Jurnal Ilmiah Sekolah Dasar
Volume 5, Number 2, 2021 pp. 212-221
P-ISSN: 2579-3276 E-ISSN : 2549-6174
Open Access: ttps://ejournal.undiksha.ac.id/index.php/JISD/index

Improving Students' Comprehension About Energy Sources Through Sparkol Videoscribe-Based Learning Media

*** I Made Agus Adi Pranata[1], I Nyoman Laba Jayanta[2]**

[1,2] *Universitas Pendidikan Ganesha, Singaraja, Indonesia*

ARTICLE INFO

Article history:
Received March 09, 2021
Revised April 15, 2021
Accepted April 30, 2021
Available online May 25, 2021

Kata Kunci:
Videoscribe, IPA

Keywords:
Learning Media, Videoscribe, IPA

ABSTRAK

Masih banyak guru yang belum mampu menciptakan suasana belajar yang menyenangkan bagi siswa. Selain itu kurangnya media pembelajaran membuat siswa kesulitan dalam memahami materi pelajaran. Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis sparkol videoscribe untuk memudahkan siswa dalam belajar. Jenis penelitian ini adalah penelitian pengembangan dengan model yang digunakan yaitu ADDIE. Subjek pada penelitian ini berjumlah 5 orang. Metode yang digunakan dalam mengumpulkan data yaitu observasi, wawancara, dan kuesioner. Instrument yang digunakan dalam mengumpulkan data yaitu kuesioner. Teknik analisis data yang digunakan pada penelitian pengembangan ini yaitu menggunakan teknik analisis statistik deskriptif kualitatif dan statistik deskriptif kuantitatif. Hasil penelitian yaitu hasil uji ahli isi mata pelajaran yang dikembangkan mendapatkan kategori sangat baik, ahli desain pembelajaran mendapatkan kategori sangat baik, hasil uji dari ahli media pembelajaran mendapatkan kategori sangat baik. Hasil uji coba perorangan mendapatkan kualifikasi sangat baik. Dapat disimpulkan bahwa media yang dikembangkan layak diterapkan dalam pembelajaran. Implikasi penelitian ini yaitu media yang dikembangkan dapat memudahkan siswa dalam memahami materi pelajaran IPA.

ABSTRACT

There were still many teachers who had not been able to create a pleasant learning atmosphere for students. In addition, the lack of learning media made it difficult for students to understand the subject matter. This study aimed to develop learning media based on sparkol video scribe to facilitate students in learning. The type of this research was development research and used the ADDIE model. Subjects in this study amounted to 5 people. The methods used in collecting data were observation, interviews, and questionnaires. The instrument used in collecting data was a questionnaire. The data analysis technique used in this development research was using qualitative descriptive statistical analysis techniques and quantitative descriptive statistics. The study results showed that the expert test of the subjects developed got a very good category, learning design experts got a very good category, test results from learning media experts got a very good category. The results of individual trials got very good qualifications. It can be concluded that the media developed was feasible to be applied in learning. This research implies that the developed media can make it easier for students to understand science subject matter.

1. INTRODUCTION

Currently, the development of science and technology has a huge impact on life, especially in education. This technological progress can be used to improve the welfare and the intellectual life of the nation and state (Kuswanto & Walusfa, 2017; Warsita, 2017). The rapid development of science and technology demands an increase in the quality of education to increase superior human resources (Lase, 2019; Willya et al., 2019). Education allows a person to develop his abilities and potential. In addition, education will also form capable, creative, independent, and responsible human beings (Chairiyah, 2017; Sutrisno, 2016). In realizing quality human resources, it can be achieved by creating an optimal learning process. Currently, online learning is very much needed because there is still a coronavirus pandemic (Handayani et al., 2020; Susilo et al., 2020). To decide the spread of this virus, the government recommends online learning.

Corresponding author
*E-mail addresses: agusadipranata09@gmail.com

Today's problem is that online learning is not optimal (Dewi, 2020; Lau et al., 2020; Widiyono, 2020). It because the teacher has not been able to create a pleasant learning atmosphere for students. When online learning, teachers tend to only give assignments to students so that students do not understand the learning material (Sadikin & Hamidah, 2020; Wahyono et al., 2020). Learning that only uses the assignment method and teacher-centered learning makes students passive in learning (Pertiwi et al., 2019; Widiatmika et al., 2017). This problem was also found in one elementary school. Based on the results of observations made at SD Negeri 1 Panji Anom, it was found that the problem was that teachers still used the assignment method and were guided by textbooks in teaching online learning. Based on the interviews conducted on students, it was found that there are still many students who find it difficult to understand the subject matter presented by the teacher. In addition, the lack of learning media makes students feel less interested in learning. The interview results with the teacher also stated that in the fourth-grade theme 2, especially the science content, was very limited and narrow while the scope of the material was very broad, so educators had to look for other sources to make it easier to convey the material. So if the online learning provided by the teacher only uses the assignment method, this will cause students to lack understanding of science learning materials if this is allowed to impact student learning outcomes during the learning process.

Based on these problems, changes and innovations are needed in the learning process so that students are more motivated and make learning easier. One way that can be done to help students in learning is by developing learning media. Learning media can make it easier for students to understand the subject matter (Diputra, 2016; Maqfiroh et al., 2020; Puspitorini et al., 2014). One of the media that can facilitate students in learning is video learning. Learning videos can make it easier for students to understand learning materials and increase student learning motivation (Heo & Toomey, 2020; Tegeh et al., 2019; Yusnia, 2019). Video is one of the media that contains audio and visual elements. Through video media, students will be able to understand the subject matter that is still abstract because of the nature of the video that can concrete the message (Andriyani & Suniasih, 2021; Soucy et al., 2016; Taqiya et al., 2019). This will stimulate and increase student motivation in learning. One type of learning media that can increase student enthusiasm and motivation is a video-based sparkol video scribe.

Videoscribe is software used to create whiteboard-style animation videos. Videoscribe has a display that looks as if the educator is writing on the blackboard using the help of a writing instrument and can display interesting images on the video using the video scribe. This video scribe can be an attraction for students in the learning process (Rahmatika & Ratnasari, 2018; Sutrisno et al., 2013). Making videos using this application can be done offline, so that video development is very practical. The video development process only includes text and images that are poured on the board according to the user's wishes. In addition, users can also dub or enter sound according to their wishes and needs in making videos. Educators can innovate in making video scribes to illustrate and explain complex concepts in the learning process (Hasan & Baroroh, 2019; Muskania et al., 2019). This media is needed to assist students in accepting and understanding the subject matter so that learning objectives can be achieved optimally. The advantages of video scribe are 1) Illustrator on the media can be used to describe the work in the form of video, 2) it can be an interesting learning resource, and 3) it can be used as a stimulus for students' curiosity in learning to use technology (Setiyowati, 2019). Other research also states that the advantages of this media are that the use of words and pictures is presented together, students will be more interested in learning with animation and sound, and the media is presented in a simple way, making it easier for students to understand the subject matter (Chang et al., 2020; Indriyani & Putra, 2018). Video scribe-based video media can help students with learning difficulties (Febriani, 2017; Purwanti, 2015; Sudiarta & Sandra, 2016). It can be concluded that the use of this learning video media will stimulate cognitive development in students to improve student learning outcomes.

However, currently, the video scribe media on energy sources has never been developed before. In addition, there is no in-depth study on the development of learning media on the topic of classroom energy sources in elementary schools. Previous research has stated that video media can be used in the learning process. Research findings regarding learning videos state that learning videos assisted by the *sparkoll* video scribe application can be used in the learning process (Fadillah & Bilda, 2019). Then other research findings also state that the video scribe learning media can increase the character of tolerance in students (Afifah, 2019). This study aims to develop learning media based on sparkol video scribe to facilitate students in learning. Through this developed media, students can be used by teachers to help students independently. The media developed is expected to facilitate and increase student motivation in learning to improve student learning outcomes.

2. METHOD

The type of research is development research. The model used as a reference in this learning media development research is the ADDIE model, which includes the stages of analysis, design, development, implementation, and evaluation. The selection of this model has been based on the consideration that this model is very easy to understand, has a systematic flow, and is very clear. The subjects in this study were one subject matter expert, one learning design expert, one learning media expert, two people for individual trials. The techniques used in collecting data in this study were observation, interviews, and questionnaires. Observations and interviews are used to find out the problems that occur in schools. The questionnaire method is carried out by giving several questions to respondents regarding the learning media that will be developed. The instrument used in collecting research data is a questionnaire. The grid of data collection instruments to determine the validity of the developed learning media is presented in tables 1, 2, and 3.

Table 1. Blueprint of Instruments for Material Expert Test

No	Aspect	Indicator
1.	The structure of the material presented is correct	1. Conformity of indicators with basic competencies 2. The suitability of the material presented with indicators
2.	The accuracy of the material in it	1. The truth of the material presented 2. The accuracy of the material presented 3. Novelty (update of the material presented 4. Accuracy of presentation of material based on existing facts
3.	Grammar presentation	1. The accuracy of the grammar used 2. The accuracy of the spelling of the material 3. The accuracy of writing terms on the material
4.	Punctuation is presented correctly	4. The accuracy of the use of punctuation in the material
5.	The level of difficulty of the material is adjusted to the characteristics of the user	1. The extent of the material according to the characteristics of students 2. Initial material is related to students' prior knowledge 3. Depth of material presented 4. Illustrations (examples) in learning media can clarify the material presented

Table 2. Blueprint of Instruments for Learning Media Expert Test

No	Aspect	Indicator
1.	Visual quality	1. Interesting cover 2. The suitability of cover visualization to the content in the media 3. The attractiveness of the graphics displayed 4. Interesting animation/image shown
2.	Camera angle capture with image composition	The accuracy of the point of view on the video
3.	Voice clarity (Narration, Sound Effects, and Music)	1. Narrator's voice clarity 2. Compatibility with sound effects 3. Regularity with background music
4.		1. Videos according to the characteristics of students 2. The suitability of the video with the learning objectives 3. Ideal duration with goals
5.	Video presentation suitability	1. The attraction of creativity in delivering messages 2. Flexibility in terms of providing time, place, students, and teaching materials

Table 3. Blueprint of Instruments for Learning Design Expert Test

No	Aspect	Indicator
1.	Accuracy	1. Learning objectives using the ABCD format format 2. The suitability of the video with the characteristics of students 3. The accuracy of the presentation of the material with the characteristics of the material 4. Materials are packaged in a coherent manner 5. Duration accuracy
2.	Method explanation	1. Serving material varies 2. Students' interest in learning by using teaching materials 3. Concrete abstract ideas
3.	Interest/attention	1. Motivate interest in learning 2. Increase students' attention
4.	Can have an impact on students	Facilitate students' understanding of the material

An instrument can be said to be good if it meets the requirements of content validity. Instruments that are arranged so that they can be said to be valid, content validity tests can be carried out by several experts (judges) who have mastered the variables being studied. The validity of this instrument was tested using the Gregory formula. Data analysis methods and techniques used in this development research are using qualitative descriptive statistical analysis techniques and quantitative descriptive statistics. Qualitative descriptive statistical analysis is used in processing the results of reviews, suggestions, inputs made by experts or judges on the developed learning media. Quantitative descriptive statistical analysis was used to process data in the form of numbers obtained from the provision of assessment sheets for learning media instruments developed to learning media experts, learning design experts, science content experts, and teachers. In making decisions regarding media development, the reference in Table 4 is used below.

Table 4. Achievement Rate of Conversion by 5 Scale

Level Achievement (%)	Qualification	Information
90-100	Very good	No need to revise
75-89	Good	Slightly revised
65-74	Enough	Revised sufficiently
55-64	Less	Many things have been revised
0-54	Very less	Repeated product

(Tegeh & Kirna, 2010)

3. RESULT AND DISCUSSION

The design of the development of sparkol video scribe-based learning media has been carried out with the development model used, namely the ADDIE development model. The design of learning media development based on sparkol videoscribe begins at the analysis, design, development, implementation, and evaluation stages. The first step is analysis. For this step, an analysis of needs, curriculum, and media is carried out. Based on the results of observations and interviews, it was found that in theme 2, especially the science content, the topic of energy sources was incomplete, still very limited, narrow, while the scope of the material was very wide. The lack of learning media causes students to be less enthusiastic and less enthusiastic about doing online learning. Curriculum analysis is carried out by analyzing and determining in advance core competencies, basic competencies, indicators of competency achievement, learning objectives, and materials contained in teacher and student books as the basis for the preparation of learning media to be developed. This learning media is guided by the material book on the science content of the topic of energy sources for grade IV elementary school. Based on the results of the analysis of learning media, it was found that the lack of facilities and infrastructure in the form of image media, learning media, both from learning videos and from books used by teachers during the COVID-19 pandemic, to support the online learning process.

The second stage designs. At this stage, it started from transferring the information obtained at the analysis stage into the form of a document that will be the basis and purpose of learning media based on sparkol videoscribe the topic of energy sources. This stage also designs a script in the form of a storyboard which aims to provide an overview and flow of the learning video that will be developed. The

storyboard contains the stages of the plot, namely the cover, the title of the learning video, the name of the video maker, the basic competencies and indicators of achievement of the learning video competencies, the storyline of the learning video used. The storyboard contains audio and visual images that will be used as a reference in the development of sparkol videoscribe-based learning media. The learning design that was developed can be seen in the following figure 1 and 2.

Figure 1. The program of learning media based-sparkol video scribe

Figure 2. Contents of Sparkol Video scribe-Based Learning Media

The third stage is development. At this stage, start developing video media based on Sparkol Videoscribe. The development of learning media is designed according to a predetermined storyboard to make learning media as desired. The results of the development of the sparkol videoscribe-based learning media are presented in Figure 2. After the sparkol videoscribe-based learning media, the validity of this media will be tested by experts on lesson content, learning design, and learning media. The results of the validity tests conducted by experts and individual trials are presented in Table 5. Based on the subject content expert test results, the media developed in the form of video-based on sparkol videoscribe. The percentage obtained is 92.86%, which is in the range of 90-100 with very good qualifications and does not need to be revised. The test results from the learning design experts' percentage obtained is 96.36% which is in the range of 90-100 with very good qualifications and does not need to be revised. The test results from the learning media experts percentage obtained is 95% which is in the range of 90-100 with very good qualifications and does not need to be revised. The percentage of individual trial results obtained is 95% which is in the range of 90-100 with very good qualifications and does not need to be revised. The suggestions given by experts and individual trials are presented in Table 6. Based on the results of input provided by experts and individual test subjects, product revisions were carried out to improve the products developed to be of higher quality. The results of the revisions made are presented in Figure 3.

Table 5. Validity Test Results

No.	Video Trial Subject	Result of Validity (%)	Information
1.	Subject Content Expert Test	92,86%	Very good
2.	Learning Design Expert Test	96,36%	Very good
3.	Learning Media Expert Test	95%	Very good
4.	Individual Trial	95%	Very good

Table 6. Feedback and Suggestions from Experts and Individual Trials

No.	Video Trial Subject	Feedback and Suggestions
1.	Subject Content Expert Test	The wrong concept "Water flows from a high place to a low place" was changed to "Water flows from a place of high pressure to a place of low pressure"
2.	Learning Design Expert Test	Today the teacher will discuss
3	Learning Media Expert Test	1. The title is enlarged in font size and spaced with "Learning Video" 2. Voice cuts off before mentioning solar energy 3. The generator image is captioned with the image 4. The water-energy lacks contrast with the background, so it's blurry
4.	Individual Trial	1. Video quality is good 2. The learning video is good and needs to be maximized

Figure 3. The result of Video Media revision based-Sparkol Video Scribe

Based on the results of the data analysis that has been carried out, it can be concluded that the video media based on Sparkol Videoscribe has very good qualifications, so it is feasible to be applied in the learning process. This Sparkol Videoscribe-based video media must be developed because this video learning media can facilitate students to learn independently so that students can understand the learning material easily. In addition, this media will also make it easier for students to understand the learning material so that it has an impact on increasing student learning outcomes. Sparkol Videoscribe-based video media received very good qualifications and deserved to be applied due to several factors, namely as follows.

First, the Sparkol Videoscribe-based video media got very good qualifications and deserved to be applied because the media developed could motivate students in learning. The development of learning media based on sparkol videoscribe is feasible to use in terms of aspects of material presentation, attracting student learning interest, increasing student attention, being able to motivate, and voice clarity. The media developed to make learning materials creatively to increase student motivation in learning (Fadhli, 2015; Knoop-van Campen et al., 2020; Yuniarni et al., 2020). In addition, from the aspect of accuracy, clarity of method, interest/attention, and impact on students. This is supported by the theory which states that learning media are everything that is used to channel messages from senders and recipients so that they can stimulate students' thoughts, concerns, feelings, and interests (Asnur & Ambiyar, 2018; Kurniawan et al., 2017; Maqfiroh et al., 2020; Tegeh et al., 2019). Some of the factors that influence student learning outcomes come from outside, such as the use of tools in teaching and learning activities. The benefit of using video learning media in learning is to clarify the presentation of messages so that the learning process runs smoothly and learning outcomes increase (Pramana et al., 2016; Yudha et al., 2017).

Second, the video media based on Sparkol Video scribe gets very good qualifications and is feasible to apply because the media developed makes it easier for students to understand the subject matter. In terms of visual quality, sound clarity, video presentation suitability, and the use of creative ideas are very good, making it easier for students to understand the material presented in the video. In

addition, the material presented in this learning video is by the learning objectives and the availability of examples to support the clarity of the material, making it easier for students to understand the subject matter (Gunawan et al., 2017; Muskania et al., 2019; Taqiya et al., 2019). The advantages of video media can be used to convey or clarify messages and can be adjusted based on student needs by applying manipulation techniques (time and display) (Purwanti, 2015; Utari, 2016). Learning media can make it easier for students to understand and receive the information contained in the media.

Third, the video media based on Sparkol Video scribe has very good qualifications and deserves to be applied because the media can improve students' learning experience. Sparkol video scribe can increase students' enthusiasm in participating in learning because this learning media can provide a fun and efficient learning experience (Silmi & Rachmadyanti, 2018; Sutrisno et al., 2013). The learning video developed contains the stages of the flow, namely the cover, the title of the learning video, the name of the video maker, the basic competencies and indicators of achievement of the learning video competence, the storyline of the learning video used to make it easier for students to learn. Other research also states that children enjoy the learning process more that involves media and components of images, colors, and motion (Rose et al., 2016; Wuryanti, 2016). So that, the media was developed by combining several components to produce learning media that can attract interest in learning and add to the learning experience for students.

The findings of previous research regarding learning videos also state that videos can increase students' enthusiasm for learning (Fadillah & Bilda, 2019; Widiyasanti & Ayriza, 2018). Other research findings also state that video media can improve student learning outcomes because it can facilitate students' learning (Jatmiko et al., 2017; Sarnoko et al., 2016). It can be concluded that the learning media in the form of videos can help students in learning to improve student learning outcomes. This video media has an attractive appearance based on the characteristics of elementary school students, but this video media only develops on one learning topic. In addition, this media was only developed until the validation stage. It is hoped that further research can develop this research at the implementation stage through the experimental stage. Sparkol videoscribe-based learning media can be used in the learning process of science content, especially on the topic of energy sources. In theory, elementary school students are at the concrete operational stage. When they learn, they need the help of concrete objects to better understand the material being studied. This media can facilitate students in learning, and the objectives of learning can be achieved optimally.

4. CONCLUSION

Based on the results of the data analysis of the assessment results provided by subject matter experts, learning designs, learning media, and product trials, it was found that the developed media were in very good qualifications. It can be concluded that the developed media is feasible to be applied in the learning process because it can facilitate students in understanding science subject matter, especially on the topic of energy sources.

5. REFERENCES

Afifah, N. (2019). Efektivitas Media Ajar untuk Siswa Kelas Rendah Berbasis Nilai Karakter Toleransi terhadap Sesama dengan Berbantu Aplikasi Sparkol Videoscribe. *Modeling: Jurnal Program Studi PGMI*, *6*(2). https://doi.org/https://doi.org/10.36835/modeling.v6i2.512.

Andriyani, N. L., & Suniasih, N. W. (2021). Development Of Learning Videos Based On Problem-Solving Characteristics Of Animals And Their Habitats Contain in Science Subjects On 6th-Grade. *Journal of Education*, *5*(1), 37–47. https://doi.org/http://dx.doi.org/10.23887/jet.v5i1.32314.

Asnur, & Ambiyar. (2018). Penerapan Pembelajaran Menggunakan Media Video Pada Mata Kuliah Tata Boga II. *Jurnal Mimbar Ilmu*, *23*(3). https://doi.org/http://dx.doi.org/10.23887/mi.v23i3.16435.

Chairiyah. (2017). Implementasi Pendidikan Karakter melalui Nilai-nilai Kearifan Lokal di SD Taman Siswa Jetis Yogyakarta. *Jurnal Pendidikan Ke-SD-An*, *4*(1), 208–215. https://doi.org/http://dx.doi.org/10.30738/trihayu.v4i1.2116.

Chang, T. Y., Hong, G., Paganelli, C., Phantumvanit, P., Chang, W. J., Shieh, Y. S., & Hsu, M. L. (2020). Innovation of dental education during COVID-19 pandemic. *Journal of Dental Sciences*, 155. https://doi.org/10.1016/j.jds.2020.07.011.

Dewi. (2020). Dampak COVID-19 terhadap Implementasi Pembelajaran Daring di Sekolah Dasar. *Jurnal Edukatif Ilmu Pendidikan*, *2*(1). https://doi.org/https://doi.org/10.31004/edukatif.v2i1.89.

Diputra, K. S. (2016). Pengembangan Multimedia Pembelajaran Tematik Integratif Untuk Siswa Kelas Iv Sekolah Dasar. *JPI (Jurnal Pendidikan Indonesia)*, *5*(2), 125. https://doi.org/10.23887/jpi-undiksha.v5i2.8475.

Fadhli, M. (2015). Pengembangan Media Pembelajaran Berbasis Video Kelas IV Sekolah Dasar. *Jurnal Dimensi Pendidikan Dan Pembelajaran*, *3*(1), 24–29. https://doi.org/http://dx.doi.org/10.24269/dpp.v3i1.157.

Fadillah, A., & Bilda, W. (2019). Pengembangan Video Pembelajaran Berbantuan Aplikasi Sparkoll Videoscribe. *Jurnal Gantang*, *4*(2). https://doi.org/https://doi.org/10.31629/jg.v4i2.1369.

Febriani, C. (2017). Pengaruh Media Video terhadap Motivasi Belajar dan Hasil Belajar Kognitif Pembelajaran IPA Kelas V Sekolah Dasar. *Jurnal Prima Edukasia*, *5*(1), 11–21. https://doi.org/https://doi.org/10.21831/jpe.v5i1.8461.

Gunawan, G., Sahidu, H., Harjono, A., & Suranti, N. M. Y. (2017). The effect of project-based learning with virtual media assistance on student's creativity in physics. *Jurnal Cakrawala Pendidikan*, *1*(2). https://doi.org/https://doi.org/10.21831/cp.v36i2.13514.

Handayani, Hadi, Isbaniah, Burhan, & Agustin. (2020). Corona Virus Disease 2019. *Jurnal Respirologi Indonesia*, *40*(2). https://doi.org/https://doi.org/10.36497/jri.v40i2.101.

Hasan, A. A., & Baroroh, U. (2019). Pengembangan Media Pembelajaran Bahasa Arab Melalui Aplikasi Videoscribe Dalam Meningkatkan Motivasi Belajar Siswa. *Lisanuna: Jurnal Ilmu Bahasa Arab Dan Pembelajarannya*, *9*(2). https://doi.org/https://doi.org/10.22373/ls.v9i2.6738.

Heo, M., & Toomey, N. (2020). Learning with multimedia: The effects of gender, type of multimedia learning resources, and spatial ability. *Computers and Education*, *146*, 103747. https://doi.org/10.1016/j.compedu.2019.103747.

Indriyani, I., & Putra, F. G. (2018). Media Pembelajaran Berbantuan Sparkol Materi Program Linier Metode Simpleks. *Desimal: Jurnal Matematika*, *1*(3). https://doi.org/https://doi.org/10.24042/djm.v1i3.3008.

Jatmiko, P. D., Wijayantin, A., & Susilaningsih, S. (2017). Pengaruh Pemanfaatan Video Pembelajaran Terhadap Hasil Belajar Ipa Kelas Iv Sekolah Dasar. *Edcomtech Jurnal Kajian Teknologi Pendidikan*, *1*(2), 153–156.

Knoop-van Campen, C. A. N., Segers, E., & Verhoeven, L. (2020). Effects of audio support on multimedia learning processes and outcomes in students with dyslexia. *Computers and Education*, *150*(February), 103858. https://doi.org/10.1016/j.compedu.2020.103858.

Kurniawan, Agung, & Tegeh. (2017). Pengembangan Video Pembelajaran Teknik Dasar Sepak Bola Dengan Konsep Quantum Learning. *Jurnal Edutech Undiksha*, *5*(2), 179–188. https://doi.org/http://dx.doi.org/10.23887/jeu.v5i2.20374.

Kuswanto, J., & Walusfa, Y. (2017). Pengembangan Multimedia Pembelajaran pada Mata Pelajaran Teknologi Informasi dan Komunikasi Kelas VIII. *Innovative Journal of Curriculum and Educational Technology IJCET*, *6*(2), 58–64. https://doi.org/https://doi.org/10.15294/ijcet.v6i2.19335.

Lase, D. (2019). Pendidikan di Era Revolusi Industri 4.0. *Jurnal Sundermaan*, *1*(1). https://doi.org/https://doi.org/10.36588/sundermann.v1i1.18.

Lau, L. L., Hung, N., Go, D. J., Ferma, J., Choi, M., Dodd, W., & Wei, X. (2020). Knowledge, attitudes, and practices of COVID-19 among income-poor households in the Philippines: A cross-sectional study. *Journal of Global Health*, *10*(1), 1–11. https://doi.org/10.7189/JOGH.10.011007.

Maqfiroh, Khutobah, & Budyawati. (2020). Pengembangan Media MOTIF (Monopoli Edukatif) dalam Pembelajaran berbasis Multiple intelligence. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, *11*(1), 64–74.

Muskania, R. T., Badariah, S., & Mansur, M. (2019). Pembelajaran Tematik Menggunakan Media Video Scribe Pada Siswa Kelas IV Sekolah Dasar. *Elementary: Islamic Teacher Journal*, *7*(1). https://doi.org/https://doi.org/10.21043/elementary.v7i1.4927.

Pertiwi, I. N., Sumarno, & Dwi, A. (2019). Pengaruh Model Make A Match Berbantu Media Kartu Bergambar terhadap Kemampuan Membaca dan Menulis. *E-Journal PGSD Pendidikan Ganesha Mimbar PGSD*, *7*(3), 261–270. https://doi.org/http://dx.doi.org/10.23887/jjpgsd.v7i3.19412.

Pramana, I. P. A., Tegeh, I. M., & Agung, A. A. G. (2016). Pengembangan Video Pembelajaran IPA Kelas VI di SD N 2 Banjar Bali Tahun 2015/2016. *Edutech Undiksha*, *5*(2). https://doi.org/http://dx.doi.org/10.23887/jeu.v4i2.7631.

Purwanti, B. (2015). Pengembangan Media Video Pembelajaran Matematika dengan Model Assure. *Jurnal Kebijakan Dan Pengembangan Pendidikan*, *3*(1), 42–47. https://doi.org/https://doi.org/10.22219/jkpp.v3i1.2194.

Puspitorini, Subali, & Jumadi. (2014). Penggunaan Media Komik Dalam Pembelajaran IPA Untuk Meningkatkan Motivasi Dan Hasil Belajar Kognitif Dan Afektif. *Cakrawala Pendidikan*, *33*(3), 413–420.

Rahmatika, & Ratnasari. (2018). Media Pembelajaran Matematika Bilingual Berbasis Sparkol Videoscribe. *Desimal: Jurnal Matematika*, *1*(3), 385–393.

https://doi.org/https://doi.org/10.24042/djm.v1i3.3061.
Rose, J. A., O'Meara, J. M., Gerhardt, T. C., & Williams, M. (2016). Gamification: using elements of video games to improve engagement in an undergraduate physics class. *Physics Education*, *51*(5). https://doi.org/https://doi.org/10.1088/0031-9120/51/5/055007.
Sadikin, & Hamidah. (2020). Pembelajaran Daring Di Tengah Wabah Covid-19. *BIODIK: Jurnal Ilmiah Pendidikan Biologi*, *6*(2), 214–224. https://doi.org/https://doi.org/10.22437/bio.v6i2.9759.
Sarnoko, Ruminiati, & Setyosari, P. (2016). Penerapan Pendekatan Savi berbantuan Video Pembelajaran untuk Meningkatkan Aktivitas dan Hasil Belajar IPS Siswa Kelas IV SDN 1 Sanan Girimarto Wonogiri. *Jurnal Pendidikan*, *7*(1). https://doi.org/http://dx.doi.org/10.17977/jp.v1i7.6524.
Setiyowati, P. (2019). Pengaruh model pembelajaran discovery learning menggunakan video scribe sparkol terhadap hasil belajar SMK Perwari Tulungagung kelas X tahun ajaran 2017/2018. *JOEICT (Jurnal of Education and Information Communication Technology)*, *3*(1). https://doi.org/https://doi.org/10.29100/joeict.v3i1.694.
Silmi, M. ., & Rachmadyanti, P. (2018). Pengembangan Media Pembelajaran Video Animasi Berbasis Sparkol Videoscribe Tentang Persiapan Kemerdekaan RI SD Kelas V. *Jpgsd*, *6*(4).
Soucy, J. N., Owens, V. A. M., Hadjistavropoulos, H. D., Dirkse, D. A., & Dear, B. F. (2016). Educating patients about Internet-delivered cognitive behavior therapy: Perceptions among treatment seekers and non-treatment seekers before and after viewing an educational video. *Internet Interventions*, *6*, 57–63. https://doi.org/10.1016/j.invent.2016.09.003.
Sudiarta, I. G. P., & Sandra, I. (2016). Pengaruh Model Blended Learning berbantuan Video Animasi Terhadap Kemampuan Pemecahan Masalah dan Pemahaman Konsep Siswa. *Jurnal Pendidikan Dan Pengajaran*, *49*(2). https://doi.org/http://dx.doi.org/10.23887/jppundiksha.v49i2.9009.
Susilo, Rumende, Pitoyo, Santoso, Yulianti, Herikurniawan, & Sinto. (2020). Coronavirus Disease 2019: Tinjauan Literatur Terkini Coronavirus Disease 2019: Review of Current Literatures. *Jurnal Penyakit Dalam Indonesia*, *7*(1). https://doi.org/http://dx.doi.org/10.7454/jpdi.v7i1.415.
Sutrisno. (2016). Berbagai Pendekatan Dalam Pendidikan Nilai Dan Pendidikan Kewarganegaraan. *Jurnal Dimensi Pendidikan Dan Pembelajaran*, *4*(1). https://doi.org/http://dx.doi.org/10.24269/dpp.v4i1.56.
Sutrisno, T., Agung, Y. A., Tri Sutrisno, & Yudha Anggana Agung. (2013). Pengembangan Media Videoscribe Berbasis E-Learning Pada Mata Pelajaran Komunikasi Data dan Interface Di SMK Sunan Drajat Lamongan. *Jurnal Pendidikan Teknik Elektro*, *05*(03), 1068–1074.
Taqiya, Nuroso, & Reffiane. (2019). Pengaruh Model Pembelajaran Terpadu Tipe Connected Berbantu Media Video Animasi. *Mimbar PGSD Undiksha*, *7*(3), 289–295. https://doi.org/http://dx.doi.org/10.23887/jjpgsd.v7i3.19492.
Tegeh, I. M., & Kirna, I. M. (2010). *Metodelogi Penelitian Pengembangan Pendidikan*. Universitas Pendidikan Ganesha.
Tegeh, Simamora, & Dwipayana. (2019). Pengembangan Media Video Pembelajaran Dengan Model Pengembangan 4D Pada Mata Pelajaran Agama Hindu. *Jurnal Mimbar Ilmu*, *24*(2), 158–166. https://doi.org/http://dx.doi.org/10.23887/mi.v24i2.21262.
Utari, R. (2016). Kontribusi Motivasi Belajar Dan Kebiasaan Belajar Siswa Kelas 1 Teknik Audio Video Terhadap Hasil Belajar Pada Mata Diklat Pkdle Di Smk N 1 Padang. *Jurnal Ilmiah Pendidikan Teknik Elektro*, *1*(oktober 2016), 108–114. https://doi.org/http://dx.doi.org/10.30870/volt.v1i2.2877.
Wahyono, P., Husamah, H., & Budi, A. S. (2020). Guru profesional di masa pandemi COVID-19: Review implementasi, tantangan, dan solusi pembelajaran daring. *Jurnal Pendidikan Profesi Guru*, *1*(1), 51–65. https://doi.org/https://doi.org/10.22219/jppg.v1i1.12462.
Warsita, B. (2017). Peran dan Tantangan Profesi Pengembang Teknologi Pembelajaran Pada Pembelajaran Abad 21. *Kwangsan: Jurnal Teknologi Pendidikan*, *5*(2). https://doi.org/https://doi.org/10.31800/jtp.kw.v5n2.p77--90.
Widiatmika, D. G., Sujana, I. W., & Ganing, N. N. (2017). Pengaruh Model Discovery Learning Berbantuan Media Audio Visual Terhadap Kompetensi. *MIMBAR PGSD Undiksha*, *5*(2), 1–8. https://doi.org/http://dx.doi.org/10.23887/jjpgsd.v5i2.11786.
Widiyasanti, M., & Ayriza, Y. (2018). Pengembangan Media Video Animasi untuk Meningkatkan Motivasi Belajar dan Karakter Tanggung Jawab Siswa Kelas V. *Jurnal Pendidikan Karakter*, *8*(1). https://doi.org/https://doi.org/10.21831/jpk.v8i1.21489.
Widiyono, A. (2020). Efektifitas Perkuliahan Daring (Online) pada Mahasiswa PGSD di Saat Pandemi Covid 19. *Jurnal Pendidikan*, *8*(2), 169–177. https://doi.org/10.36232/pendidikan.v8i2.458.
Willya, Poluakan, Dikayuana, Wibowo, & Raharjo. (2019). Generasi Milenial Pada Era Revolusi Industri 4.0. *Focus : Jurnal Pekerjaan Sosial*, *2*(2).

https://doi.org/https://doi.org/10.24198/focus.v2i2.26241.

Wuryanti. (2016). Pengembangan Media Video Animasi untuk Meningkatkan Motivasi Belajar dan Karakter Kerja Keras Siswa Sekolah Dasar. *Jurnal Pendidikan Karakter*, *6*(2). https://doi.org/.https://doi.org/ 10.21831/jpk.v6i2.12055.

Yudha, Pudjawan, & Tegeh. (2017). Pengembangan Video Matembang Sekar Alit Berbasis Model Direct Instruction DI SMP Negeri 5 SINGARAJA. *Jurnal Edutech Undiksha*, *5*(1), 19–27. https://doi.org/http://dx.doi.org/10.23887/jeu.v5i1.20198.

Yuniarni, Sari, & Atiq. (2020). Pengembangan Multimedia Interaktif Video Senam Animasi Berbasis Budaya Khas Kalimantan Barat. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *4*(1). https://doi.org/https://doi.org/10.31004/obsesi.v4i1.331.

Yusnia, Y. (2019). Penggunaan Media Video Scribe Dalam Pembelajaran Literasi Sains Untuk Mahasiswa PGPAUD. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, *10*(1), 71–75. https://doi.org/https://doi.org/10.17509/cd.v10i1.17436.