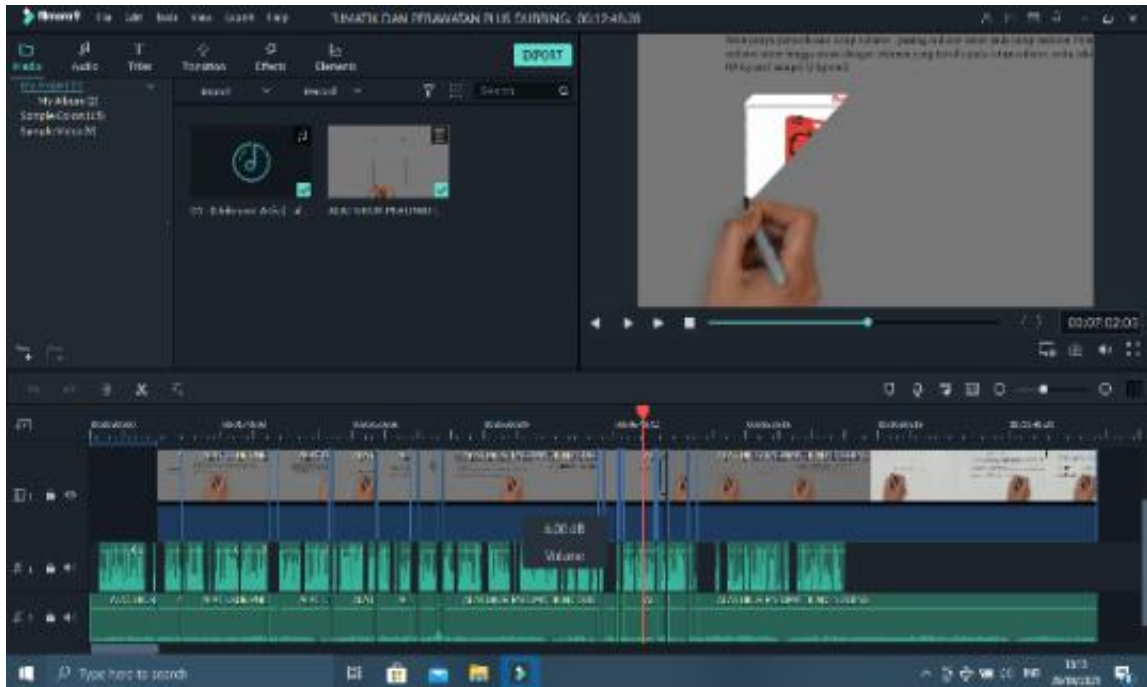
**Figure 3.** Editing back sound and *dubbing*

e. Closing

The closing at the end of the text video contains the author's biodata profile.

f. Validation of material experts and media experts

The validation stage is the assessment stage of the experts to the learning media developed by researchers [13][8]. Validation is carried out with the aim of asking for feedback from experts to improve the product being developed. Validators are asked to fill out a previously created questionnaire. The feasibility of this learning media is stated from the results of the development and assessment of material experts and media experts as well as revisions. Based on the results of the validator's assessment and the results of data

processing carried out, it is stated that the learning media developed is suitable for use for learning.

The learning media has also been revised or improved to improve the lack of media. This material expert validation is proposed to assess the material in this learning media according to competence and according to the needs of the learner. The assessment from the material expert includes the assessment of the concept of truth aspect getting a score of 3.17, the linguistic aspect getting a score of 3.25, the presentation aspect getting a score of 3.4, and the management aspect getting a score of 3.5. The average total score of the assessment results from material experts is 3.33.
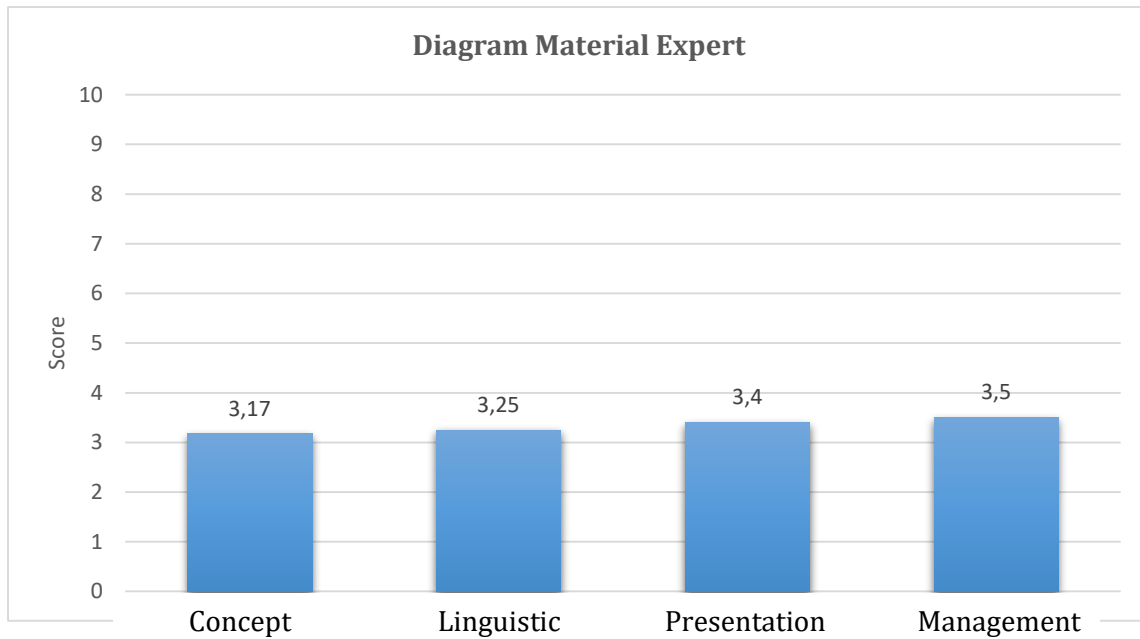
**Figure 4.** Diagram material experts

Media expert validation is proposed to find out how the learning media developed is suitable for use for learning which is assessed in terms of the *flexibility* of the learning media, layout, image selection, font selection, and so on [7]. The assessment from media experts includes the assessment of the aspect of the truth of the concept getting a score of 3, the linguistic aspect getting a score of 3, the presentation aspect getting a score of 3, and the management aspect getting a score of 3.5. The average total score of the results of the media expert's assessment got a score of 3.13. The advice of media experts is broadly expressed in the lack of audio or sound from the recording. As for the advice from media experts, namely the voice is not clear, you should just change the contents of the voice actor. Find a friend or person with a clear voice.

The next step is to improve on the advice of media experts by recording using a more specific tool and recommending. Based on the assessment of material experts and media experts above, the media developed is suitable for use for learning. The results of the feasibility assessment from media experts and material experts can be seen in the image below:
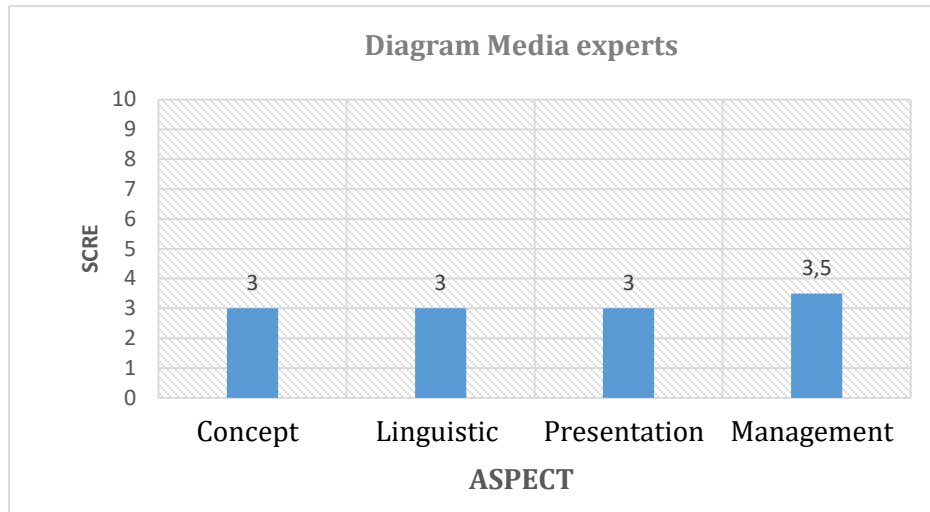
**Figure 5.** Diagram media expert

**Dissemination**

Scale trials were carried out with the aim of knowing understanding and opinions about the developed media which will later be used for the learning process for students [14]. Small-scale trials were tested on 6 students. Aspects of student assessment include 4 aspects, namely aspects of presentation, aspects of media display, linguistic aspects, and aspects of the feasibility of content (material)[14][15].

The results of the small-scale trial from the presentation aspect got a score of 3.31, the media display aspect got a score of 3.28, the linguistic aspect got a score of 3.25, and the content feasibility aspect got a score of 3.33. The results of the average total score from small-scale trials get a score of 3.29.
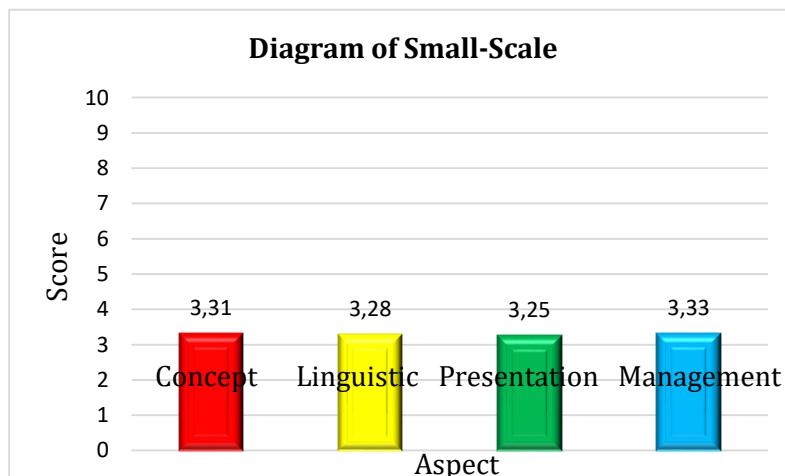


**Figure 3.** Diagram of small-scale

After the developed product has been validated by media experts, material experts, and small-scale trials and some improvements or revisions, the next step is large-scale trials. Large-scale trials are testing learning media to students to determine the feasibility level of the media itself [16]. Large-scale trials were carried out on students with a total of 20 students. Aspects of the assessment of this large-scale trial include 4 aspects, namely the presentation aspect, the media display aspect, the linguistic aspect, and the content feasibility aspect [17]. he results of the large-scale trial conducted, namely the presentation aspect got a score of 3.26, the media display aspect got a score of 3.33, the linguistic aspect got a score of 3.28, and the content feasibility aspect got a score of 3.4. The average total score of the results of large-scale trials gets a score of 3.32. The diagram of the results of large-scale trials can be seen in the image below.
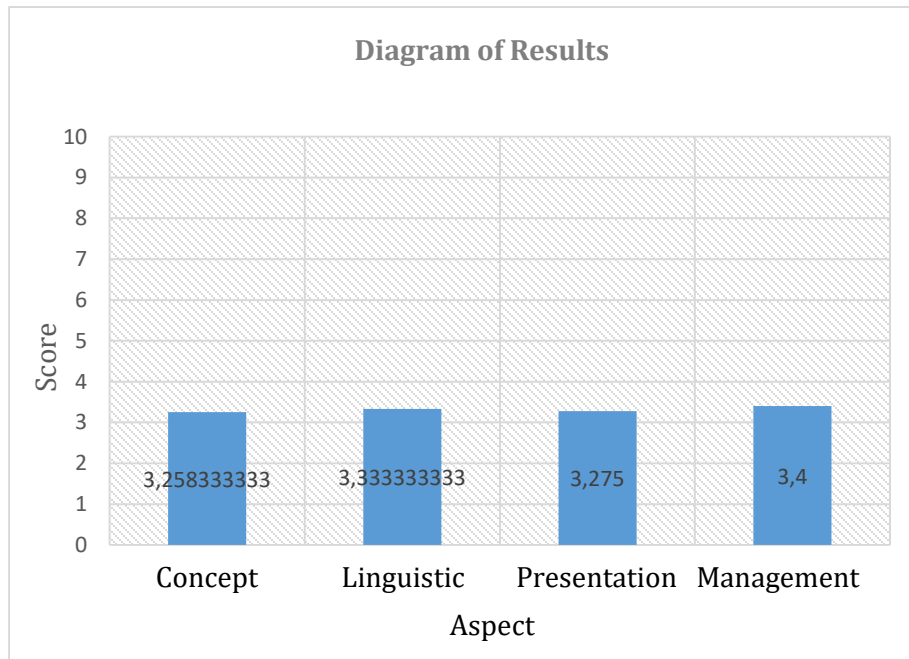


**Figure 7.** Diagram of results

## CONCLUSION

This development research produces learning media products in the form of videos stored on Google drive and can be accessed using a laptop or computer and using a smartphone, with a total size of approximately 1.3 GB. Details of the size of the video learning media for part 1 of mechanical measuring instruments of 360 Mb, part 2 of electronic measuring instruments of 480 Mb, and part 3 of pneumatic measuring instruments of 480 Mb. Learning media Text video created using the sparkol videoscribe and Whondershare Filmora as software editing with mp4 video

format. The duration of the developed media is approximately 30 minutes.

The result of this research is the measuring instrument learning media using the sparkol videoscribe application in the form of text videos. The development of learning media is declared feasible to be used for learning with the average score of media experts is 3.13, material experts is 3.33. Student responses are based on the average score of the small-scale trial results of 3.29 and the average score of the large-scale trial results of 3.32. Good learning media that can increase the activeness and enthusiasm of students' learning [18][19]. Based on these assessments and responses, it is concluded that the media developed is suitable for use in learning.

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