



Developing Mathematics Learning Media Using the Sparkol VideoScribe Application in Grade IV Elementary School at State Elementary School 137 Palembang

Nia Elvi Susanti¹, Misdalina², Tanzimah³.

Program Studi Pendidikan Guru Sekolah Dasar

Fakultas Keguruan Ilmu Pendidikan

Universitas PGRI Palembang

E-mail: niaelvisusanti905@gmail.com misdalinausman@gmail.com
tanzimah@univpgri-palembang.ac.id

Abstrack

This research aims to produce a mathematics learning media using the Sparkol Videoscribe application in class IV at SD Negeri 137 Palembang, which is valid and practical, this research is development research using the ADDIE (Analysis, Design, Development, Implementation, And Evaluation) model. The research subject is a student of class IV of SD Negeri 137 Palembang. Data collection techniques are carried out by using observation, questionnaires (serraises) and documentation. The research results show that the validity of learning media using the Sparkol Videoscribe application which is developed based on the validation results of expert/expert assessment in terms of: media, material, and language obtained a percentage of 95.43% with the category "Very Valid" based on the questionnaire data. For media practicality obtained from the student response questionnaire assessment, a percentage of 92.66% was obtained with the category of "Very Practical". Based on the validation results by experts/experts and the results of practicality trials, it can be concluded that the learning media using the Sparkol Videoscribe application is suitable for use in the learning process.

Keywords: ADDIE, Sparkol Videoscribe

Abstrak

Penelitian ini bertujuan untuk menghasilkan sebuah media pembelajaran matematika menggunakan aplikasi *Sparkol Videoscribe* pada kelas IV di SD Negeri 137 Palembang, yang valid dan praktis, Penelitian ini merupakan penelitian pengembangan dengan menggunakan model ADDIE (Analysis, Design, Development, Implementation, And Evaluation). Subjek penelitian adalah siswa kelas IV SD Negeri 137 Palembang. Teknik pengumpulan data dilakukan dengan menggunakan observasi, kuisioner (angket) dan dokumentasi. Hasil penelitian menunjukkan bahwa kevalidan dari media pembelajaran menggunakan aplikasi *Sparkol Videoscribe* yang dikembangkan berdasarkan hasil validasi penilaian pakar/ahli pada segi: media, materi, dan bahasa diperoleh persentase 95,43% dengan kategori "Sangat Valid" berdasarkan data angket. Untuk kepraktisan media diperoleh dari penilaian angket respon siswa, didapatkan hasil persentase 92,66% dengan kategori "Sangat Praktis". Berdasarkan hasil validasi oleh pakar/ahli dan hasil uji coba kepraktisan, maka dapat disimpulkan bahwa media pembelajaran menggunakan aplikasi *Sparkol Videoscribe* layak digunakan dalam proses pembelajaran.

Kata kunci: ADDIE, Sparkol Videoscribe, Matematika.

Introduction

The development of science and technology (IPTEK) impacts all aspects of life. In addition to rapid development, change also occurs rapidly. Therefore, the ability to benefit from this IPTEK proportionally is necessary. This ability requires organized, logical, and critical thinking, which can be enhanced through improving the quality of education. The teaching and learning process is crucial for achieving good education, stating that the implementation of the learning process is a primary factor in achieving high-quality education (Sundayana, 2015).

In the world of education, the development of IPTEK encourages efforts to update and utilize technological innovations in the learning process. As technology advances, so too does the education system, where the use of technology as a learning medium can be a solution to improve the quality of education. Innovation in the creation of learning media is a top priority in the development of the education system (Rahim et al., 2019). Education and technology must be aligned because the world of education needs to respond to all technological advances in the 4.0 era. Given the current conditions, the world of education is closely linked to technology as a connecting medium for mathematics learning.

Mathematics is one of several subjects. It plays a vital role in education and is a field of study that contributes to the advancement of science and technology. However, many students still find mathematics difficult, uninteresting, and even intimidating. This is because many students still struggle with math problems (Sundayana, 2015).

Mathematics is a global or comprehensive field of study that contributes to progress in education. This science is universal, supported by the latest technological developments, plays a vital role in various fields and can enhance human cognitive abilities (Basuki, 2019). In the context of education, mathematics is one subject that significantly contributes to developing students' potential. This subject requires advanced thinking and logical thinking skills. Therefore, to understand and apply the concepts learned, students are required to be intelligent, creative, skilled, and independent

throughout the learning process. (Nurfitriyani, 2016).

Mathematics is considered to have a high level of difficulty for students. The ability to analyze and apply the relationships between variables is at the heart of mathematics, alongside numeracy skills, understanding shapes, and managing information. Therefore, everyone must master this knowledge to address the dynamics of problems that arise in everyday life. Marti (2010).

The abstract nature of mathematics presents challenges for students as they learn. This challenge is felt not only by students but also by teachers, who face difficulties in conveying mathematical material due to its abstract nature. If mathematical concepts are presented concretely, understanding the subject matter will be easier. Therefore, mathematics teaching needs to involve learning aids in the form of learning media. Marti (2010)

To develop effective learning, teachers often face challenges in delivering teaching materials, especially mathematics teachers. The implementation of teaching in schools still shows several limitations, particularly in providing a concrete representation of the material being presented. This results in low student interest in learning and uneven quality of student achievement. Therefore, learning media are needed to facilitate teachers' teaching, such as Sparkol Videoscribe and Macromedia Flash.

Sparkol Videoscribe is an application that promotes the concept of Whiteboard Animation, a presentation medium that utilizes a screen like a whiteboard with animated hands moving to write or draw objects on the screen. This way, students feel as if they are watching their teacher explain in front of them. With its unique features, Sparkol Videoscribe can present learning content by combining images, sound, and engaging designs. To ensure students enjoy the learning experience, Sparkol Videoscribe is a media application option considered capable of making children more creative and innovative due to its flexibility and adaptability to current developments (Amalya Firmansyah & Muhammadi, 2022).

The Sparkol Videoscribe application makes it easier for educators because the learning media design process can be done without internet access. Users only need to download the software on their smartphone or computer.

Based on previous research conducted by Amalya Nur Firmansyah & Muhammadi entitled "DEVELOPMENT OF LEARNING MEDIA BASED ON SPARKOL VIDEOSCRIBE IN INTEGRATED THEMATIC LEARNING IN GRADE V OF ELEMENTARY SCHOOL," it was stated that the results of the trial showed that the teacher perception questionnaire obtained a 92.85% score in the very practical category. Meanwhile, the student perception questionnaire reached 95% in the very practical category. This indicates that fifth-grade elementary school students who used Sparkol Videoscribe-based learning media were greatly assisted in understanding the material being taught.

Based on the results of the research review, the author will submit a proposal entitled "DEVELOPMENT OF MATHEMATICS LEARNING MEDIA USING THE SPARKOL VIDEOSCRIBE APPLICATION IN GRADE IV OF STATE ELEMENTARY SCHOOL 137 PALEMBANG."

Research Methodology

The method used by researchers in this study is the type of Research and Development (R&D) research. This method is one way in research that has the aim to "Produce a product while testing how valid the product is", Practicality and effectiveness so that it can be used in the learning process. The product created by researchers in this study is a learning tool called learning media using the Sparkol Videoscribe application in mathematics lessons on flat shapes that are made to improve student learning outcomes. Research Design, Analysis, Design, Development, Implementation, Evaluation. This study applies three types of data collection techniques, namely documentation, questionnaires, and tests. Validity data analysis techniques,

practicality data analysis techniques and effectiveness analysis.

Results and Discussion

Observations conducted by researchers revealed that many students still experience difficulties in understanding the mathematics subject of plane figures. Furthermore, teachers at Public Elementary School 137 Palembang still use simple learning media, including pictures, printed books, and thematic books, during the learning process. This results in less active learning activities and lacks variety, and makes students bored because the learning resources used are printed and thematic books. In addition to the lack of varied media, teachers also do not yet use technology-based learning videos, such as videos. The researchers used the Sparkol Videoscribe application as a learning tool to support teaching and learning activities in elementary schools. Based on the analysis, it is necessary to develop mathematics learning media that are engaging and varied to help students understand the mathematics subject of plane figures more easily and reduce boredom during the learning process.

The curriculum analysis conducted by researchers aimed to determine the curriculum implemented at Public Elementary School 137 Palembang. The results obtained by the researcher show that SD Negeri 137 Palembang applies the 2013 curriculum. The results of the curriculum analysis were obtained from basic competencies (KD), indicators, and learning objectives in the mathematics subject of flat shapes.

At this stage, the researcher designed learning media using the Sparkol Videoscribe application. The design included a cover, core competencies, indicators, learning objectives, and subject matter. The learning media developed by the researcher included images, animations, sound, and instructional videos designed to engage students' interest in the learning process.

Tabel 1. Table of Prototype I Learning Media

No	Prototype I	Deskripsi
1		Pada gambar disamping terdapat cover
2		Pada gambar diatas terdapat materi yang akan dipelajari
3		Pada gambar disamping terdapat KI, KD, dan Tujuan Pembelajaran
4		Pada gambar disamping terdapat materi pembelajaran
5		Pada gambar disamping terdapat contoh soal

Tabel 2. Revision Results

Sebelum Revisi	Sesudah Revisi	Komentar /Saran
		Sudah ditambahkan KD, KI, dan Tujuan Pembelajaran
		

Tabel 3. Media Expert Validation Results

Aspek	No	Indikator	Penilaian validator
			1 2 3
Kelayakan kegrafikan	1	Tampilan media pembelajaran berbasis aplikasi Sparkol Videoscribe	88% 96% 96%
	2	Desain media pembelajaran menggunakan aplikasi Sparkol Videoscribe	88% 96% 96%
	3	Desain isi media pembelajaran menggunakan aplikasi Sparkol Videoscribe	88% 96% 96%
		Jumlah	88% 96% 96%
		Rata-rata	88% 96% 96%
		Persentase Rata-rata	93,33%
		Kriteria	Sangat valid

Sumber : (data diolah oleh peneliti, 2023)

The validation results of the Sparkol Videoscribe application-based learning media video on the mathematics subject of plane geometry obtained a percentage of 93.33% in the "very valid" category after going through the suggestion and computer stages.

Tabel 4. Final Media Validation Results

Validator	Hasil	Keterangan
Sunedi	88%	Sangat valid
Nora	96%	Sangat valid
Surmilasari		
Dian Tri	96%	Sangat valid
Wahyuni		
Rata-rata	93,33%	Sangat valid

Sumber : (data tersebut diolah oleh peneliti, 2023)

Based on the table above, the results of the analysis of media expert validation data show that validator I, namely Mr. Sunedi, obtained a percentage of 88% in the "very valid" category. Validator II, namely Mrs. Nora Surmilasari, obtained a percentage of 96% of the "very valid" criteria. Validator III, namely Mrs. Dian Tri Wahyuni, obtained a percentage of 96% of the "very valid" criteria. From the results of the three validators, an overall average number was obtained with a percentage of 93.33%, from these results it shows that the learning media using the Sparkol Videoscribe application developed by researchers shows the "very valid" criteria.

Tabel 5. Material Expert Validation Results

Aspek	No	Indikator	Penilaian validator
			1 2 3
Kelayakan isi	1	Kesesuaian materi dengan KD	97,14% 91,42% 94,28%
	2	Keakuratan materi	97,14% 91,42% 94,28%
	3	Kemutakhiran	97,14% 91,42% 94,28%
	4	Mendorong keingintahuan	97,14% 91,42% 94,28%
Kelayakan penyajian	5	Teknik penyajian	100% 88% 96%
	6	Kelengkapan penyajian	100% 88% 96%
		Pendukung Penyajian	
		Jumlah	197,14% 179,42% 190,28%
		Jumlah maksimum	200
		Persentase	98,57% 89,71% 95,14%
		Persentase rata-rata	94,47%

Sumber : (data diolah oleh peneliti, 2023)

The results of the validation of learning video materials using the Sparkol Videoscribe application obtained a percentage value of 94.47% in the "very valid" category which has gone through several improvements and suggestions/comments.

Tabel 6. Final Results of Material Validation

Validator	Hasil	Keterangan
Sunedi	98,57%	Sangat valid
Nora	89,71%	Sangat valid
Surmilasari		
Dian Tri	95,15%	Sangat valid
Wahyuni		
Rata-rata	94,47%	Sangat valid

Based on the table above, it shows the results of the analysis of the material expert validation data from validator I Mr. Sunedi at 98.57% with the criteria of "very valid". Furthermore, validator II Mrs. Nora Surmilasari at 89.71% with the criteria of "very valid". Furthermore, validator III Mrs. Dian Tri Wahyuni with a percentage of 95.15% with the criteria of "very valid". From the results of the three validators, the overall average can be added up with a percentage of 94.47%, so it can be concluded that the learning media using the Sparkol Videoscribe application developed by researchers shows the criteria of "very valid".

Tabel 7. Language Validation Results

Aspek	No	Indikator	Penilaian validator		
			1	2	3
Kelengkapan bahasa	1	Logis	97,77%	100%	97,77%
	2	Komunikatif	97,77%	100%	97,77%
	3	Dialog dan interaktif	97,77%	100%	97,77%
	4	Kesesuaian dengan perkembangan	97,77%	100%	97,77%
	5	Keteruntutan dan keterpaduan alur pikir	97,77%	100%	97,77%
	6	Penggunaan bahasa yang sesuai dengan PUEBI	97,77%	100%	97,77%
		Jumlah	97,77%	100%	97,77%
		Rata-rata	97,77%	100%	97,77%
		Persentase rata-rata	98,51%		
		Kriteria	Sangat valid		

Sumber: (data diolah peneliti, 2023)

The results of the validation of the learning media language using the Sparkol Videoscribe application obtained a percentage value of 98.51% in the "very valid" category which has been through improvements in suggestions/comments.

Tabel 8. Final Results of Linguist Validation

Validator	Hasil	Keterangan
Sunedi	97,77%	Sangat valid
Nora	100%	Sangat valid
Surmilasari		
Dian Tri	97,77%	Sangat valid
Wahyuni		
Rata-rata	98,51%	Sangat valid

Sumber : (data diolah oleh peneliti, 2023)

The table above shows the results of the language validation data analysis from validator I, Mr. Sunedi, with a score of 97.77%, categorized as "very valid." Furthermore, validator II, Ms. Nora Surmilasari, with a score of 100%, categorized as "very valid." Furthermore, validator III, Ms. Dian Tri Wahyuni, with a score of 97.77%, categorized as "very valid." The validation results concluded that the learning media using the Sparkol Videoscribe application met the "very valid" criteria with an overall average score of 98.51%.

Furthermore, based on the validators' assessment of the learning media using the Sparkol Videoscribe application in terms of media, material, and language, the final overall validation average for the learning media using the Sparkol Videoscribe application was obtained.

Tabel 9. Overall results of expert validation

No	Validasi ahli	Skor (%)
1	Validasi media	93,33%
2	Validasi materi	94,47%
3	Validasi bahasa	98,51%
	Jumlah %	286,31%
	Persentase maksimum	300%
	Persentase	95,43%

Sumber: (data diolah oleh peneliti, 2023)

Based on the table above, it shows that the overall data analysis results for media expert validation obtained 93.33%, material validation obtained 94.47% and language validation obtained 98.51%. From the three validation results above, the total percentage obtained was 286.31% and the overall average was 95.43%. Therefore, the learning media using the Sparkol Videoscribe application is

declared "very valid" and can be tested in elementary schools.

Tabel 10. Practicality Test Results of Student Response Questionnaire (Small Group)

Aspek	Skala Penilaian		
	AP	SC	JF
Aspek tampilan	25	25	24
Aspek penyajian	35	30	34
Aspek manfaat	14	15	14
Jumlah skor	74	70	72
Skor maksimum	75	75	75
Persentase	95%	93%	90%
Persentase rata-rata	92,26%		
Kriteria	Sangat praktis		

Sumber : (data diolah oleh peneliti, 2023)

Based on the table above, the results of the analysis of student response questionnaire data during the small group trial phase obtained an average of 92.26% with the criteria of "very practical." Therefore, it is concluded that the learning media using the Sparkol Videoscribe application shows the criteria of "very practical" without revision.

Tabel 11. Trial Question Results Table

No	Nama siswa	Nilai	Kategori
1	SCD	100	Tuntas
2	AAG	95	Tuntas
3	PA	80	Tuntas
4	JF	85	Tuntas
5	AP	85	Tuntas
6	MF	70	Tidak tuntas
7	AS	60	Tidak tuntas
8	MAP	80	Tuntas
9	MAT	85	Tuntas
10	MRRB	85	Tuntas
11	RMRA	85	Tuntas
12	MIPY	80	Tuntas

Sumber : (data diolah oleh peneliti, 2023)

Based on the table above, the test results from the trial questions for the fourth grade students of State Elementary School 137 Palembang show that there are 10 students who have completed the mathematics subject and 2 who have not completed the material on flat shapes.

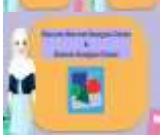
$$P = \frac{\sum S}{N} \times 100\% \quad P = \frac{10}{12} \times 100\%$$

$$P = 83,33\%$$

Based on the final results of the product trial data analysis, the overall average score was 83.33%. It can be concluded that the learning media developed using the Sparkol

Videoscribe application was "very effective" and required no revision.

Tabel 12. Hasil Akhir Produk

No	Produk	Deskripsi
1		Pada gambar disamping sudah terdapat tampilan salam
2		Pada gambar disamping terdapat biodata peneliti
3		Pada gambar disamping sudah terdapat KD, Indikator, dan Tujuan Pembelajaran
4		Pada gambar disamping memperlihatkan beberapa macam bentuk bangun datar
5		Pada gambar di samping memperlihatkan pembelajaran yang akan dipelajari
6		Pada gambar disamping menjelaskan apa itu bangun datar
7		Pada gambar disamping menjelaskan macam-macam bangun dan rumus bangun datar
8		Pada gambar disamping menjelaskan sifat-sifat dan rumus keliling luas persegi
9		Pada gambar disamping terdapat sifat-sifat persegi panjang serta rumus keliling dan luas persegi panjang
10		Pada gambar disamping terdapat sifat-sifat segitiga, rumus keliling dan luas dari segitiga
11		Pada gambar disamping terdapat contoh soal bangun datar
12		Pada gambar disamping terdapat ucapan terima kasih diakhir video pembelajaran

Sumber : (dibuat oleh peneliti, 2023)

Based on the research conducted by the researcher, there are advantages and

disadvantages of the learning media product using the Sparkol Videoscribe application that the researcher has developed:

Advantages of learning media using the Sparkol Videoscribe application

1) Learning media using the Sparkol Videoscribe application makes it easier for teachers to implement the learning process using technology such as laptops and projectors.

2) Learning media using the Sparkol Videoscribe application can encourage students to learn independently.

3) Learning media using the Sparkol Videoscribe application can motivate students to be enthusiastic about learning because it is equipped with engaging learning videos, images, colors, text, animations, and audio.

Disadvantages of learning media using the Sparkol Videoscribe application
Learning media using the Sparkol Videoscribe application can only be accessed using a link, thus requiring a mobile phone, computer, laptop, and internet access.

Discussion

This research aimed to develop valid, practical, and effective learning media using the Sparkol Videoscribe application for the mathematics subject of fourth-grade plane figures at SD Negeri 137 Palembang. This research aligns with Betia Ningsih's 2022 research entitled "Development of Character Education-Oriented Video Learning Media (Sparkol Videoscribe) on Lines, Angles, and Plane Figures." In her research, the researcher used the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. Mathematics is a global or comprehensive science, so education is constantly evolving. Mathematics is a general science based on modern technological advances, plays a vital role in various fields, and can enhance human thinking skills (Basuki, 2019). The results of the study indicate

that the use of video as a learning medium can increase students' interest in mathematics and help them understand the material on plane figures. Students also become more enthusiastic and active in asking questions during the learning process. The results of the validity analysis were obtained based on expert/validator assessments in terms of media, material, and language regarding learning media using the Sparkol Videoscribe application which was developed using a questionnaire.

Link to learning media using the Sparkol Videoscribe application: <https://youtu.be/QZd1yauZkjQ?si=XQRKdNTYM7zVZj9E>. Based on the validity of the validation results conducted by media experts, material experts, and language experts regarding learning media using the Sparkol Videoscribe application, the average overall result was 95.43%, categorized as "very valid." Data analysis results on practicality and effectiveness were obtained from the results of the trial. A questionnaire was used to collect student responses regarding learning media products using the Sparkol Videoscribe application for fourth-grade students at SD Negeri 137 Palembang.

The trial of learning media using the Sparkol Videoscribe application as a learning medium was conducted in 1 stage. This stage was a trial with a small group, where the researcher selected 3 students and tested its effectiveness by selecting all students based on data obtained from the survey results completed by students during the product trial, obtaining an average of 87.83%, categorized as "very practical" and "effective." Therefore, it can be concluded that the learning media using the Sparkol Videoscribe application that has been created demonstrates characteristics of being very practical and effective. It can be used in the teaching and learning process. This research is also supported by Azania K (2021), where the validity criteria reached 92.88%,

categorized as "very valid" and can be used in learning. It can be concluded that the learning media using the Sparkol Videoscribe application, developed using the ADDIE model, meets the criteria of "valid, practical, and effective."

Conclusion

Using the Sparkol Videoscribe application-based learning media shows very valid criteria. This is supported by the results of three experts or validators. Media validation obtained a percentage of 93.33% which is included in the very valid category. Material validation obtained a percentage of 94.47% also in the very valid category. Meanwhile, language validation obtained a percentage of 98.51% with a very valid category. The average validation from experts was 95.43% and fell into the very valid category. Learning media using the Sparkol Videoscribe application proved to be very practical and this was obtained from the results of the questionnaire assessment filled out by students showing an average score of 92.66% which fell into the very practical category. Learning media using the Sparkol Videoscribe application proved to be very effective, this is seen from the results of student tests which obtained an average score of 83.33% which fell into the very effective category. The data above shows that learning media with the Sparkol Videoscribe application is considered valid, practical, and effective so that it can be used in the teaching and learning process.

Reference

Abdul, W. Z. (2022). IMPROVING STUDENT LEARNING OUTCOMES THROUGH THE DEVELOPMNT OF VIDEOSCRIBE SPARKOL-BASED LEARNING MEDIA. *At-Tarbiyat: Jurnal Pendidikan Islam*, 5(1), 386-400.

Amalya, N. F., & Muhammadi. (2022). PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS SPARKOL VIDEOSCRIBE PADA PEMBELAJARAN TEMATIK TERPADU DI KELAS V SEKOLAH

DASAR. *Journal of basic education studies*, 5(2), 673-678.

Azania, K., & Siti, Q. A. (2021). PENGEMBANGAN MEDIA PEMBELAJARAN MENGGUNAKAN SPARKOL VIDEOSCRIBE UNTUK STATISTIK SISWA KELAS IV SDN. *Jurnal pendidikan, Sosial, dan Agama*, 13(2), 219-238.

Della, K. M., & Budiyo. (2020). pengembangan media pembelajaran video animasi materi volume bangun ruang untuk SD Kelas V. *ejournal.unesa.ac.id*, 8(5), 1-11.

Deri, F., Ita, N., & Dicki, F. F. (2020). PENGEMBANGAN MEDIA PEMBELAJARAN VIDEO INTERAKTIF BERBASIS APLIKASI SPARKOL VIDEOSCRIBE PADA TEMA 3 KELAS III. *Terampil : Jurnal Pendidikan dan Pembelajaran Dasar*, 7(2), 145-158.

Diah, A. A., Iman, N., & Putri, M. (2023). PENGEMBANGAN MEDIA PEMBELAJARAN BERBANTUAN SPARKOL VIDEOSCRIBE MATERI HAK, KEWAJIBAN DAN TANGGUNG JAWAB DI KELAS V SEKOLAH DASAR. *Wahana Sekolah Dasar*, 31(1), 1-15.

Sundayana, M. (2015). *MEDIA DAN ALAT PERAGA DALAM PEMBELAJARAN MATEMATIKA*. Bandung: ALFABETA, cv.

Dwi, F. R., & Nining, R. (2018). MEDIA PEMBELAJARAN MATEMATIKA BILINGUAL BERBASIS SPARKOL VIDEOSCRIBE. *Desimal : Jurnal Matematika*, 1(3), 385-393.

Dwiyogo, W. D. (2013). *Media Pembelajaran*. Malang: Wineka Media.

Dyah, A. R., & Arwin. (2021). pengembangan media pembelajaran video animasi berbasis sparkol videoscribe pada pembelajaran tematik terpadu di kelas V sekolah dasar. *journal of basic education studies*, 4(1), 2011-2023

Eva, B. S., & Astria, H. (2021). PENGEMBANGAN MEDIA PEMBELAJARAN VIDEO ANIMASI BERBASIS SPARKOL VIDEOSCRIBE PADA TEMA 7 SUBTEMA 2 SISWA KELAS IV SD NEGERI 030355 PARRATUSAN. *SEJ (School Education Journal)*, 11(3), 269-278.

- Faisal, S., Herlina, U., Hasna, W. A., & Debima, J. J. (2023). DEVELOPMENT OF SPARKOL VIDEOSCRIBE-BASED LEARNING MEDIA IN FOURTH-GRADE OF ELEMENTARY SCHOOL SCIENCE LESSONS. *EduBasic Journal: Jurnal Pendidikan Dasar*, 5(1), 83-94.
- Fiqi, N. R., Lenny, K., & Ratih, K. (2021). PENGEMBANGAN VIDEO PEMBELAJARAN MATEMATIKA BERBANTUAN SPARKOL VIDEOSCRIBE. *Journal of Mathematics and Mathematics Education*, 3(2), 138-139.
- Ilmudinulloh, R. (2021). PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS SPARKOL VIDEOSCRIBE PADA MATA PELAJARAN BAHASA INGGRIS. *Jurnal Ilmiah Edutic*, 8(1), 59-72.
- Indryra, F., & Mintohari. (2018). PENGEMBANGAN MEDIA PEMBELAJARAN VIDEO BERBASIS SPARKOL VIDEOSCRIBE PADA PELAJARAN IPA DALAM MATERI TATA SURYA KELAS VI SD. *J-PGSD*, 6(11), 1916-1918.
- Kustandi, C. (2013). *Media Pembelajaran Manual dan Digital*. Kalimantan Tengah: Ghalia Indonesia.
- Kustandi, C. (2020). *Pengembangan Media Pembelajaran*. Jakarta: KENCANA.
- Luh, E. R., & I, G. A. (2021). ECOSYSTEM LEARNING WITH SPARKOL VIDEOSCRIBE-BASED LEARNING MEDIA. *International Journal of Elementary Education*, 5(2), 231-239.
- Mariana, R. W., Mikael, S., & Bella, T. T. (2022). PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS APLIKASI SPARKOL VIDEOSCRIBE PADA MATA PELAJARAN GEOGRAFI KELAS IX DI SMA NEGERI 5 KUPANG. *Jurnal Geografi*, 18(1), 108-125.
- Munida, Q. S., & Putri, R. (2018). PENGEMBANGAN MEDIA PEMBELAJARAN VIDEO ANIMASI BERBASIS SPARKOL VIDEOSCRIBE TENTANG PERSIAPAN KEMERDEKAAN RI SD KELAS V. <https://journal.unesa.ac.id>, 6(4), 486-495.
- Mutia, R., & Masniladevi. (2020). Pengaruh Penggunaan Media Sparkol Videoscribe terhadap Komunikasi Matematis Materi Faktor Dan Kelipatan Bilangan Kelas IV. *Jurnal Pendidikan Tambusai*, 4(3), 2239-2242.
- Mutmainah, Nur, F. Z., & Satriani. (2022). MEDIA PEMBELAJARAN BERBASIS SPARKOL VIDEOSCRIBE DALAM MENINGKATKAN HASIL BELAJAR IPA SISWA SD KELAS AWAL. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(6), 5946-5959.
- Nuharani, D. (2016). *Mari Belajar Matematika : Pendidikan Matematika SD/Mi Kelas IV*. Solo: CV. Usaha Makmur.
- Sugiyono. (2015). *Metode Penelitian dan Pengembangan (Research and Development/ R&D)*. Yogyakarta: 1 April, 2015.
- Satrianawati. (2018). *MEDIA DAN SUMBER BELAJAR*. Yogyakarta: CV. BUDI UTAMA .
- Setyosari, P. D. (2016). *METODE PENELITIAN PENDIDIKAN DAN PENGEMBANGAN*. Jakarta: PRENADAMEDIA
- GROUP.SUGIYONO, P. D. (2015). *Metode Penelitian & Pengembangan (Research and Development)*. Yogyakarta: Alfabeta.
- Sugiyono. (2022). *Metode Penelitian dan Pengembangan*. Bandung: cv. Alfabeta.
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R& D*. Bandung: cv. Alfabeta.
- Sugiyono. (2019). *Metode Penelitian Pendidikan: kuantitatif, kualitatif, kombinasi, R&D dan Penelitian Tindakan*. Bandung: cv. Alfabeta.
- Sugiyono, P. D. (2019). *Statistika Untuk Penelitian*. Bandung: cv. Alfabeta.
- Sundayana, D. H. (2015). *MEDIA DAN ALAT PERAGA DALAM PEMBELAJARAN MATEMATIKA*. Bandung: ALFABETA, cv.
- Susanto, D. A. (2013). *Teori Belajar dan Pembelajaran*. Jakarta: Fajar Interpratama Mandiri.
- Tersiana, A. (2018). *Metode Penelitian*. Yogyakarta: Anak Hebat Indonesia.
- Uswatun, K., & Emy, Y. R. (2021). DEVELOPMENT OF AUDIO VISUAL MEDIA BASED ON SPARKOL

- VIDEOSCRIBE IN THEMATIC LEARNING IN 4TH GRADE ELEMENTARY SCHOOL. *Jurnal IJPSE(Indonesia Journal of Primary Science Education)*, 2(1), 90-98.
- Wina, S. M., & Ima, M. (2021). PENGEMBANGAN MEDIA PEMBELAJARAN MATEMATIKA MATERI BANGUN RUANG MELALUI ANIMASI POWER POINT TERHADAP SISWA KELAS V SDN PARUNG PANJANG. *Elementary School*, 8(2), 351-360.
- Tanzimah, T., Pazona, L. S., & Octaria, D. (2023). Pengembangan E-Modul Berbasis Contextual Teaching And Learning (CTL) Pada Materi SPLDV Kelas VIII SMP/MTs. *Wahana Didaktika: Jurnal Ilmu Kependidikan*, 21(2), 337-351.
- Hodiyanto, H., Darma, Y., & Putra, S. R. S. (2020). Pengembangan media pembelajaran berbasis macromedia flash bermuatan problem posing terhadap kemampuan pemecahan masalah matematis. *Mosharafa: Jurnal Pendidikan Matematika*, 9(2), 323-334.
- Suryaningsih, Y., Gaffar, A. A., & Sugandi, M. K. (2020). Pengembangan Media Pembelajaran Praktikum Virtual Berbasis Android Untuk Meningkatkan Berpikir Kreatif Siswa. *Bio Educatio*, 5(1), 378297.