

## Pop-Up Book Learning Media in IPA Class IV with The Topic of Animal Body Parts and its Functions

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### Abstrak

Kurangnya ketersediaan media pembelajaran yang memenuhi ketersediaan materi dapat berpengaruh pada proses pembelajaran, khususnya pada muatan pembelajaran IPA. Penelitian ini bertujuan untuk mengembangkan media pembelajaran pop-up book pada muatan IPA kelas IV dengan Topik Bagian – Bagian Tubuh Hewan dan Fungsinya. Penelitian ini merupakan jenis penelitian pengembangan (RnD) yang menggunakan model ADDIE. Namun pada tahap implementasi dan tahap evaluasi tidak dilaksanakan karena adanya pandemi covid-19 dan pembelajaran dilaksanakan dengan sistem daring. Metode pengumpulan data dalam penelitian ini adalah metode kuesioner dengan memberikan lembar penilaian kepada empat ahli yaitu ahli materi, ahli media dan dua ahli praktisi. Subjek uji coba dalam penelitian ini terdiri dari 2 orang ahli keterterimaan, dan 2 orang praktisi. Data yang telah diperoleh kemudian dianalisis menggunakan rumus Gregory yang telah dimodifikasi untuk mengetahui keterterimaan media pop-up book yang telah dikembangkan. Nilai yang diperoleh dari keempat ahli tersebut adalah 1,00 dengan kualifikasi keterterimaan produk sangat tinggi. Berdasarkan hasil analisis yang diperoleh maka media pop-up book pada muatan IPA kelas IV dengan Topik Bagian – Bagian Tubuh Hewan dan Fungsinya dinyatakan valid dan dapat digunakan dalam proses pembelajaran. Implikasi penelitian ini yaitu media yang dikembangkan dapat digunakan dalam proses pembelajaran.

**Kata kunci:** Media Pembelajaran, Pop Up Book, IPA.

### Abstract

The lack of availability of learning media that meets the availability of material can affect the learning process, especially on the content of science learning. This study aims to develop a pop-up book learning media on the content of science class IV with the topic of Animal Body Parts and Their Functions. This research is a type of development research (RnD) that uses the ADDIE model. However, the implementation and evaluation stages were not carried out due to the COVID-19 pandemic, and learning was done using an online system. The data collection method in this study was a questionnaire method by giving assessment sheets to four experts, namely material experts, media experts, and two practitioners. The trial subjects in this study consisted of 2 acceptance experts and two practitioners. The data that has been obtained is then analyzed using the modified Gregory formula to determine the acceptability of the developed pop-up book media. The value obtained from the four experts is 1.00, with a very high product acceptance qualification. Based on the analysis results obtained, the pop-up book media on the content of science class IV with the Topic of Animal Body Parts and Functions is declared valid and can be used in the learning process. This research implies that the developed media can be used in the learning process.

**Keywords:** Learning Media, Pop Up Book, Science

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## 1. INTRODUCTION

Media is a tool or intermediary to facilitate learning. Media is also used to stimulate thoughts, abilities, and skills to encourage the learning process (Nurdiansyah et al., 2018; Sulfemi & Mayasari, 2019). Media is a tool for distributing learning information conveyed to the recipient of the message (Paranna & Airlanda, 2020; Suarjana et al., 2017). In learning activities, the media serves to aim at instruction where the information contained in the media must involve students in the form of real activities so that the learning process can occur (Buchori et al., 2017; Herayanti et al., 2017). In addition, media is anything that can channel information to recipients of information (Angraini, 2017; Pramita et al., 2019). Learning media is useful to complement and improve the quality of the learning process. The use of learning media will help increase student learning motivation. Learning media emphasizes

that the media is a channel for messages to condition someone to learn (Herayanti et al., 2017; Sundari, 2019). It can be concluded that the media is a means to convey information to the recipient of the information. In learning, media plays a very important role in facilitating the delivery of learning materials. Therefore, media use needs to be done (Budiartha et al., 2020; Ristanti & Arianto, 2019). Innovative learning media will increase student motivation in participating in the learning process. Media can be said to be innovative when the media can involve many students' senses in their use (Wati & Widiansyah, 2020; Wulandari et al., 2020).

However, in reality, the learning carried out in the teacher's school in explaining the material still often uses the lecture method so that students become less enthusiastic in learning. In addition, the use of media in the teaching and learning process is also still very lacking. It happens because teachers in developing learning innovations such as learning media are still very minimal (Mustaqim & Kurniawan, 2017; Rahayu et al., 2020). The limited availability of learning media in schools is also an obstacle in the learning process in schools (Herliandry et al., 2020; Hidayah & Fathimatuzzahra, 2019). In the learning process until now, most teachers still use book media as a process of learning activities, whereas the books used still have shortcomings in terms of presenting less attractive material (Jampel et al., 2018; Laksono et al., 2020). Especially in books on science content, they are still not equipped with innovations that can make students improve their ability to think scientifically. Science is learning that contains components of scientific products, methods, and scientific attitudes (Dwi et al., 2021; Narut & Supradi, 2019). Based on the results of distributing questionnaires, which were given directly to grade IV elementary school teachers in Cluster IV, Bangli District, it showed that as many as 83.3% of teachers had used media in science learning and as many as possible 16.67% of teachers did not use the media. Media in science learning is because there is still a lack of learning media in schools, especially the use of media in science material. If this continues, then the level of students' understanding of learning materials, especially in science learning content, will not be optimal and will affect students' motivation and achievement in the learning process.

One solution that can be done to overcome this problem is to develop learning media that are attractive to students and by current learning conditions by developing learning media that can attract students' interest in learning science. One type of learning media that can support the learning process is Pop Up Book media. The solution is supported by several relevant studies, including previous research, which states that the use of pop-up books as learning media will positively impact students. Besides being interesting, pop-up books will also provide new experiences for students while studying (Elisa Diah Masturah et al., 2018; Sentarik & Kusmariyatni, 2020). Other research also states that pop-up book-based learning media effectively improves learning outcomes (Khoiriyah & Sari, 2018; Masturah et al., 2018). Students feel happy throughout the learning process. Students become more manageable and more focused on the material presented, so it can be concluded that pop-up book learning media can improve student learning outcomes (Hidayah et al., 2020; Karisma et al., 2020; Ningtiyas et al., 2019). The pop-up book learning media received a positive response from students and educators. Thus, the pop-up book learning media has been effective and can increase students' learning motivation (Fadzilah et al., 2019; Ulfa & Nasryah, 2020).

Other research states an increase in critical thinking after using the Pop Up Book media (Aeni, 2018; Mustofa & Syafi'ah, 2018; Sobakhah & Afakhrul Masub Bachtiar, 2019). Based on research that has been done previously, there are still some aspects of pop-up books that have not been developed optimal, which have an impact on student understanding, including images and dimensions that are less attractive. Therefore, it is necessary to do further development to optimize the aspects deemed not optimal based on previous research.

In this development, this pop-up book has a size of 17 x 25 cm. The materials used are glossy paper, manila paper, origami paper, cardboard, and glue. Each page of the pop-up book contains images that can appear along with interesting descriptions that will help users understand the material being discussed. This media is also equipped with instructions for use, and at the end of the media pop-up book is included missions or practice questions related to the material contained in the media. The material that will be used to develop the pop-up book media is material for class IV students with the topic of animal body parts and their functions. This research aims to analyze the validity of pop-up book media that can be developed on the topic of animal body parts and functions for class IV.

## **2. METHODS**

The research design used in this research is product-oriented research and development. The product developed is a learning device in the form of learning media. The development model used in this study is the ADDIE development model, which consists of several stages: the analysis stage, the design stage, the development stage, the implementation stage, and the evaluation stage (Tegeh & Jampel, 2017). In this development research, the implementation and evaluation stages were not carried out. Analysis stage (Analyze), the first stage is the analysis stage. At this stage, it begins by conducting curriculum analysis, needs analysis, student characteristics, and media analysis. The activities carried out on the analysis hold are as follows; (1) curriculum analysis, carried out as a basis for developing pop-up book media, which is carried out through analysis of KI, KD, achievement indicators, learning objectives, and the subject matter contained in student books; (2) needs analysis, conducted to find out what teachers and students need when learning takes place. This stage was carried out by interviewing and distributing questionnaires in SD Cluster IV, Bangli District; (3) analysis of student characteristics, namely fourth-grade elementary school students who use media when participating in learning activities later. The characteristics of students in class IV are already at the concrete operational stage who have started to be able to think rationally; and (4) media analysis, conducted to determine the characteristics of suitable and good learning media to be used in learning so that it can help students and find guidelines on criteria or characteristics of good media.

Design stage, the second stage is the design stage, at the design stage of learning media starting from determining the topic of the material developed into the pop-up book media. Next, a pop-up book media design is made, based on Basic Competencies (KD) on the topic of animal body parts and functions, then a pop-up book media design is made and shows the supervisor to get input and suggestions be able to do this. Improvements to the media. After the repair results are approved, it will proceed to the next stage. The Development Stage, the third stage, namely the development stage, carried out the development of pop-up book media on animal body parts and functions in class IV, which had been previously consulted with the supervisor. After the media has been created and repaired from the results of guidance with the lecturer, an expert test is carried out to review the media that has been developed. Expert tests are carried out by media experts, material experts, and expert practitioners. The study results were then analyzed to determine the feasibility of the developed media. The analysis was carried out by conducting a media acceptance test.

In this development research, the subjects are experts and practitioners who are competent in their fields. The subjects in this development research are as follows: (1) two acceptance experts, consisting of two lecturers with a minimum specification of undergraduate (S1) Elementary School Teacher Education at Ganesha Education University,

(2) two practitioners who are asked to agree -review the design of the pop-up book learning media. The data collection method in this development research used the questionnaire method. The questionnaire is a data collection tool by asking questions or written statements answered in writing, while the data collection instrument in this research uses a rating scale instrument. The grid of instruments used can be seen in Table 1.

**Table 1.** Grid of research instruments

No	Aspect	Indicator	Number of Items	Item Number
1	(Utility)	Use of media for teachers	1	1
		Use of media for students	3	2,3,4
		Use of pop-up book media to facilitate the teaching and learning process	2	5,6
2	(feasibility)	Media display is able to attract students' attention to study	1	7
		Ease of understanding the language used in the pop-up book media	2	8,9
		Ease of access and use of pop-up book media in learning	2	10,11
3	(accuracy)	The suitability of using pop-up book media to achieve learning objectives	1	12
		Completeness of material / information contained in the media	2	13,14
		Appropriateness of pop-up book media for meaningful learning	1	15
		The suitability of the material in the pop-up book media with KD and learning indicators	1	16
		The suitability of the layout of images, text and color selection in the media	3	17,18,19
		The suitability of the topic with the learning material	1	20

Dimodifikasi dari [Astiwi et al. \(2020\)](#)

Analysis of the data used in this study was carried out with qualitative descriptive statistical analysis techniques and quantitative descriptive statistical analysis. The qualitative descriptive analysis method is used to process data in suggestions, criticisms, and input by experts on the developed pop-up book media. The analysis results are then used to revise the pop-up book media that has been developed. Quantitative descriptive analysis method. Used to describe the acceptability of the product. This pop-up book learning media uses the Gregory formula in the acceptability test. A learning media is said to be accepted if the acceptability value is at a high or relevant level and very high or very relevant.

### 3. RESULTS AND DISCUSSION

#### Results

The results of this development research produce a Media Pop-up Book on science content on the topic of Animal Body Parts and Their Functions in grade IV Elementary School, tested for acceptability. It was obtained through the acceptance test of Pop-up Book Media on science content which was carried out by two acceptance expert lecturers and two practitioners who were experts in their fields. The product acceptance test was carried out to

determine the level of acceptance of the Pop-up Book Media on the science content developed. The product acceptability test carried out was an expert test through a review stage of four experts consisting of two acceptance expert lecturers and two primary school homeroom teacher practitioners. The first stage is the analysis stage. At this stage, perform several analyses: curriculum analysis, needs analysis, analysis of student characteristics, and media analysis. Based on the analysis stage that has been carried out, it was found that as many as 100% of teachers stated that they had never used pop-up book media in teaching. 100% of teachers also stated that science material needed to be developed or packaged into a pop-up book media. *Good media* can convey messages and make the recipient of the message understand the message to be conveyed. It happened one of them in the science content material contained in KD 3.1 on Animal Body Parts and Their Functions. Therefore, pop-up book learning media development on science content for science material is carried out in KD 3.1 concerning Animal Body Parts and Their Functions.

The second stage is the design stage. The design begins with collecting and determining the material that will be used on the media, then making a storyboard containing the initial scenario of making a pop-up book media, namely the layout of the material and the use of pop-up techniques used on each page, then an overall media design is made that covers the cover design and the design of each page by the draft that has been prepared. After completion, a consultation is carried out with the supervisor to get input and suggestions on the design or media design made. Based on input and suggestions from the supervisor, improvements were made then proceeded to the development stage. The third stage is the development stage. At the development stage, activities were carried out to develop pop-up book media on animal body parts and functions in class IV, which the supervisor had previously consulted. After the media has been created and repaired from the results of guidance with the lecturer, an expert test is carried out to review the media that has been developed. Expert tests are carried out by media experts, material experts, and expert practitioners. The study results were then analyzed to determine the feasibility of the developed media. The analysis was carried out by using the media acceptability test. The images of the pop-up book media that have been successfully developed can be seen in Figure 1.



**Figure 1.** Pop Up Book Media

The acceptance test results that had been collected previously were then analyzed to determine the acceptability of the developed pop-up book learning media. The data were analyzed using Gregory's formula, modified into a 4 x 4 cross-tabulation that produces 16 cells. Based on the analysis that has been done, the values obtained in the range 0.80-1.00. It



means that the pop-up book learning media on the content of science class IV with the topic of animal body parts and functions is declared valid with a "very high" level of acceptance.

## Discussion

The analysis phase (analyze) is carried out through curriculum analysis, needs analysis, student characteristics analysis, and media analysis (Lestari & Harjono, 2021; Wilujeng et al., 2020). Based on the analysis results, curriculum analysis was carried out to develop the material contained in the pop-up book media. The analysis was carried out by reviewing the syllabus, these competencies, and basic competencies on animal body parts and functions for class IV, which were then adapted to the material in the student book. The results of the curriculum analysis are in the form of indicators which are a description of the basic competencies. These indicators are: (1) analyzing the relationship between animal body shape and body function in animals and (2) explaining the animal body parts and their functions. From these two indicators, the material on animal body parts and their functions was developed, referring to basic competencies. Based on the results of the needs analysis. Pop Up Book media has several advantages, including teaching children to appreciate books and taking good care of them, developing children's creativity, stimulating children's imagination, providing knowledge, and giving shape recognition, can be used as a medium to foster reading motivation in children (Mustofa & Syafi'ah, 2018; Mutia et al., 2018).

Learning media can also make it easier for students to remember and understand the material in a longer period (Ningtiyas et al., 2019; Rahmawati & Rukiyati, 2018). Analysis of student characteristics was carried out to determine the condition of students targeted by the media (Anggraini et al., 2019; Mustofa & Syafi'ah, 2018). Based on the analysis results, the characteristics of fourth-grade elementary school students in cluster IV Bangli sub-district are students in the concrete operational stage. Fourth-grade elementary school students in cluster IV Bangli District already can read so that students can understand the material presented in the media well. Fourth-grade students also have an interest in interesting media with striking colors. Fourth-grade elementary school students in Cluster IV Bangli District are ten years old on average; therefore, learning should use interesting learning resources and foster enthusiasm for learning for students. Media analysis was carried out to determine the criteria for good media used in the learning process (Sentarik & Kusmariyatni, 2020). Good media can help students provide understanding to students through explanations (text), audio, video, pictures, and others (Tegeh et al., 2019; Yuanta, 2019). In the learning process, media has used, namely clarifying the presentation of messages so that they are not too verbal (in the form of written words or only spoken words; overcoming the limitations of space, time, and sensory power, for example, objects that are too big or small can be replaced with reality, pictures, films). Alternatively, models; can overcome passive attitudes in students by using appropriate and varied media; enable children to learn independently according to visual, auditory, and kinesthetic talents and abilities; and provide the same stimulation and experience to students (Gowasa et al., 2019; Priyanti et al., 2017).

The results showed that the pop-up book media that had been developed was feasible to be used in learning activities. The acceptability of the pop-up book learning media was tested using three aspects, namely utility, feasibility, and accuracy. Aspects that need to be considered are aspects of usability, feasibility, and accuracy. The usability aspect includes the acceptance test, which includes media for teachers, students, and facilitates the learning process (Khoiriyah & Sari, 2018; Oktaviarini, 2018). The feasibility aspect includes the display and presentation of material on the media, good and easy-to-understand language, security, and ease of use of the media (Bekagama et al., 2016; Suryansah & Suwarjo, 2016). Aspects of accuracy include the effectiveness of media use, the suitability of the material in the media with basic competencies (basic competence), indicators of competency

achievement, completeness or breadth of material discussion, clarity of media instructions, the accuracy of image composition, and color selection in the media (Ningtiyas et al., 2019; Sentarik & Kusmaryatni, 2020).

The advantages of the developed pop-up book media are that the media presents three-dimensional images that can arise when the media is opened and made according to the material being taught and uses bright colors and attractive designs (Rahmawati & Anggraini, 2017; Sobakhah & Afakhrul Masub Bachtiar, 2019). Three-dimensional images are more real, so they can be concrete objects that are difficult to observe directly. The theory of cognitive development by Jean Piaget explains that fourth-grade elementary school students are in the concrete operational stage. Students will more easily understand the learning associated with events, real or physical objects, so that pop-up book media can help students understand the learning process and understand TheoryTheory. This pop-up book media was created using lift the flap and peep show techniques (Bujuri, 2018; Pebriani, 2017). The novelty of the developed pop-up book media compared to other pop-up book media, namely this developed pop-up media presents material about animal body parts and their functions in the fourth-grade science content of elementary schools that has never been made in the pop-up book.

#### 4. CONCLUSION

The pop-up book learning media for science content class IV with the topic of animal body parts and functions is declared feasible and can be used with a very high level of acceptance, and is classified as a valid learning media. It can be concluded that the Pop-up book media can facilitate students' learning so that it is feasible to use.

#### 5. REFERENCES

- Aeni, N. (2018). Pendidikan Nilai Nasionalisme Dengan Media Pop Up Book Untuk Meningkatkan Berpikir Kritis Siswa Kelas V Sekolah Dasar. *Jurnal Review Pendidikan Dasar : Jurnal Kajian Pendidikan Dan Hasil Penelitian*, 4(3), 752. <https://doi.org/10.26740/jrpd.v4n3.p752-762>.
- Anggraini, W., Nurwahidah, S., Asyhari, A., Reftyawati, D., & Haka, N. B. (2019). Development of Pop-Up Book Integrated with Quranic Verses Learning Media on Temperature and Changes in Matter. *Journal of Physics: Conference Series*, 1155(1), 1–9. <https://doi.org/10.1088/1742-6596/1155/1/012084>.
- Angraini, R. (2017). Karakteristik Media Yang Tepat Dalam Pembelajaran Pendidikan Kewarganegaraan (Pkn) Sebagai Pendidikan Nilai. *Journal of Moral and Civic Education*, 1(1), 14–24. <https://doi.org/10.24036/8851412020171116>.
- Astiwi, K. P. T., Antara, P. A., & Agustiana, I. G. A. T. (2020). Pengembangan Instrumen Penilaian Kemampuan Berpikir Kritis Siswa SD pada Mata Pelajaran PPKn. *Jurnal Ilmiah Pendidikan Profesi Guru*, 3(2), 461–469. <https://doi.org/http://dx.doi.org/10.23887/jippg.v3i3>.
- Bekagema, M. D., Mahadewi, L. P. P., & Tastra, I. D. K. (2016). Pengembangan Video Pembelajaran Budaya Masyarakat Hindu Bali Kelas IV SDN 3 Banjar Tegal. *Jurnal Edutech Undiksha*, 4(3). <https://doi.org/10.23887/jeu.v4i3.8561>.
- Buchori, Rahmawati, S., & Wardani, S. (2017). The Development of A Learning Media for Visualizing the Pancasila Values Based on Information and Communication Technology. *Jurnal Cakrawala Pendidikan*, 36(3), 502–521. <https://doi.org/http://dx.doi.org/10.21831/cp.v36i3.12748>.

- Budiarto, M. K., Joebagio, H., & Sudiyanto, S. (2020). Student's View of Using Digital Learning Media in Classroom Activities: A Case of Public Senior High School in Cirebon, Indonesia. *Jurnal Pendidikan Progresif*, 10(1). <https://doi.org/10.23960/jpp.v10.i1.202006>.
- Bujuri, D. A. (2018). Analisis Perkembangan Kognitif Anak Usia Dasar dan Implikasinya dalam Kegiatan Belajar Mengajar. *LITERASI (Jurnal Ilmu Pendidikan)*, 9(1), 37. [https://doi.org/10.21927/literasi.2018.9\(1\).37-50](https://doi.org/10.21927/literasi.2018.9(1).37-50).
- Dwi, Y., Septyarini, A., Gading, I. K., & Antara, P. A. (2021). Validity and Reliability: Early Childhood's Locomotor Capability Assessment Instruments. *Advances in Social Science, Education and Humanities Research*, 540(Ictes 2020), 400–404. <https://doi.org/https://dx.doi.org/10.2991/assehr.k.210407.271>.
- Fadzilah, F., Royana, I. F., & Handayani, D. E. (2019). Pengembangan Media Pop Up Book pada Pembelajaran Tema VI Cita-Citaku Subtema I Aku dan Cita-citaku. *Jurnal Penelitian Dan Pengembangan Pendidikan*, 3(3), 223–230. <https://doi.org/http://dx.doi.org/10.23887/jppp.v3i3.19258>.
- Gowasa, S., Harahap, F., & Suyanti, R. D. (2019). Perbedaan Penggunaan Media Powerpoint dan Video Pembelajaran terhadap Kemampuan Berpikir Tingkat Tinggi dan Retensi Memori Siswa pada Mata Pelajaran IPA di Kelas V Sd. *Jurnal Tematik*, 9(1), 19–27. <https://doi.org/https://doi.org/10.24114/jt.v9i1.12859>.
- Herayanti, L., Habibi, H., & Fuaddunazmi, M. (2017). Pengembangan Media Pembelajaran Berbasis Moodle pada Matakuliah Fisika Dasar. *Jurnal Cakrawala Pendidikan*, 36(2), 210–219. <https://doi.org/10.21831/cp.v36i2.13077>.
- Herliandry, L. D., Nurhasanah, Suban, M. E., & Heru, K. (2020). Pembelajaran Pada Masa Pandemi Covid-19. *Jurnal Teknologi Pendidikan*, 22(1), 65–70. <https://doi.org/10.21009/jtp.v22i1.15286>.
- Hidayah, I. N., & Fathimatuzahra. (2019). Development of Math Comic Learning Media on the Subject of Algebraic Expressions for Seventh Grade of Junior High School Students. *Journal of Physics: Conference Series*, 1227(1). <https://doi.org/10.1088/1742-6596/1227/1/012029>.
- Hidayah, N., Wahyuni, R., & Hasnanto, A. T. (2020). Pengembangan Media Pembelajaran Gambar Berseri Berbasis Pop-Up Book Untuk Meningkatkan Keterampilan Menulis Narasi Bahasa Indonesia. *Jurnal Pendidikan Dan Pembelajaran Dasar*, 7(1). <https://doi.org/10.24042/terampil.v7i1.6182>.
- Jampel, I. N., Fahrurrozi, Artawan, G., Widiana, I. W., Parmiti, D. P., & Hellman, J. (2018). Studying natural science in elementary school using nos-oriented cooperative learning model with the NHT type. *Jurnal Pendidikan IPA Indonesia*, 7(2), 138–146. <https://doi.org/10.15294/jpii.v7i2.9863>.
- Jampel, I. N., Fahrurrozi, Artawan, G., Widiana, I. W., Parmiti, D. P., & Hellman, J. (2018). Studying natural science in elementary school using nos-oriented cooperative learning model with the NHT type. *Jurnal Pendidikan IPA Indonesia*, 7(2), 138–146. <https://doi.org/10.15294/jpii.v7i2.9863>.
- Karisma, I. K. E., Margunayasa, I. G., & Prasasti, P. A. T. (2020). Pengembangan Media Pop-Up Book pada Topik Perkembangbiakan Tumbuhan dan Hewan Kelas VI Sekolah Dasar. *Jurnal Ilmiah Sekolah Dasar*, 4(2), 121. <https://doi.org/10.23887/jisd.v4i2.24458>.
- Khoiriyah, E., & Sari, E. Y. (2018). Pengembangan Media Pembelajaran Pop-Up Book Pada Mata Pelajaran IPA Kelas III SDN 3 Junjung Kecamatan Sumbergempol Kabupaten Tulungagung Tahun Ajaran 2017/2018. *Jurnal Bidang Pendidikan Dasar (JBPD)*, 2(2), 22–32.



- Laksono, D., Iriansyah, H. S., & Oktaviana, E. (2020). Pengembangan Media Pembelajaran Video Interaktif Powtoon pada Mata Pelajaran IPA Materi Komponen Ekosistem. *Prosiding Seminar Nasional Pendidikan STKIP Kusuma Negara II*, 255–262.
- Lestari, N. F., & Harjono, N. (2021). Pengembangan Instrumen Penilaian Karakter PPK Aspek Kemandirian Pembelajaran Tematik Terpadu Siswa SD Kelas 4. *MIMBAR PGSD Undiksha*, 9(1), 19–29. <https://doi.org/http://dx.doi.org/10.23887/jjsgsd.v9i1.33379>.
- Masturah, E D, Mahadewi, L. P. P., & ... (2018). Pengembangan Media Pembelajaran Pop-Up Book pada Mata Pelajaran IPA Kelas III Sekolah Dasar. *Jurnal EDUTECH ...*, 6, 212–221. <https://doi.org/http://dx.doi.org/10.23887/jeu.v6i2.20294>.
- Masturah, Elisa Diah, Mahadewi, L. P. P., & Simamora, A. H. (2018). Pengembangan Media Pembelajaran Pop-Up Book pada Mata Pelajaran IPA Kelas III Sekolah Dasar. *Jurnal EDUTECH Universitas Pendidikan Ganesha*, 6(2), 212–221. <https://doi.org/10.23887/jeu.v6i2.20294>.
- Mustaqim, I., & Kurniawan, N. (2017). Pengembangan Media Pembelajaran Pai Berbasis Augmented Reality. *Jurnal Edukasi Elektro*, 1(1). <https://doi.org/https://doi.org/10.21831/jee.v1i1.13267>.
- Mustofa, R., & Syafi'ah, R. (2018). Pengembangan Media Pembelajaran Pop Up Book Materi Kenampakan Permukaan Bumi Mata Pelajaran IPA Kelas III SD. *ELSE (Elementary School Education Journal)*, 2, 30–41. <https://doi.org/10.30651/else.v2i2.1723>.
- Mutia, R., Adlim, A., & Halim, A. (2018). Pengembangan Video Pembelajaran Ipa Pada Materi Pencemaran Dan Kerusakan Lingkungan. *Jurnal Pendidikan Sains Indonesia*, 5(2), 110–116. <https://doi.org/10.24815/jpsi.v5i2.9825>.
- Narut, Y. F., & Supradi, K. (2019). Literasi Sains Peserta Didik dalam Pembelajaran IPA di Indonesia. *Jurnal Inovasi Pendidikan Dasar*, 3(1), 61–69.
- Ningtiyas, T., Setyosari, P., & Praherdiono, H. (2019). Pengembangan Media Pop-Up Book Untuk Mata Pelajaran Ipa Bab Siklus Air Dan Peristiwa Alam Sebagai Penguatan Kognitif Siswa. *Jurnal Kajian Teknologi Pendidikan*, 2(2), 115–120. <https://doi.org/10.17977/um038v2i22019p115>.
- Nurdiansyah, E., Faisal, E. El, & Sulkipani, S. (2018). Pengembangan media pembelajaran berbasis Powtoon pada perkuliahan Pendidikan Kewarganegaraan. *Jurnal Civics: Media Kajian Kewarganegaraan*, 15(1), 1–8. <https://doi.org/10.21831/jc.v15i1.16875>.
- Oktaviarini, N. (2018). Pengembangan Media Pembelajaran Pop-Up Book Tema Pahlawanku pada Mata Pelajaran IPS Kelas IV SDN Kamulan 02 Kecamatan Talun Kabupaten Blitar. *Jurnal Pena Sd*, 03(02), 53–62. <https://doi.org/https://doi.org/10.29100/jpsd.v3i02.932.g438>.
- Paranna, M., & Airlanda, G. S. (2020). Pengaruh Model Pembelajaran Circuit Learning Berbantu Multimedia Dan Media Sederhana Terhadap Kreativitas Siswa. *Jurnal Riset Pendidikan Dasar*, 03(April), 57–63. <https://doi.org/https://doi.org/10.26618/jrpd.v3i1.3231>.
- Pebriani, C. (2017). Pengaruh penggunaan media video terhadap motivasi dan hasil belajar kognitif pembelajaran IPA kelas V. *Jurnal Prima Edukasia*, 5(1), 11–21. <https://doi.org/10.21831/jpe.v5i1.8461>.
- Pramita, P. A., Sudarma, I. K., & Murda, I. N. (2019). Pengaruh Model Pembelajaran Scramble Berbantuan Media Gambar terhadap Hasil Belajar IPA. *Jurnal Pedagogi Dan Pembelajaran*, 2(2), 186. <https://doi.org/10.23887/jp2.v2i2.17907>.
- Priyanti, N. L. S., Sujana, I. W., & Darsana, I. W. (2017). Pengaruh Keterampilan Dasar Literasi Berbantuan Media Grafis Terhadap Penguasaan Kompetensi Pengetahuan Ips

- Siswa Kelas Iv Sd. *Journal of Education Technology*, 1(2), 110. <https://doi.org/10.23887/jet.v1i2.11772>.
- Rahayu, S., Bambut, K. E. N., & Fajaroh, F. (2020). Do different discussion activities in developing scientific argumentation affect students' motivation in chemistry? *Cakrawala Pendidikan*, 39(3), 679–693. <https://doi.org/10.21831/cp.v39i3.32228>.
- Rahmawati, D., & Anggraini, A. D. (2017). Evaluasi Program Kurikulum Berdasarkan Standar Isi, Standar Proses, Dan Standar Kompetensi Lulusan Di Sdn Pisangan Timur 10 Pagi. *Jurnal Pendidikan Ekonomi Dan Bisnis (JPBE)*, 5(1), 34. <https://doi.org/10.21009/jpeb.005.1.3>.
- Rahmawati, D. I., & Rukiyati, R. (2018). Developing Pop-Up Book Learning Media to Improve Cognitive Ability of Children. *4th International Conference on Early Childhood Education*, 249(Secret), 60–69. <https://doi.org/10.2991/secret-18.2018.10>.
- Ristanti, F. F., & Arianto, F. (2019). Flash Card Media Utilization To Improve Student Activity and Learning Outcomes of Fauna Distribution Subtopic in Class Xi Ips I Sma Xin Zhong Surabaya. *Geosfera Indonesia*, 4(2), 90. <https://doi.org/10.19184/geosi.v4i2.9968>.
- Sentarik, K., & Kusmariyatni, N. (2020). Media Pop-Up Book pada Topik Sistem Tata Surya Kelas VI Sekolah Dasar. *Jurnal Ilmiah Sekolah Dasar*, 4(2), 197. <https://doi.org/10.23887/jisd.v4i2.25135>.
- Sobakhah, L. B., & Afakhrul Masub Bachtiar. (2019). Pengembangan Media Pop Up Book Untuk Pembelajaran Membaca Puisi Kelas I SD. *JTIEE (Journal of Teaching in Elementary Education)*, 3(1), 62–70. <https://doi.org/http://dx.doi.org/10.30587/jtiee.v3i1.1129>.
- Suarjana, I. M., Nanci Riastini, N. P., & Yudha Pustika, I. G. N. (2017). Penerapan Pendekatan Kontekstual Berbantuan Media Konkret Untuk Meningkatkan Aktivitas Dan Hasil Belajar. *International Journal of Elementary Education*, 1(2), 103. <https://doi.org/10.23887/ijee.v1i2.11601>.
- Sulfemi, W. B., & Mayasari, N. (2019). Peranan Model Pembelajaran Value Clarification Technique Berbantuan Media Audio Visual Untuk Meningkatkan Hasil Belajar IPS. *Jurnal Pendidikan*, 20(1), 53–68. <https://doi.org/10.33830/jp.v20i1.235.2019>.
- Sundari, N. (2019). Penggunaan Media Gambar dalam Meningkatkan Keaktifan Siswa dalam Pembelajaran Pengetahuan Sosial di Sekolah Dasar. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699. <https://doi.org/10.17509/eh.v5i1.2836>.
- Suryansah, T., & Suwarjo, S. (2016). Pengembangan Video Pembelajaran Untuk Meningkatkan Motivasi Dan Hasil Belajar Kognitif Siswa Kelas Iv Sd. *Jurnal Prima Edukasia*, 4(2), 209. <https://doi.org/10.21831/jpe.v4i2.8393>.
- Tegeh, I. M., Simamora, A. H., & Dwipayana, K. (2019). Pengembangann media video pembelajaran dengan model pengembangan 4D pada mata pelajaran Agama hindu. *Jurnal Mimbar Ilmu*, 24(2). <https://doi.org/10.23887/mi.v24i2.21262>.
- Tegeh, M., & Jampel, N. (2017). *Metode Penelitian Pengembangan*. Universitas Penddikan Ganesha.
- Ulfa, M. S., & Nasryah, C. E. (2020). Pengembangan Media Pembelajaran Pop - Up Book Untuk Meningkatkan Motivasi Belajar Siswa Kelas IV SD. *Edunesia : Jurnal Ilmiah Pendidikan*, 1(1), 10–16. <https://doi.org/https://doi.org/10.51276/edu.v1i1.44>.
- Wati, E. K., & Widiansyah, N. (2020). Design of learning media: Modeling & simulation of building thermal comfort optimization system in building physics course. *Jurnal Pendidikan IPA Indonesia*, 9(2), 257–266. <https://doi.org/10.15294/jpii.v9i2.23504>.
- Wilujeng, I., Tadeko, N., & Dwandaru, W. S. B. (2020). Website-based technological pedagogical and content knowledge for learning preparation of science teachers. *Cakrawala Pendidikan*, 39(3), 545–559. <https://doi.org/10.21831/cp.v39i3.31228>.

- Wulandari, Y., Ruhiat, Y., & Nulhakim, L. (2020). Pengembangan Media Video Berbasis Powtoon pada Mata Pelajaran IPA di Kelas V. *Jurnal Pendidikan Sains Indonesia (Indonesian Journal of Science Education)*, 8(2), 269–279. <https://doi.org/10.24815/jpsi.v8i2.16835>.
- Yuanta, F. (2019). Pengembangan Media Video Pembelajaran Ilmu Pengetahuan Sosial pada Siswa Sekolah Dasar. *Jurnal Pendidikan Dasar*, 1(2). <https://doi.org/10.30742/tpd.v1i02.816>.