Fostering Accounting's Learning Outcomes through Video Scribe in Vocational High Schools

Dhany Efita Sari, Angga Aji Nugroho, and Yuliati

Abstract—**This study aimed to develop a video scribe sparkol learning media on accounting services company at SMK Muhammadiyah 2 Klaten Utara and test their effectiveness on learning outcomes. This is a research and development approach using 4D design (Define, Design, Development, Disseminate). Quasi-experimental research method conduted to test the effectiveness of video scribe on learning outcomes. t-test (independent samples) is used to test the effectiveness of video scribe media on learning outcomes by comparing the learning outcomes of control and experimental groups (normal distribution). The results showed that there was a significant difference between the means student learning outcomes in the control and experimental groups when the posttest conducted (after treatment). With the following test results, t value > T table, i.e $2.212 > 2.024$, or seen from Sig (2 –tailed, the result of p value is $0.03 < 0.05$. The results of this study can be a reference material for other researchers related to the use of video scribe in learning that has a positive impact on student learning outcomes.**

Index Terms—**Video scribe, accounting education, learning outcome.**

I. INTRODUCTION

Education has a goal to produce human resources who are able to compete in the development of the global world. In the world of education, there is a learning process called transfer of knowledge from teacher to student [1]. The process of learning will be ideal when it is implemented correctly. It is said that learning can facilitate the learning process, create innovation in learning, and engage students and facilitate students' understanding of the material [2].

Muhammadiyah Vocational High School 2 North Klaten or we call it SMK Muhammadiyah 2 North Klaten is located in Klaten Regency, Central Java, Indonesia, this school was chosen as a place of research. In the implementation of the learning process, SMK Muhammadiyah 2 Klaten Utara in implementing the learning process still uses conventional methods with the lecture method. The teacher conducts learning by using a service company accounting manual for eleventh grade, the learning process carried out in the conventional way is less varied, resulting in students becoming less focused and often talking to themselves with friends so that the learning process is not conducive.

Based on these problems, learning media can be used as one solution to overcome these problems. Learning media is one of the facilities in the world of education that can help

teachers in the learning process [3]. Through learning media suitable with the needs, it can facilitate teachers in implementing learning process to achieve the goals. In the modern era like today, many learning media are developing, one of which is video scribe, which is learning media that uses video-based technology.

In this development research, the product developed is a scribe sparkol video learning media, which is an animated video-based learning medium with a white background, and operates by displaying learning material on video. Video scribe appeared in 2012 created by Sparkol Company in the UK, this software was developed and began to be used in general [4], [5]. Hudaidah (2017) stated that, sparkol video scribe is a web-based application provided by users to create animated presentations. In addition, according to Indriyani, video scribe is a media that makes a unity between images, slides, videos, and added to the sound one of them is sparkol video scribe-based media that is able to make videos in the form of animation, images, writing and sound [6]. Therefore, sparkol video scribe is an animated video-based learning media with accompanying voice, writing, image and dubbing features that can be used in the learning process [7], [8].

This study aims to analyze the conditions before the use of video scribe sparkol learning media and after the use of video scribe sparkol learning media, and analyze the specifications of the media created and test the effectiveness of scribe sparkol video products on student learning outcomes.

II. METHODS

A. Participants

Participants in the research and development are students of class XI Accounting SMK Muhammadiyah 2 Klaten Utara in the 2018/2019 school year consisting of 3 classes with a total of 60 students. So each class there are 20 students who participated in this study.

B. Sampling Techniques

The sample used in quasi-experimental uses purposive sampling, which is one of the non-random sampling techniques, where the sampling is done not randomly. Purposive sampling technique to determine the research sample with certain considerations aimed at making the data obtained later more representative [9]. The sample used in the study was 60 students from class XII Accounting SMK Muhammadiyah 2 North Klaten in the 2018/2019 academic year which was divided into 3 classes consisting of 20 students in each class.

C. Research Design

This study uses quasi-experimental methods, namely experimental activities aimed at finding a symptom or effect that arises, as a result of the existence of certain treatments [10]. Pretest-posttest control group design is used by using one class as a control class, using traditional learning, and one class being an experimental class given intervention in the form of using video scribe sparkol media.

D. Development Design

The development model in this research is Reseach and Development using 4D design namely Define, Design, Development and Disseminate. In this study only three stages were carried out and the spreading stage was not carried out due to the short research time and the research which was only carried out within the scope of SMK Muhammadiyah 2 Klaten Utara. According to Sugiyono (2017), research and development methods are research methods used to produce products while testing the effectiveness of certain products. Types of data obtained from interviews in the form of qualitative data and quantitative data from student learning outcomes after passing the post-test. The study was conducted with the model of the experimental class and the control class, namely the experimental class is a class that conducts learning by using video scribe sparkol learning media and the control class is a class that does learning without using video scribe sparkol learning media. From the two classes, tests were conducted to obtain data in the form of student learning outcomes to be compared between the experimental class and the control class.

Define Procedures

At this stage observations and interviews were conducted to obtain data that at SMK Muhammadiyah 2 Klaten Utara can be used for the development of sparkol learning media. Interviews were conducted to obtain responses and information, and need analysis to obtain the required data, interviews will be conducted with informants, namely accounting teachers of Muhammadiyah 2 Vocational School services in North Klaten. According to Sugiyono, researchers can use several interviews to obtain information [11].

Design Procedures

Planning is the stage where the sparkol video scribe begins to be designed, at this stage the validity test will also be conducted by media experts and material experts to be able to do field tests. The validity test is to obtain a product feasibility assessment using a 5 points Likert scale, namely: strongly agree, agree, neutral, disagree and strongly disagree [12]. Products that have passed the validity test from the material expert and the media expert will undergo a product revision before conducting the field test.

Development Procedures

At the development stage, a field test was conducted using sparkol video scribe products. The field test was conducted at SMK Muhammadiyah 2 Klaten Utara with the experimental class and the control class, by comparing the average student learning outcomes between those using video scribe learning media with conventional learning or traditional learning. Then the control and experimental class students were given a post-test, this was done to get quantitative data as a result of student learning. Posttest is an activity to give questions to students after going through learning.

Disseminate Procedures

The distribution phase is the stage where the product in the form of a sparkol video scribe is ready to be spread. The product has gone through various stages to produce a learning media that can improve student learning outcomes, the product will be disseminated to be used in the learning process as a scribe-based learning media.

III. RESULTS AND DISCUSSIONS

A. Results

The result of the research development is a product in the form of a learning media video scribe sparkol that can improve student learning outcomes. Sparkol scribe video learning media is scribe video-based learning media featuring animation, accompaniment and dubbing. According to Susanti (2019), video scribe appeared in 2012 created by Sparkol, a company in the UK, this software was developed and began to be used in general. Then Indriyani, sparkol video scribe is a media that makes a unity between images, slides, videos, and plus the sound one of them is sparkol video scribe-based media that is able to make videos in the form of animation, images, text and sound [6]. The use of this software in addition to an easy manufacturing process also produces an attractive appearance and is based on handwriting animation (Basuki 2018).

The sparkol scribe video in this study has been assessed by material experts and media experts to produce products that are feasible and can be used in the learning process. The results of the assessment by material experts get an average of 3.9 with "good" criteria and the material used does not get revised. The results of the assessment of media experts get an average score of 3.5 with the criteria of "good" but there are still improvements to the product in the form of sound effects that are too loud and letters that are too small and thin. Products that have experienced improvements from media experts have been improved before being used in field trials.

At the field test stage, the test validity and reliability of the questions were carried out by the class without treatment and showed, of the 15 questions used in the study there were 13 valid questions. The reliability test was conducted to test the consistency of valid items, table 3 shows the reliability result is 0.867 with high criteria.

TABLE I: RELIABILITY TEST RESULTS

Reliability Statistics	
Croncbach's Alpha	N of items
0,867	13

Normality test used *Kolmogorov-Smirnov* [13]. Data will be said to be normal if L count> L table or significance level> 0.05.

TABLE II: NORMALITY TEST RESULTS

Learning outcome		Kolmogrov-Smirnov		
		Statistic	Df	Sig
Value	Control class	.135	20	.200
	Experiment class	.140	20	.200

Based on the table it can be seen that the results of the normality test using the *Kolomogrov-Smirnorv* technique are normally distributed, this can be proven through the normality of the control class 0.200 > 0.05 and the normality test of the experimental class 0.200 > 0.05. Homogeneity test is done before the experiment with the aim to find out whether the learning outcomes come from the same population or not. Homogeneity test uses the *Levene Statistics* formula in Widianto (2014) with the application of SPSS for Windows version 23. The results are said to be homogeneous if the significance level is > 0.05.

TABLE III: HOMOGENITY TEST RESULTS

Levene Statistics	df 1	df 2	Sig
.219	1	38	.643

Based on these tables it can be concluded that the homogeneity test results are 0.643> 0.05, so the population in this study can be concluded homogeneous. After obtaining data that the homogeneous population and the data are normally distributed, an independent sample t-test was conducted to test the hypothesis in this study. The following table 4 shows the results of the independent sample t-test, with the test results known T value > T table, then the conclusion of this test means that null hypotheses are rejected.

TABLE IV: INDEPENDENT SAMPLE T-TEST RESULT

T value	T table	Sig.	Summary
2.212	2.024	.033	Null hyphoteses rejected.

The conclusion of the t-test can be formulated that there is a significant difference between the mean score of the learning outcomes of the experimental class and the control class. From the results of the post-test, we get t value> T table, i.e 2,212> 2,024, or seen from Sig (2-tailed, the result of p value is 0.03 <0.05.

B. Discussions

The learning process is a transfer of knowledge from teacher to student. One result of the learning process is in the form of grades or student learning outcomes. Learning outcomes are indicators of quality and knowledge possessed by students [14]. According to Pane & Darwis Dasopang, in learning and teaching activities, students are the subjects and objects of educational activities (2017). Meanwhile, the learning conditions at SMK Muhammadiyah 2 Klaten Utara still use conventional methods by way of lectures, it makes students become bored and difficult to concentrate and the learning takes place. According to Hamalik, the use of instructional media in the teaching and learning process can arouse new desires and interests, arouse motivation, stimulate learning activities, and bring biological influences on students [15].

Based on these conditions, this study developed a video-based learning media scribe with teaching materials from accounting services companies KD 3.1 for class XI which includes material about the introduction of service companies, service company characteristics, weaknesses and strengths of service companies. The purpose of developing sparkol video scribe media is to provide solutions in overcoming problems of students who have difficulty concentrating in learning and improving student learning outcomes.

Scribe video media are developed in various stages, products in the form of video scribes are assessed by media experts and material experts through expert validation sheets to get viable products. Learning media must be developed and assessed effectively with input from all stakeholders before broad implementation. So, it is important to use learning media so that learning runs well [16]. According to Sherin, video is a popular tool for teacher education and development professionals [17], then Rieger and Slocum, sharing conceptual memos accompanied by video recordings and transcripts that can provide feedback to groups of students. In this case various conceptual memos accompanied by the video can provide stimulation to groups of students to provide feedback on the material presented [18].

The choice of scribe video based learning media was chosen because scribe video based learning media was in accordance with technological and information developments. According to Wintbereik and Johannsen, the development of informatics techniques has also been felt by families, which makes video-based informatics techniques as an educational medium [19]. In Jacobs, and Seago's research on Wilfrie, the teacher uses video to promote knowledge content and knowledge as a way to develop pedagogical competencies. In addition, according to [20], Popular videos will be analyzed very often, Olcay (2012), reflecting video footage, teachers will develop a better understanding of the relationship between their language use and the learning opportunities they provide to their students. Thus, video scribe can be used as a learning medium as one solution to the problems of students who have difficulty concentrating in learning [21].

Scribe sparkol video learning media is an animated video that provides several features such as animation, effects and dubbing. According to [22], animation projects can teach students about animation and software and create content. Through the creation of animated content, video scribe can be used as a learning medium in the learning process. According to [23] Animation is also evidence of the development of science with a visual system [24], [25]. Therefore, in the video scribe sparkol learning media there are facilities that support the delivery of material in the form of animation. Scribe sparkol video learning media has various features, namely dubbing (voice acting), soung effect (accompaniment sound), animation (moving images). These features can be selected and combined to produce a video scribe product that can be used in the learning process. Media in the form of videos with sound and images can be used by teachers as mentors [26].

Based on some of these theories, this study develops sparkol video scribe learning media. After the product is declared suitable for use through the assessment of material experts and media experts, the research continues with field trials. The study was conducted in class XI AK 1 as a control class that is a class that does learning without using video scribe totaling 20 students, class XI AK 2 as an experimental class that is a class that carries out the learning process using video scribe sparkol learning media totaling 20 people and

classes XI AK 3 is a class without actions for question validation with a total of 20 students.

At the field trial stage, a post-test was conducted to obtain data in the form of learning outcomes which were used as a comparison between learning conducted using sparking video scribe learning media and classes that conducted learning without using sparking scribe video learning media. The average learning outcomes of the experimental class was 63.25 while the average learning outcomes of the control class was 51.5.

Dellyardianzah with her study entitled Using Video-Based Scribe Learning Media to Improve Student Learning Outcomes in Economic Subjects in class X SMAN 10 Pontianak, showed that from the results of the study, the average results of the experimental class 75.83 and control class 69.15. Students who complete the experimental class of 26 students. So that the use of media-based learning video clerks can increase income in economic subjects class X SMAN 10 Pontianak [27].

In line with Hudaidah, Kholidin and Safitri with their studies using sparkol scribe video learning media showed an average pretest result of 44.3 with a very low category and then an average posttest of 89.6 with a good category [28]. An increase of 45.3%. Then Munandar in his study also used scribe sparkol video learning media on moral subjects in MTSN 02 Raman Utara. The results of the study of the expert material assessment got a 88% feasibility score of 91% of media experts accompanied by very interesting teacher responses and the results of the small group test were 89% and the results of the field trials were 97%. This shows that the sparking video scribe learning media is accepted and becomes an interesting learning media in accordance with the changing times (2018).

Based on data analysis with reference to some relevant previous research, it can be concluded that the scribe video-based learning media can have an impact on the learning process and student learning outcomes. This can be known through the posttest results of the control class and the experimental class that is 51.50 compared to 63.25 with a difference of 11.75.

IV. CONCLUSION

The product developed in this study is a scribe video-based learning media using sparkol video scribe applications. Scribe videos are arranged with a white screen display with animations to convey learning material, there are accompanying sounds and images to provide innovation in the learning process and help students to understand the material.

There is a significant difference in the mean score of learning outcomes between the control group and the experimental group based on the results of the post-test given. The average student learning outcomes before using scribe video learning media is 51.50 while the average learning outcomes after using video scribe is 63.25. The results of this study can be a reference material for other researchers related to the use of video scribes in learning that have a positive impact on student learning outcomes.

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